STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

DANIEL H. JOHNSON
SECRETARY

November 2, 2026

Addendum No. 1
RE: Contract # C205223
WBS # 50128.3.1, 50178.3.1, 51704.3.1
FEDERAL-AID NO. NHPP-077-1(220)29, STATE FUNDED, 5170401
Mecklenburg County (I-5715, U-5765, BL-0119)
INTERSECTION AT I-77 AND NC-73, NC-73 FROM SR-5544 TO SR-2316,
PEDESTRIAN BRIDGE OVER NC-73 ON MCDOWELL CREEK GREENWAY

November 17, 2026 Letting

To Whom It May Concern:

Reference is made to the plans and proposal furnished to you on this project.

The following revisions have been made to the I-5715 Roadway plans.

Sheet No.	Revision
1	Revised let date
10 & 11	Revised Pedestrian Safety Rail locations

Please void the above listed sheets in your plans and staple the revised sheets thereto.

The following revisions have been made to the Transportation Management plans.

Sheet No.	Revision
TMP-01B	Added I-77 Mobility Partners Traffic Management Center to Traffic/Incident Management & Speed Enforcement Strategies
TMP-01C	Note M and O revised
TMP-4.8, TMP-4.13, TMP-4.18, TMP-5.15, TMP-5.17	Added Temporary Shoring Quantities to plan sheet

Please void the above listed sheets in your plans and staple the revised sheets thereto.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
CONTRACT STANDARDS AND DEVELOPMENT
1591 MAIL SERVICE CENTER
RALEIGH, NC 27699-1591

Telephone: (919) 707-6900
Fax: (919) 250-4127
Customer Service: 1-877-368-4968

Location:
1020 BIRCH RIDGE DR.
RALEIGH, NC 27610

Website: www.ncdot.gov

The following revisions have been made to the U-5765 Utility Construction plans.

Sheet No.	Revision
UC-3K	Added Corrosion Test Station Detail
UC-4 thru UC-10	Added test station locations

Please void the above listed sheets in your plans and staple the revised sheets thereto.

The following revisions have been made to the I-5715 Utility Construction plans.

Sheet No.	Revision
UC-3I	Added Corrosion Test Station Detail
UC-13, UC-18 thru UC-20	Added test station locations

Please void the above listed sheets in your plans and staple the revised sheets thereto.

The following revisions have been made to the I-5715 ITS plans.

Sheet No.	Revision
ITS-02C, ITS-02D, ITS-02E, ITS-02F	Notes updated
ITS-03 thru ITS-07	Special notes updated
ITS-08 & ITS-09	Electrical Conductor Size revised
ITS-10 thru ITS-14	Special notes updated

Please void the above listed sheets in your plans and staple the revised sheets thereto.

The following revisions have been made to the U-5765 Structure plans - Walls.

Sheet No.	Revision
W-1	Renumbered MSE Wall No. 1 to MSE Wall No. 9
W-2	Renumbered MSE Wall No. 2 to MSE Wall No. 10
W-3	Renumbered MSE Wall No. 3 to MSE Wall No. 11
W-4	Removed Wall No. 4 from CIP Gravity Wall
W-5	Renumbered MSE Wall No. 1 to MSE Wall No. 9
W-6	Renumbered MSE Wall No. 2 & 3 to MSE Wall No. 10 and MSE Wall No. 11
W-7	Renumbered MSE Wall No. 1, 2, & 3 to MSE Wall No. 9, 10, & 11
W-8	Removed Wall No. 4 designation from sheet.

Please void the above listed sheets in your plans and staple the revised sheets thereto.

The following revisions have been made to the BL-0119 Structure plans - Bridge.

Sheet No.	Revision
S07	Adjusted the hatching at End Bent 2 to be identified as “FOUNDATION PREPARATION FOR PEDESTRIAN BRIDGE END BENT 2.”

Sheet No.	Revision
S09	Revised foundation notes
S10	Revised pile foundation tables
S11	Revised drilled pier foundation tables
S15	Revised note to refer to Geotechnical Special Provisions for "FOUNDATION PREPARATION FOR PEDESTRIAN BRIDGE END BENT 2."
S16	Revised total bill of material
S53	Revised Pour 1 dimension

Please void the above listed sheets in your plans and staple the revised sheets thereto

The following revisions have been made to the proposal.

Page No.	Revision
Proposal Cover	Note added that reads "Includes Addendum No. 1 Dated 11-2-2026".
Table of Contents	Revised
G-1 thru G-5	The PROJECT SPECIAL PROVISION entitled **BUILD AMERICA, BUY AMERICA (BABA)** has been renamed to **DOMESTIC MATERIAL.**
G-7 thru G-26	The PROJECT SPECIAL PROVISION entitled **INTERMEDIATE CONTRACT TIME #2** has been revised. The PROJECT SPECIAL PROVISION entitled **INTERMEDIATE CONTRACT TIME #6** has been revised. The PROJECT SPECIAL PROVISION entitled **INTERMEDIATE CONTRACT TIME #13** has been revised. The PROJECT SPECIAL PROVISION entitled **INTERMEDIATE CONTRACT TIME #14** has been revised. The PROJECT SPECIAL PROVISION entitled **INTERMEDIATE CONTRACT TIME #15** has been revised. The PROJECT SPECIAL PROVISION entitled **INTERMEDIATE CONTRACT TIME #16** has been revised. Added PROJECT SPECIAL PROVISION entitled **INTERMEDIATE CONTRACT TIME #17** Added PROJECT SPECIAL PROVISION entitled **INTERMEDIATE CONTRACT TIME #18** Added PROJECT SPECIAL PROVISION entitled **INTERMEDIATE CONTRACT TIME #19** The PROJECT SPECIAL PROVISION entitled **SPECIALTY ITEMS** has been revised The PROJECT SPECIAL PROVISION entitled **FUEL PRICE ADJUSTMENT** has been revised The PROJECT SPECIAL PROVISION entitled **STEEL PRICE ADJUSTEMENT** has been revised
G-50	The PROJECT SPECIAL PROVISION entitled **COOPERATION BETWEEN CONTRACTORS** has been revised.
R-10	The PROJECT SPECIAL PROVISION entitled **PRICE ADJUSTMENT – ASPHALT BINDER FOR PLANT MIX** has been revised
SSP-18 thru SSP-37	The STANDARD SPECIAL PROVISION entitled **MINORITY AND FEMALE EMPLOYMENT REQUIREMENTS** has been deleted.
SSP-38 thru SSP-40	Pages Deleted
GT-0.1	Geotechnical Special Provisions Table of Contents Revised
GT-5.1 thru GT-5.18	The PROJECT SPECIAL PROVISION entitled **DRILLED PIERS** has been revised.
GT-8.1 thru GT-8.2 (New)	The PROJECT SPECIAL PROVISION entitled **FOUNDATION PREPARATION FOR PEDESTRIAN BRIDGE END BENT 2** has been added.

R-60 thru R-65	The PROJECT SPECIAL PROVISION entitled **PAVEMENT MARKINGS** has been revised.
R-74	The PROJECT SPECIAL PROVISION entitled **TEMPORARY GUARDRAIL** has been added.
UC-10	The PROJECT SPECIAL PROVISION entitled **CORROSION TEST STATION** has been added.
ITS-47 thru ITS-48	The PROJECT SPECIAL PROVISION entitled **1-77 MP COORDINATION** has been revised.

Please void the above listed existing pages in your proposal and staple the new and revised pages thereto.

On the item sheets the following pay item revisions have been made:

Item number 0330 High Velocity Fire Hydrant has been renumbered to 0331.
Item numbers 0331 thru 0568 have been revised to accommodate 0330 New Item Corrosion Test Station.

Item	**Description**	**Old Quantity**	**New Quantity**
0146-3575000000-ESP	PEDESTRIAN SAFETY RAIL	2,590 LF	2,790 LF
0147-3575000000-ESP	PROTECTIVE COATING FOR PEDESTRIAN SAFETY RAIL	2,590 LF	2,790 LF
0492-8801000000-ESP	MSE RETAINING WALL NO (1)	8,727 SF	5,040 SF
0495-8801000000-ESP	MSE RETAINING WALL NO (2)	6,965 SF	5,980 SF
0496-8801000000-ESP	MSE RETAINING WALL NO (3)	7,076 SF	6,152 SF
0505-8892000000-ESP	ARCHITECTURAL SURFACE TREATMENT (SOUND BARRIER WALL NO NW1)	14,556 SF	14,772 SF
0506-8892000000-ESP	SOUND BARRIER WALL	16,683 SF	16,916 SF
0526-8111000000-E411 (Old Number)	PERMANENT STEEL CASING FOR 5’-6” DIA DRILLED PIER	39 LF	DELETED
0527-8111600000-E411 (Old Number)	PERMANENT STEEL CASING FOR 4’-0” DIA DRILLED PIER	9 LF	DELETED

Item	Description	Old Quantity	New Quantity
0530-8113000000-N 411	SID INSPECTIONS	1 EA	2 EA
0546-8328200000-E 450 (Old Number)	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES (1’-2” X 2’-6”)	22 EA	DELETED
0549-8328200000-E 450	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES (HP 14 X 73)	71 EA	93 EA
0550-8364000000-E 450	HP 12 X 53 STEEL PILES	6,705 LF	6,745 LF
0553-8517000000-E 460	1'-**" X *****" CONCRETE PARAPET (1'-2" X 2'-6")	2,887.55 LF	2,248.95 LF
0554-8517000000-E 460	1'-**" X *****" CONCRETE PARAPET (1'-2" X 3’-2 3/4”)	220.4 LF	859.0 LF
0502- 8801000000-E SP	MSE RETAINING WALL NO (9)	NEW ITEM	3,687 SF
0493- 8801000000-E SP	MSE RETAINING WALL NO (10)	NEW ITEM	985 SF
0494- 8801000000-E SP	MSE RETAINING WALL NO (11)	NEW ITEM	924 SF
0330- 5882000000-N SP	CORROSION TEST STATION	NEW ITEM	34 EA
0562-8860000000-N SP	FOUNDATION PREPARATION FOR PEDESTRIAN BRIDGE END BENT 2	NEW ITEM	LUMP SUM

The Contractor’s bid must include these pay item revisions.

The electronic bidding form has been updated on Bid Express to reflect these revisions.

The contract will be prepared accordingly.

Sincerely,

Signed by:
Jon Weathersbee
E45DA45396074A0...

Jon Weathersbee, PE
State Contract Officer

JHW/jcm
Attachments

cc: Mr. Troy B. Brooks, PE
Mr. Felix A. Obregon, PE
Mr. Ken Kennedy, PE
Mr. Malcolm Bell
Mr. Forrest Dungan, PE
Ms. Jaci Kincaid
Project File (2)

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH, N.C.

PROPOSAL

INCLUDES ADDENDUM No. 1 DATED 11-2-2026

DATE AND TIME OF BID OPENING: **Nov 17, 2026 AT 02:00 PM**

CONTRACT ID	C205223
WBS	50128.3.1, 50178.3.1, 51704.3.1

FEDERAL-AID NO.	NHPP-077-1(220)29, STATE FUNDED, 5170401
COUNTY	MECKLENBURG
T.I.P NO.	I-5715, U-5765, BL-0119
MILES	3.683
ROUTE NO.	NC-73
LOCATION	INTERSECTION AT I-77 AND NC-73, NC-73 FROM SR-5544 TO SR-2316, PEDESTRIAN BRIDGE OVER NC-73 ON MCDOWELL CREEK GREENWAY.
TYPE OF WORK	GRADING, DRAINAGE, PAVING, SIGNALS, AND STRUCTURES.

NOTICE:

ALL BIDDERS SHALL COMPLY WITH ALL APPLICABLE LAWS REGULATING THE PRACTICE OF GENERAL CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA WHICH REQUIRES THE BIDDER TO BE LICENSED BY THE N.C. LICENSING BOARD FOR CONTRACTORS WHEN BIDDING ON ANY NON-FEDERAL AID PROJECT WHERE THE BID IS $40,000 OR MORE, EXCEPT FOR CERTAIN SPECIALTY WORK AS DETERMINED BY THE LICENSING BOARD. BIDDERS SHALL ALSO COMPLY WITH ALL OTHER APPLICABLE LAWS REGULATING THE PRACTICES OF ELECTRICAL, PLUMBING, HEATING AND AIR CONDITIONING AND REFRIGERATION CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA. NOTWITHSTANDING THESE LIMITATIONS ON BIDDING, THE BIDDER WHO IS AWARDED ANY FEDERAL - AID FUNDED PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF BID OPENING.

BIDS WILL BE RECEIVED AS SHOWN BELOW:

THIS IS A ROADWAY & STRUCTURE PROPOSAL

5% BID BOND OR BID DEPOSIT REQUIRED

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PROJECT SPECIAL PROVISIONS

GENERAL

AWARD OF CONTRACT:
(1-16-18)(Rev. 5-28-24) 103 SP1 G01

Revise the *Standard Specifications* as follows:

Page 1-24, Subarticle 103-4(A) General, first paragraph, replace the 3rd and 4th sentences with the following:

Where award is to be made, the notice of award will be issued within 60 days after the opening of bids or upon issuance of any necessary debt instrument, whichever is later, but not to exceed 120 days; except with the consent of the lowest responsible bidder the decision to award the contract to such bidder may be delayed for as long a time as may be agreed upon by the Department and such bidder. In the absence of such agreement, the lowest responsible bidder may withdraw his bid at the expiration of 120 days without penalty if no notice of award has been issued.

HAUL ROADS:
(7-16-24) 105 SP1 G04

Revise the *Standard Specifications* as follows:

Page 1-45, Article 105-15 RESTRICTION OF LOAD LIMITS, line 31, add the following after second sentence of the second paragraph:

At least 30 days prior to use, the Contractor shall notify the Engineer of any public road proposed for use as a haul road for the project.

DOMESTIC MATERIAL:
(11-15-22)(Rev. 11-17-26) 106 SP1 G05 D

Revise the *Standard Specifications* as follows:

Page 1-47 and 1-48, Article 106-1 GENERAL REQUIREMENTS, lines 30-47 and 1-49, delete and replace Article 106-1 with the following:

106-1 MATERIALS AND MANUFACTURING

(A) General Requirements

The Contractor shall furnish materials that conform to all contract requirements, are suitable for their intended use, and are free from defects. All materials used in the work shall meet the requirements of the contract and shall be subject to inspection, test, or rejection by the Engineer. All materials permanently incorporated into the completed work shall be new, unless otherwise specified in the contract or as approved by the Engineer.

The Contractor is responsible for selecting, procuring, and delivering materials of the types and quantities necessary to perform the work and meet contract requirements. Delays in material delivery or quality control do not relieve the Contractor of obligations for schedule or quality.

All materials incorporated into the work shall be approved before use. Approval is based on testing, certification, or both, as required by the contract. Department review or acceptance does not relieve the Contractor of responsibility for material compliance. The Department may inspect, sample, and test materials at any time before, during, or after installation.

Materials shall be handled, stored, and protected to prevent damage, contamination, or deterioration. Materials determined to be defective, damaged, contaminated, or otherwise not in compliance shall be rejected and promptly removed from the project.

To facilitate inspection and testing, the Contractor shall furnish a complete statement of origin for all materials, including certifications or samples when requested. This information shall be submitted to the Materials and Tests Unit when required by the contract or as directed by the Engineer, in advance of fabrication, shipment, or use to allow for appropriate inspection.

The Contractor shall furnish Safety Data Sheets (SDS) for all paints and hazardous chemicals proposed for use on the project, in accordance with the North Carolina Hazard Communication Standard, 29 CFR 1910.1200 and NCGS § 95-174.

The Contractor shall provide access, equipment, means and assistance for the verification and calibration of any devices used in testing, measurement, or documentation of materials.

If the Contractor proposes to use materials from local deposits not identified in the contract, the Contractor shall be responsible for preliminary sampling, source approval, and production of acceptable material. Preliminary samples shall be furnished at no cost to the Department. If requested in writing, the Department may perform sampling, with costs to be charged to the Contractor as determined by the Engineer.

Sampling or testing by the Department does not constitute pre-approval or acceptance of material. The Contractor remains responsible for ensuring quality and uniformity of all materials produced or delivered, including those from local deposits. The Contractor shall indemnify and hold harmless the Department from any claims, costs, or damages related to the development or use of such sources, including, but not limited to, failure to meet quantity or quality requirements.

Materials covered by Subarticles 106-1(B) and 106-1(C) shall comply with applicable domestic content requirements, including those for iron and steel, construction materials, and manufactured products.

(B) Domestic Material Requirements

Domestic material requirements apply to iron and steel products permanently incorporated into any project in accordance with 23 U.S.C. § 313, 23 CFR 635.410, and NCGS § 136-28.7. Construction materials and manufactured products permanently incorporated into the

work are subject to domestic-content requirements only on Federal-aid projects, in accordance with 23 U.S.C. § 313, Build America Buy America Act (IIJA § 70914), 2 CFR 184, and as implemented for the Federal-aid highway program through 23 CFR Part 635.410.

All iron or steel products, construction materials, and manufactured products subject to domestic content requirements shall be of domestic origin and meet the applicable requirements of the contract based on the project's funding source.

Before any materials are delivered to the project, the Contractor shall submit a notarized letter acknowledging their understanding of the domestic material requirements for the specific contract. This acknowledgment is a contract-level affirmation that the Contractor is responsible for ensuring that no iron or steel product, construction material, or manufactured product subject to domestic content requirements is permanently incorporated into the work without the required certification. This acknowledgment does not substitute for product-level certifications from the manufacturer or supplier. The Department reserves the right to deny or recover payment for any material incorporated into the work without valid documentation.

For iron and steel, all manufacturing processes must occur in the United States.

For construction materials, all manufacturing processes must occur in the United States.

For manufactured products, final assembly must occur in the United States.

Before any iron or steel product, construction material, or manufactured product subject to domestic content requirements is eligible for payment, the Contractor shall submit a certification from the manufacturer or supplier confirming compliance with the applicable regulations. A separate certification is required for each shipment or delivery and must clearly identify the items covered, linked to the associated bill of lading, invoice, or packing list.

The Contractor shall ensure that all required certifications from the manufacturer or supplier are obtained and submitted to the Engineer prior to payment for any iron or steel product, construction material, or manufactured product subject to domestic content requirements. The Engineer will retain documentation in accordance with Department procedures. Compliance with domestic material requirements is the responsibility of the Contractor, based on certifications and documentation provided by the manufacturer or supplier.

(C) Material Category Requirements

(1) Iron and Steel Products

Items are considered iron or steel products if they consist wholly or predominantly of iron or steel. Predominantly means the cost of iron or steel components exceeds 50% of the total cost of all product components.

All steel and iron products that are permanently incorporated into the work shall be produced in the United States. This includes any such item that is melted, cast, rolled, formed, shaped, drawn, extruded, forged, fabricated, finished or otherwise processed in the manufacture of the product. Coatings applied to iron and steel products shall also be applied in the United States.

A minimal amount of foreign iron or steel products may be permitted provided the total value of such foreign material, as delivered to the project, does not exceed 0.1% of the total contract cost or $2,500, whichever is greater. Documentation establishing the value of the foreign material shall be submitted when requested. This allowance is intended only for incidental quantities that may arise despite good-faith compliance efforts and may not be used to intentionally procure foreign iron or steel.

Domestically produced high-strength fasteners are required, and foreign-produced high-strength fasteners are not permitted under any circumstance.

Raw materials such as pig iron, processed pelletized iron ore, and reduced iron ore may be sourced internationally; however, all manufacturing processes to produce the final product, including coatings, must occur within the United States.

(2) Construction Materials

Construction materials shall consist of a single, listed material type permanently incorporated into the work as defined in 2 CFR 184.3. The following are classified as construction materials:

(a) Non-ferrous metals (such as aluminum, copper, and zinc);
(b) Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
(c) Glass (including optical glass);
(d) Fiber optic cable (including drop cable);
(e) Optical fiber;
(f) Lumber;
(g) Engineered wood;
(h) Drywall

For construction materials, all manufacturing processes must occur in the United States. If a construction material is combined with other materials, components, or features to form a product with new properties or functions, it shall be classified as a manufactured product.

Minor additions such as binding agents, dyes, or adhesives that do not materially alter the item's properties do not affect classification.

(3) Manufactured Products

Manufactured products are articles, materials, or supplies that are made by combining one or more materials to create a product with new or different properties, functions, or uses. This includes items that incorporate multiple components, materials, or assemblies and cannot be classified as a single listed construction material.

Final assembly of all manufactured products must occur in the United States. Certification must address the product as a whole, including all incorporated components.

Items that meet the definition of construction materials or iron and steel products shall not be reclassified as manufactured products.

(4) Materials Not Subject to Domestic Content Requirements

The following materials are not subject to domestic content requirements and do not require certification, as identified below:

(a) Materials Excluded by Federal Statute or Regulation

The following materials are excluded from domestic content requirements under applicable Federal law or regulation:

(i) Cement and cementitious materials
(ii) Aggregates such as stone, sand, or gravel
(iii) Aggregate binding agents or additives

(b) Materials Not Permanently Incorporated into the Work

Materials that are not permanently incorporated into the completed project are not subject to domestic content requirements. Materials are not permanently incorporated when they are used solely to facilitate construction activities and do not perform an ongoing structural, operational, or functional role after construction is complete. Determinations regarding whether a material is permanently incorporated will be made by the Engineer.

(D) Classification and Clarification of Materials

All items subject to domestic content requirements shall be classified as either an iron or steel product, construction material, manufactured product, or a material not subject to domestic content requirements based on their final form as delivered to the project site. Each item may be classified into only one category and shall not be reclassified to avoid more stringent requirements. Classification of a manufactured product does not relieve the Contractor of compliance with iron and steel domestic manufacturing requirements applicable to embedded iron or steel components when required by Federal law or regulation. When an item's classification is uncertain or does not clearly fall within the listed categories, the Contractor shall submit the item for review by the Engineer. Approval must be obtained prior to procurement or incorporation into the project.

MANDATORY PRE-BID CONFERENCE (Prequalifying To Bid):
(7-18-06) (Rev. 12-23-25) SPI 1-14C

In order for all prospective bidders to have an extensive knowledge of the project, all prospective bidders shall attend a mandatory pre-bid conference at 10:00AM Tuesday, September 29th, 2026. The mandatory pre-bid conference will be held in person at the following location and via a virtual meeting on Microsoft Teams.

In Person Meeting Location Option:

Division 10 MRTMC Large Conference Room
2327 Tipton Drive
Charlotte, NC 28206

The completion date for this contract is **April 12, 2032**.

Except where otherwise provided by the contract, observation periods required by the contract will not be a part of the work to be completed by the completion date and/or intermediate contract times stated in the contract. The acceptable completion of the observation periods that extend beyond the final completion date shall be a part of the work covered by the performance and payment bonds.

The liquidated damages for this contract are **Two Hundred Dollars ($ 200.00)** per calendar day. These liquidated damages will not be cumulative with any liquidated damages which may become chargeable under Intermediate Contract Time Number 1.

INTERMEDIATE CONTRACT TIME NUMBER 1 AND LIQUIDATED DAMAGES:
(7-1-95) (Rev. 2-21-12) 108 SP1 G13 A

Except for that work required under the Project Special Provisions entitled *Planting, Reforestation* and/or *Permanent Vegetation Establishment*, included elsewhere in this proposal, the Contractor will be required to complete all work included in this contract and shall place and maintain traffic on same.

The date of availability for this intermediate contract time is **March 15, 2027, except for -L2- STA 421+00 (+/-) to -L2- STA 447+94 (+/-) and associated -Y- Lines and -GW- STA 10+06 (+/-) to -GW- STA 20+54 (+/-) is April 1, 2028**.

The completion date for this intermediate contract time is **October 15, 2031**.

The liquidated damages for this intermediate contract time are **Eleven Thousand Dollars (11,000.00)** per calendar day.

Upon apparent completion of all the work required to be completed by this intermediate date, a final inspection will be held in accordance with Article 105-17 and upon acceptance, the Department will assume responsibility for the maintenance of all work except *Planting, Reforestation* and/or *Permanent Vegetation Establishment*. The Contractor will be responsible for and shall make corrections of all damages to the completed roadway caused by his planting operations, whether occurring prior to or after placing traffic through the project.

INTERMEDIATE CONTRACT TIME NUMBER 2 AND LIQUIDATED DAMAGES:
(2-20-07) 108 SP1 G14 A

The Contractor shall complete the required work of installing, maintaining, and removing the traffic control devices for lane closures and restoring traffic to the existing traffic pattern. The Contractor shall not close or narrow a lane of traffic on **I-77 (General Purpose Lane) or any associated Ramp / Loop** during the following time restrictions:

DAY AND TIME RESTRICTIONS

Monday thru Friday, 5:00 AM to 10:00 PM
and
Saturday thru Sunday, 9:00 AM to 10:00 PM

In addition, the Contractor shall not close or narrow a lane of traffic on **I-77 (General Purpose Lane) or any associated Ramp / Loop** detain and/or alter the traffic flow on or during holidays, holiday weekends, special events, or any other time when traffic is unusually heavy, including the following schedules:

HOLIDAY AND HOLIDAY WEEKEND LANE CLOSURE RESTRICTIONS

1. For **unexpected occurrence** that creates unusually high traffic volumes, as directed by the Engineer.

2. For **New Year's Day**, between the hours of **5:00 AM** December 31st and **10:00 PM** January 2nd. If New Year's Day is on a Friday, Saturday, Sunday or Monday, then until **10:00 PM** the following Tuesday.

3. For **Easter**, between the hours of **5:00 AM** Thursday and **10:00 PM** Monday.

4. For **Memorial Day**, between the hours of **5:00 AM** Friday and **10:00 PM** Tuesday.

5. For **Independence Day**, between the hours of **5:00 AM** the day before Independence Day and **10:00 PM** the day after Independence Day.

   If **Independence Day** is on a Friday, Saturday, Sunday or Monday, then between the hours of **5:00 AM** the Thursday before Independence Day and **10:00 PM** the Tuesday after Independence Day.

6. For **Labor Day**, between the hours of **5:00 AM** Friday and **10:00 PM** Tuesday.

7. For **Thanksgiving Day**, between the hours of **5:00 AM** Tuesday and **10:00 PM** Monday.

8. For **Christmas**, between the hours of **5:00 AM** the Friday before the week of Christmas Day and **10:00 PM** the following Tuesday after the week of Christmas Day.

9. For any events at **Bank of America Stadium**, between **three (3)** hours before the start of the event and **three (3)** hours after the end of the event.

10. For any events at **Charlotte Motor Speedway**, between **three (3)** hours before the start of the event and **three (3)** hours after the end of the event.

Holidays and holiday weekends shall include New Year's, Easter, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. The Contractor shall schedule his work so that lane closures will not be required during these periods, unless otherwise directed by the Engineer.

The time of availability for this intermediate contract work shall be the time the Contractor begins to install all traffic control devices for lane closures according to the time restrictions listed herein.

The completion time for this intermediate contract work shall be the time the Contractor is required to complete the removal of all traffic control devices for lane closures according to the time restrictions stated above and place traffic in the existing traffic pattern.

The liquidated damages are **One Thousand Two Hundred Fifty Dollars ($ 1,250.00)** per fifteen **(15)** minute time period.

INTERMEDIATE CONTRACT TIME NUMBER 3 AND LIQUIDATED DAMAGES:
(2-20-07) 108 SP1 G14 A

The Contractor shall complete the required work of installing, maintaining, and removing the traffic control devices for lane closures and restoring traffic to the existing traffic pattern. The Contractor shall not close or narrow a lane of traffic on **NC 73** during the following time restrictions:

DAY AND TIME RESTRICTIONS

Monday thru Sunday, 5:00 AM to 9:00 PM

In addition, the Contractor shall not close or narrow a lane of traffic on **NC 73**, detain and/or alter the traffic flow on or during holidays, holiday weekends, special events, or any other time when traffic is unusually heavy, including the following schedules:

HOLIDAY AND HOLIDAY WEEKEND LANE CLOSURE RESTRICTIONS

1. For **unexpected occurrence** that creates unusually high traffic volumes, as directed by the Engineer.

2. For **New Year's Day**, between the hours of **5:00 AM** December 31st and **10:00 PM** January 2nd. If New Year's Day is on a Friday, Saturday, Sunday or Monday, then until **10:00 PM** the following Tuesday.

3. For **Easter**, between the hours of **5:00 AM** Thursday and **10:00 PM** Monday.

4. For **Memorial Day**, between the hours of **5:00 AM** Friday and **10:00 PM** Tuesday.

5. For **Independence Day**, between the hours of **5:00 AM** the day before Independence Day and **10:00 PM** the day after Independence Day.

   If **Independence Day** is on a Friday, Saturday, Sunday or Monday, then between the hours of **5:00 AM** the Thursday before Independence Day and **10:00 PM** the Tuesday after Independence Day.

6. For **Labor Day**, between the hours of **5:00 AM** Friday and **10:00 PM** Tuesday.

7. For **Thanksgiving Day**, between the hours of **5:00 AM** Tuesday and **10:00 PM** Monday.

8. For **Christmas**, between the hours of **5:00 AM** the Friday before the week of Christmas Day and **10:00 PM** the following Tuesday after the week of Christmas Day.

Holidays and holiday weekends shall include New Year's, Easter, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. The Contractor shall schedule his work so that lane closures will not be required during these periods, unless otherwise directed by the Engineer.

The time of availability for this intermediate contract work shall be the time the Contractor begins to install all traffic control devices for lane closures according to the time restrictions listed herein.

The completion time for this intermediate contract work shall be the time the Contractor is required to complete the removal of all traffic control devices for lane closures according to the time restrictions stated above and place traffic in the existing traffic pattern.

The liquidated damages are **One Thousand Two Hundred Fifty Dollars ($ 1,250.00)** per fifteen **(15)** minute time period.

INTERMEDIATE CONTRACT TIME NUMBER 4 AND LIQUIDATED DAMAGES:
(2-20-07) 108 SP1 G14 A

The Contractor shall complete the required work of installing, maintaining, and removing the traffic control devices for lane closures and restoring traffic to the existing traffic pattern. The Contractor shall not close or narrow a lane of traffic on **Caldwell Creek Dr, Northcross Dr, Glenhurst Ln, Kenton Dr, Glenfurness Dr, Sedgebrook Ln, Birkdale Crossing, Birkdale Commons Pkwy, or Lindholm Dr** during the following time restrictions:

DAY AND TIME RESTRICTIONS

Monday thru Sunday, 5:00 AM to 9:00 PM

In addition, the Contractor shall not close or narrow a lane of traffic on **Caldwell Creek Dr, Northcross Dr, Glenhurst Ln, Kenton Dr, Glenfurness Dr, Sedgebrook Ln, Birkdale Crossing, Birkdale Commons Pkwy, or Lindholm Dr**, detain and/or alter the traffic flow on or during holidays, holiday weekends, special events, or any other time when traffic is unusually heavy, including the following schedules:

HOLIDAY AND HOLIDAY WEEKEND LANE CLOSURE RESTRICTIONS

1. For **unexpected occurrence** that creates unusually high traffic volumes, as directed by the Engineer.

2. For **New Year's Day**, between the hours of **5:00 AM** December 31st and **10:00 PM** January 2nd. If New Year's Day is on a Friday, Saturday, Sunday or Monday, then until **10:00 PM** the following Tuesday.

3. For **Easter**, between the hours of **5:00 AM** Thursday and **10:00 PM** Monday.

4. For **Memorial Day**, between the hours of **5:00 AM** Friday and **10:00 PM** Tuesday.

5. For **Independence Day**, between the hours of **5:00 AM** the day before Independence Day and **10:00 PM** the day after Independence Day.

   If **Independence Day** is on a Friday, Saturday, Sunday or Monday, then between the hours of **5:00 AM** the Thursday before Independence Day and **10:00 PM** the Tuesday after Independence Day.

6. For **Labor Day**, between the hours of **5:00 AM** Friday and **10:00 PM** Tuesday.

7. For **Thanksgiving Day**, between the hours of **5:00 AM** Tuesday and **10:00 PM** Monday.

8. For **Christmas**, between the hours of **5:00 AM** the Friday before the week of Christmas Day and **10:00 PM** the following Tuesday after the week of Christmas Day.

Holidays and holiday weekends shall include New Year's, Easter, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. The Contractor shall schedule his work so that lane closures will not be required during these periods, unless otherwise directed by the Engineer.

The time of availability for this intermediate contract work shall be the time the Contractor begins to install all traffic control devices for lane closures according to the time restrictions listed herein.

The completion time for this intermediate contract work shall be the time the Contractor is required to complete the removal of all traffic control devices for lane closures according to the time restrictions stated above and place traffic in the existing traffic pattern.

The liquidated damages are **Five Hundred Dollars ($ 500.00)** per fifteen **(15)** minute time period.

INTERMEDIATE CONTRACT TIME NUMBER 5 AND LIQUIDATED DAMAGES:
(2-20-07) 108 SP1 G14 D

The Contractor shall complete the required work of installing, maintaining and removing the traffic control devices for road closures and restoring traffic to the existing traffic pattern. The Contractor shall not close **NC 73** during the following time restrictions:

DAY AND TIME RESTRICTIONS

Monday thru Sunday, 5:00 AM to 9:00 PM

The time of availability for this intermediate contract time will be the time the Contractor begins to install traffic control devices required for road closures according to the time restrictions stated herein.

The completion time for this intermediate contract time will be the time the Contractor is required to complete the removal of traffic control devices required for the road closures according to the time restrictions stated herein and restore traffic to the existing traffic pattern

The liquidated damages are **Two Thousand Five Hundred Dollars ($ 2,500.00)** per fifteen **(15)** minute time period.

INTERMEDIATE CONTRACT TIME NUMBER 6 AND LIQUIDATED DAMAGES:
(2-20-07) 108 SP1 G14 D

The Contractor shall complete the required work of installing, maintaining and removing the traffic control devices for road closures and restoring traffic to the existing traffic pattern. The Contractor shall not close **I-77 (General Purpose Lanes) or any associated Ramp / Loop** during the following time restrictions:

DAY AND TIME RESTRICTIONS

Monday thru Sunday, 5:00 AM to 11:00 PM

The time of availability for this intermediate contract time will be the time the Contractor begins to install traffic control devices required for road closures according to the time restrictions stated herein.

The completion time for this intermediate contract time will be the time the Contractor is required to complete the removal of traffic control devices required for the road closures according to the time restrictions stated herein and restore traffic to the existing traffic pattern

The liquidated damages are **Five Thousand Dollars ($ 5,000.00)** per fifteen **(15)** minute time period.

INTERMEDIATE CONTRACT TIME NUMBER 7 AND LIQUIDATED DAMAGES:
(2-20-07) (Rev. 10-15-13) 108 SP1 G14 E

The Contractor shall complete the required work of installing, maintaining and removing the traffic control devices for road closures and restoring traffic to the existing traffic pattern. The Contractor shall not close **Caldwell Creek Dr, Northcross Dr, Glenhurst Ln, Kenton Dr, Glenfurness Dr, Sedgebrook Ln, Birkdale Crossing, Birkdale Commons Pkwy, or Lindholm Dr** during the following time restrictions:

DAY AND TIME RESTRICTIONS

Monday thru Sunday, 5:00 AM to 9:00 PM

The road closures allowed by this intermediate contract time are for overhead sign installation operations only, and the maximum allowable time is twenty (20) minutes for Caldwell Creek Dr, Northcross Dr, Glenhurst Ln, Kenton Dr, Glenfurness Dr, Sedgebrook Ln, Birkdale Crossing, Birkdale Commons Pkwy, or Lindholm Dr. The Contractor shall reopen the travel lanes to traffic until any resulting traffic queue is depleted.

The time of availability for this intermediate contract time will be the time the Contractor begins to install traffic control devices required for the road closures according to the time restrictions stated herein.

The completion time for this intermediate contract time will be the time the Contractor is required to complete the removal of traffic control devices required for the road closures according to the time restrictions stated herein and restore traffic to the existing traffic pattern.

The liquidated damages are **Five Hundred Dollars ($ 500.00)** per fifteen **(15)** minute time period.

INTERMEDIATE CONTRACT TIME NUMBER 8 AND LIQUIDATED DAMAGES:
(2-20-07) (Rev. 6-18-13) 108 SP1 G14 F

The Contractor shall complete the work required of **Phase 1, Step #1A** as shown on Sheet **TMP-3** and shall place and maintain traffic on same.

The time of availability for this intermediate contract time is a **Friday at 9:00 PM** the Contractor begins the work.

The completion day for this intermediate contract time is the **second Monday at 5:00 AM** after the Contractor begins this work.

The liquidated damages are **Five Hundred Dollars ($ 500.00)** per fifteen **(15)** minute time period.

INTERMEDIATE CONTRACT TIME NUMBER 9 AND LIQUIDATED DAMAGES:
(2-20-07) (Rev. 6-18-13) 108 SP1 G14 H

The Contractor shall complete the work required of **Phase 1, Step #3A** as shown on Sheet **TMP-3** and shall place and maintain traffic on same.

The date of availability for this intermediate contract time is the date the Contractor elects to begin the work.

The completion date for this intermediate contract time is the date which is **seven (7)** consecutive calendar days after and including the date the Contractor begins this work.

The liquidated damages are **One Thousand Dollars ($ 1,000.00)** per calendar day.

INTERMEDIATE CONTRACT TIME NUMBER 10 AND LIQUIDATED DAMAGES:
(2-20-07) (Rev. 6-18-13) 108 SP1 G14 H

The Contractor shall complete the work required of **South Area Phase 1, Step #4** as shown on Sheet **TMP-3A** and shall place and maintain traffic on same.

The date of availability for this intermediate contract time is the date the Contractor elects to begin the work.

The completion date for this intermediate contract time is the date which is **sixty (60)** consecutive calendar days after and including the date the Contractor begins this work.

The liquidated damages are **Two Hundred Fifty Dollars ($ 250.00)** per calendar day.

INTERMEDIATE CONTRACT TIME NUMBER 11 AND LIQUIDATED DAMAGES:
(6-18-13) 108 SP1 G14 F

The Contractor shall complete the work required of **South Area Phase 1, Step #5** and as shown on Sheets **TMP-3A** and shall place and maintain traffic on same.

The time of availability for this intermediate contract time is **Thursday at 11:00 PM** the Contractor elects to begin the work.

The completion time for this intermediate contract time is the following **Monday at 5:00 AM** after and including the date the Contractor begins this work.

The liquidated damages are **Five Thousand Dollars ($ 5,000.00)** per fifteen **(15)** minute time period.

INTERMEDIATE CONTRACT TIME NUMBER 12 AND LIQUIDATED DAMAGES:
(6-18-13) (REV. 9-11-26) 108 SP1 G14 H

The Contractor shall complete the work required of **South Area Phase 1, Step #8 over three (3) consecutive nights during a single weekend** and as shown on Sheet **TMP-3A** and shall place and maintain traffic on same.

The Contractor shall complete the work of South Area Phase 1, Step #8, the weekend before the work of South Area Phase 1, Step #9 is scheduled to be performed. The Contractor shall schedule the work of South Area Phase 1, Step #8 such that the work required of South Area Phase 1, Step #9 does not conflict with any holiday or special event restrictions listed in Intermediate Contract Time #2 or Intermediate Contract Time #18.

The date of availability for this intermediate contract time is the **Friday** the Contractor elects to begin the work.

The completion date for this intermediate contract time is the date which is **three (3)** consecutive calendar days after and including the date the Contractor begins this work.

The liquidated damages are **Five Hundred Dollars ($ 500.00)** per calendar day.

INTERMEDIATE CONTRACT TIME NUMBER 13 AND LIQUIDATED DAMAGES:
(6-18-13) 108 SP1 G14 C

The Contractor shall complete the required work of installing, maintaining, and removing the traffic control devices for lane closures and restoring traffic to the existing traffic pattern. The Contractor shall not close or narrow a lane of traffic on **I-77 (General Purpose Lane or Express Lane)** during the following time restrictions:

DAY AND TIME RESTRICTIONS

From Monday at 5:00 AM to Friday at 9:00 PM
and
Saturday and Sunday, 7:00 AM to 9:00 PM

The lane closures allowed by this intermediate contract time are only for the operation under South Area Phase 1, Step #9. The time of availability for this intermediate contract work shall be the time the Contractor begins to install all traffic control devices for lane closures according to the time restrictions listed herein.

The completion time for this intermediate contract work shall be the time the Contractor is required to complete the removal of all traffic control devices for lane closures according to the time restrictions stated above and place traffic in the existing traffic pattern.

The liquidated damages are **Two Hundred Fifty Dollars ($ 250.00)** per fifteen **(15)** minute time period. **The Liquidated Damages associated with the Day and Time Restrictions of Intermediate Contract Time #2 or Intermediate Contract Time #18 shall not apply to the work required of this intermediate contract time; however, the Liquidated Damages**

associated with the Holiday and Holiday Weekend Lane Closure Restrictions of Intermediate Contract Time #2 or Intermediate Contract Time #18 shall apply to the work required of this intermediate contract time.

INTERMEDIATE CONTRACT TIME NUMBER 14, NUMBER 15, AND LIQUIDATED DAMAGES:
(6-18-13) 108 SP1 G14 F

The Contractor shall complete the work required of **South Area Phase 1, Step #9** and as shown on Sheet **TMP-3A** and shall place and maintain traffic on same.

The time of availability for this intermediate contract time is **the Friday after the completion of South Area Phase 1, Step #8 at 9:00 PM**.

The completion time for this intermediate contract time is the following **Monday at 5:00 AM** after and including the date the Contractor begins this work.

Intermediate Contract Time #14
The liquidated damages are **One Thousand Two Hundred Fifty Dollars ($ 1,250.00)** per fifteen **(15)** minute time period **for incomplete work impacting any I-77 General Purpose Lane**. **The Liquidated Damages associated with the Day and Time Restrictions of Intermediate Contract Time #2 shall not apply to the work required of this intermediate contract time; however, the Liquidated Damages associated with the Holiday and Holiday Weekend Lane Closure Restrictions of Intermediate Contract Time #2 shall apply to the work required of this intermediate contract time.**

Intermediate Contract Time #15
The liquidated damages are **Two Thousand Five Hundred Dollars ($ 2,500.00)** per fifteen **(15)** minute time period **for incomplete work impacting any I-77 Express Lane**. **The Liquidated Damages associated with the Day and Time Restrictions of Intermediate Contract Time #18 shall not apply to the work required of this intermediate contract time; however, the Liquidated Damages associated with the Holiday and Holiday Weekend Lane Closure Restrictions of Intermediate Contract Time #18 shall apply to the work required of this intermediate contract time.**

The liquidated damages for Intermediate Contract Time #14 shall be assessed concurrently with the liquidated damages for Intermediate Contract Time #15 for incomplete work impacting any I-77 General Purpose Lane and any I-77 Express Lane simultaneously.

INTERMEDIATE CONTRACT TIME NUMBER 16 AND LIQUIDATED DAMAGES:
(6-18-13) 108 SP1 G14 F

The Contractor shall complete the **fiber trunk line relocation switchover, system testing and validation work** required of **North Area Phase 1, Step #2** and as shown on Sheets **TMP-3B, ITS-11, ITS-12 and ITS-13** and shall place and maintain traffic on same.

The time of availability for this intermediate contract time is **Saturday at 10:00 PM** the Contractor elects to begin the work.

The completion time for this intermediate contract time is the following **Sunday at 6:00 AM** after and including the date the Contractor begins this work.

The liquidated damages are **Five Hundred Dollars ($ 500.00)** per hour.

INTERMEDIATE CONTRACT TIME NUMBER 17 AND LIQUIDATED DAMAGES:
(2-20-07) (Rev. 6-18-13) 108 SP1 G14 H

The Contractor shall complete all work required **to restore full functionality and operation to the following independent ITS devices** required of **North Area, Phase 2** as shown on Sheet **TMP-3B such that no individual device is out of service for more than one hundred fifty (150) consecutive calendar days**. **Full functionality and operation will be determined and verified solely by the Engineer**.

Independent Intermediate Contract Times:

- **AVI-07**
- **AVI-08**
- **CCTV-06/MVD-12**

The date of availability for **each independent** intermediate contract time is the date **the independent ITS device is first deactivated, disconnected, or rendered non-operational**.

The completion date for **each independent** intermediate contract is the date which is **one hundred fifty (150)** consecutive calendar days after the date of availability.

The liquidated damages **for each independent intermediate contract time** are **Five Hundred Dollars ($ 500.00)** per calendar day.

INTERMEDIATE CONTRACT TIME NUMBER 18 AND LIQUIDATED DAMAGES:
(2-20-07) 108 SP1 G14 A

The Contractor shall complete the required work of installing, maintaining, and removing the traffic control devices for lane closures and restoring traffic to the existing traffic pattern. The Contractor shall not close or narrow a lane of traffic on **I-77 (Express Lane)** during the following time restrictions:

DAY AND TIME RESTRICTIONS

Monday thru Friday, 5:00 AM to 10:00 PM
and
Saturday thru Sunday, 9:00 AM to 10:00 PM

In addition, the Contractor shall not close or narrow a lane of traffic on **I-77 (Express Lane)** detain and/or alter the traffic flow on or during holidays, holiday weekends, special events, or any other time when traffic is unusually heavy, including the following schedules:

HOLIDAY AND HOLIDAY WEEKEND LANE CLOSURE RESTRICTIONS

1. For **unexpected occurrence** that creates unusually high traffic volumes, as directed by the Engineer.

2. For **New Year's Day**, between the hours of **5:00 AM** December 31st and **10:00 PM** January 2nd. If New Year's Day is on a Friday, Saturday, Sunday or Monday, then until **10:00 PM** the following Tuesday.

3. For **Easter**, between the hours of **5:00 AM** Thursday and **10:00 PM** Monday.

4. For **Memorial Day**, between the hours of **5:00 AM** Friday and **10:00 PM** Tuesday.

5. For **Independence Day**, between the hours of **5:00 AM** the day before Independence Day and **10:00 PM** the day after Independence Day.

   If **Independence Day** is on a Friday, Saturday, Sunday or Monday, then between the hours of **5:00 AM** the Thursday before Independence Day and **10:00 PM** the Tuesday after Independence Day.

6. For **Labor Day**, between the hours of **5:00 AM** Friday and **10:00 PM** Tuesday.

7. For **Thanksgiving Day**, between the hours of **5:00 AM** Tuesday and **10:00 PM** Monday.

8. For **Christmas**, between the hours of **5:00 AM** the Friday before the week of Christmas Day and **10:00 PM** the following Tuesday after the week of Christmas Day.

9. For any events at **Bank of America Stadium**, between **three (3)** hours before the start of the event and **three (3)** hours after the end of the event.

10. For any events at **Charlotte Motor Speedway**, between **three (3)** hours before the start of the event and **three (3)** hours after the end of the event.

Holidays and holiday weekends shall include New Year's, Easter, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. The Contractor shall schedule his work so that lane closures will not be required during these periods, unless otherwise directed by the Engineer.

The time of availability for this intermediate contract work shall be the time the Contractor begins to install all traffic control devices for lane closures according to the time restrictions listed herein.

The completion time for this intermediate contract work shall be the time the Contractor is required to complete the removal of all traffic control devices for lane closures according to the time restrictions stated above and place traffic in the existing traffic pattern.

The liquidated damages are **Two Thousand Five Hundred Dollars ($ 2,500.00)** per fifteen **(15)** minute time period.

INTERMEDIATE CONTRACT TIME NUMBER 19 AND LIQUIDATED DAMAGES:
(2-20-07) 108 SP1 G14 D

The Contractor shall complete the required work of installing, maintaining and removing the traffic control devices for road closures and restoring traffic to the existing traffic pattern. The Contractor shall not close **I-77 (Express Lanes)** during the following time restrictions:

DAY AND TIME RESTRICTIONS

Monday thru Sunday, 5:00 AM to 11:00 PM

The time of availability for this intermediate contract time will be the time the Contractor begins to install traffic control devices required for road closures according to the time restrictions stated herein.

The completion time for this intermediate contract time will be the time the Contractor is required to complete the removal of traffic control devices required for the road closures according to the time restrictions stated herein and restore traffic to the existing traffic pattern

The liquidated damages are **Five Thousand Dollars ($ 5,000.00)** per fifteen **(15)** minute time period.

PERMANENT VEGETATION ESTABLISHMENT:
(2-16-12)(Rev. 1-16-24) 104 SP1 G16

Establish a permanent stand of the vegetation mixture shown in the contract. During the period between initial vegetation planting and final project acceptance, perform all work necessary to establish permanent vegetation on all erodible areas within the project limits, as well as, in borrow and waste pits. This work shall include erosion control device maintenance and installation, repair seeding and mulching, supplemental seeding and mulching, mowing, and fertilizer topdressing, as directed. All work shall be performed in accordance with the applicable section of the *Standard Specifications*. All work required for initial vegetation planting shall be performed as a part of the work necessary for the completion and acceptance of the Intermediate Contract Time (ICT). Between the time of ICT and Final Project acceptance, or otherwise referred to as the vegetation establishment period, the Department will be responsible for preparing the required National Pollutant Discharge Elimination System (NPDES) inspection records.

Once the Engineer has determined that the permanent vegetation establishment requirement has been achieved at an 80% vegetation density (the amount of established vegetation per given area to stabilize the soil) and no erodible areas exist within the project limits, the Contractor will be notified to remove the remaining erosion control devices that are no longer needed. The Contractor will be responsible for, and shall correct any areas disturbed by operations performed in permanent vegetation establishment and the removal of temporary erosion control measures, whether occurring prior to or after placing traffic on the project.

Payment for *Response for Erosion Control*, *Seeding and Mulching, Repair Seeding*, *Supplemental Seeding, Mowing, Fertilizer Topdressing, Silt Excavation,* and *Stone for Erosion Control* will be made at contract unit prices for the affected items. Work required that is not represented by contract line items will be paid in accordance with Articles 104-7 or 104-3 of the *Standard Specifications*. No additional compensation will be made for maintenance and removal of temporary erosion control items.

NO MAJOR CONTRACT ITEMS:
(2-19-02) (Rev. 8-21-07) 104 SP1 G31

None of the items included in this contract will be major items.

SPECIALTY ITEMS:
(7-1-95)(Rev. 1-16-24) 108-6 SP1 G37

Items listed below will be the specialty items for this contract (see Article 108-6 of the *Standard Specifications*).

Line #	**Description**
125-140	Guardrail
141-147, 385	Fencing
152-188	Signing
218-228, 234, 247	Long-Life Pavement Markings
248	Permanent Pavement Markers
249-269, 271-278	Lighting
279-337	Utility Construction
338-376, 378-383	Erosion Control
377	Reforestation
387-482	Signals/ITS System
526-531, 568	Drilled Piers

FUEL PRICE ADJUSTMENT:
(11-15-05)(Rev. 1-16-24) 109-8 SP1 G43

Page 1-82, Article 109-8, FUEL PRICE ADJUSTMENTS, add the following:

The base index price for DIESEL #2 FUEL is **$ 5.0299** per gallon. Where any of the following are included as pay items in the contract, they will be eligible for fuel price adjustment.

The pay items and the fuel factor used in calculating adjustments to be made will be as follows:

Description	Units	Fuel Usage Factor Diesel
Unclassified Excavation	Gal/CY	0.29
Borrow Excavation	Gal/CY	0.29
Class IV Subgrade Stabilization	Gal/Ton	0.55
Aggregate Base Course	Gal/Ton	0.55
Sub-Ballast	Gal/Ton	0.55
Erosion Control Stone	Gal/Ton	0.55
Rip Rap, Class _____	Gal/Ton	0.55
Asphalt Concrete Base Course, Type ____	Gal/Ton	0.90 or 2.90
Asphalt Concrete Intermediate Course, Type ____	Gal/Ton	0.90 or 2.90
Asphalt Concrete Surface Course, Type ____	Gal/Ton	0.90 or 2.90
Open-Graded Asphalt Friction Course	Gal/Ton	0.90 or 2.90
Permeable Asphalt Drainage Course, Type ____	Gal/Ton	0.90 or 2.90
Sand Asphalt Surface Course, Type ____	Gal/Ton	0.90 or 2.90
Ultra-thin Bonded Wearing Course	Gal/Ton	0.90 or 2.90
Aggregate for Cement Treated Base Course	Gal/Ton	0.55
Portland Cement for Cement Treated Base Course	Gal/Ton	0.55
> 11" Portland Cement Concrete Pavement	Gal/SY	0.327
Concrete Shoulders Adjacent to > 11” Pavement	Gal/SY	0.327
9” to 11" Portland Cement Concrete Pavement	Gal/SY	0.272
Concrete Shoulders Adjacent to 9” to 11” Pavement	Gal/SY	0.272
< 9” Portland Cement Concrete Pavement	Gal/SY	0.245
Concrete Shoulders Adjacent to < 9” Pavement	Gal/SY	0.245

For the asphalt items noted in the chart as eligible for fuel adjustments, the bidder may include the *Fuel Usage Factor Adjustment Form* with their bid submission if they elect to use the fuel usage factor. The *Fuel Usage Factor Adjustment Form* is found at the following link:

https://connect.ncdot.gov/letting/LetCentral/Fuel%20Usage%20Factor%20Adjustment%20Form%20-%20%20Starting%20Nov%202022%20Lettings.pdf

Select either 2.90 Gal/Ton fuel factor or 0.90 Gal/Ton fuel factor for each asphalt line item on the *Fuel Usage Factor Adjustment Form*. The selected fuel factor for each asphalt item will remain in effect for the duration of the contract.

Failure to complete the *Fuel Usage Factor Adjustment Form* will result in using 2.90 gallons per ton as the Fuel Usage Factor for Diesel for the asphalt items noted above. The contractor will not be permitted to change the Fuel Usage Factor after the bids are submitted.

STEEL PRICE ADJUSTMENT:
(4-19-22)(Rev. 12-20-22) SP1 G47

Description and Purpose

Steel price adjustments will be made to the payments due the Contractor for items as defined herein that are permanently incorporated into the work, when the price of raw steel mill products utilized on the contract have fluctuated. The Department will adjust monthly progress payments up or down as appropriate for cost changes in steel according to this provision.

Eligible Items

The list of eligible bid items for steel price adjustment can be found on the Departments website at the following address:

https://connect.ncdot.gov/letting/LetCentral/Eligible%20Bid%20Items%20for%20Steel%20Price%20Adjustment.xlsx

Nuts, bolts, anchor bolts, rebar chairs, connecting bands and other miscellaneous hardware associated with these items shall not be included in the price adjustment.

Adjustments will only be made for fluctuations in the material cost of the steel used in the above products as specified in the Product Relationship Table below. The producing mill is defined as the source of steel product before any fabrication has occurred (e.g., coil, plate, rebar, hot rolled shapes, etc.). No adjustment will be made for changes in the cost of fabrication, coating, shipping, storage, etc.

No steel price adjustments will be made for any products manufactured from steel having an adjustment date, as defined by the Product Relationship Table below, prior to the letting date.

Bid Submittal Requirements

The successful bidder, within 14 calendar days after the notice of award is received by him, shall provide the completed Form SPA-1 to the Department (State Contract Officer or Division Contract Engineer) along with the payment bonds, performance bonds and contract execution signature sheets in a single submittal. If Form SPA-1 is not included in the same submittal as the payment bonds, performance bonds and contract execution signature sheets, the Contractor will not be eligible for any steel price adjustment for any item in the contract for the life of the contract. Form SPA-1 can be found on the Department's website at the following address:

https://connect.ncdot.gov/letting/LetCentral/Form%20SPA-1.xlsm

The Contractor shall provide Form SPA-1 listing the Contract Line Number, (with corresponding Item Number, Item Description, and Category) for the steel products they wish to have an adjustment calculated. Only the contract items corresponding to the list of eligible item numbers for steel price adjustment may be entered on Form SPA-1. The Contractor may choose to have steel price adjustment applied to any, all, or none of the eligible items. However, the Contractor's selection of items for steel price adjustment or non-selection (non-participation) may not be changed once Form SPA-1 has been received by the Department. Items the Bidder chooses for steel price adjustment must be designated by writing the word "Yes" in the column titled "Option" by each Pay Item chosen for adjustment. Should the bidder elect an eligible steel

price item, the entire quantity of the line item will be subject to the price adjustment for the duration of the Contract. The Bidder's designations on Form SPA-1 must be written in ink or typed and signed by the Bidder (Prime Contractor) to be considered complete. Items not properly designated, designated with "No", or left blank on the Bidder's Form SPA-1 will automatically be removed from consideration for adjustment. No steel items will be eligible for steel price adjustment on this Project if the Bidder fails to return Form SPA-1 in accordance with this provision.

Establishing the Base Price

The Department will use a blend of monthly average prices as reported from the Fastmarkets platform to calculate the monthly adjustment indices (BI and MI). This data is typically available on the first day of the month for the preceding month. The indices will be calculated by the Department for the different categories found on the Product Relationship Table below. For item numbers that include multiple types of steel products, the category listed for that item number will be used for adjusting each steel component.

The bidding index for Category 1 Steel items is **$ 47.50** per hundredweight.
The bidding index for Category 2 Steel items is **$ 73.00** per hundredweight.
The bidding index for Category 3 Steel items is **$ 81.25** per hundredweight.
The bidding index for Category 4 Steel items is **$ 62.39** per hundredweight.
The bidding index for Category 5 Steel items is **$ 64.31** per hundredweight.
The bidding index for Category 6 Steel items is **$ 86.32** per hundredweight.
The bidding index for Category 7 Steel items is **$ 50.35** per hundredweight.

The bidding index represents a selling price of steel based on Fastmarkets data for the month of **September 2026**.

MI = Monthly Index. – in Dollars ($) per hundredweight (CWT). Use the adjustment indices from the month the steel was shipped from the producing mill, received on the project, or member cast as defined in the Product Relationship Table.

BI = Bidding Index. - in Dollars ($) per hundredweight (CWT). Use the adjustment indices as listed in the proposal.

Product Relationship Table

Steel Product (Title)	BI, MI*	Adjustment Date for MI	Category
Reinforcing Steel, Bridge Deck, and SIP Forms	Based on one or more Fastmarkets indices	Delivery Date from Producing Mill	1
Structural Steel and Encasement Pipe	Based on one or more Fastmarkets indices	Delivery Date from Producing Mill	2
Steel H-Piles, Soldier Pile Walls	Based on one or more Fastmarkets indices	Delivery Date from Producing Mill	3
Guardrail Items and Pipe Piles	Based on one or more Fastmarkets indices	Material Received Date**	4
Fence Items	Based on one or more Fastmarkets indices	Material Received Date**	5
Overhead Sign Assembly, Signal Poles, High Mount Standards	Based on one or more Fastmarkets indices	Material Received Date**	6
Prestressed Concrete Members	Based on one or more Fastmarkets indices	Cast Date of Member	7

* BI and MI are in converted units of Dollars per Hundredweight ($/CWT)
** Material Received Date is defined as the date the materials are received on the project site. If a material prepayment is made for a Category 4-6 item, the Adjustment Date to be used will be the date of the prepayment request instead of the Materials Received Date.

Submit documentation to the Engineer for all items listed in the Contract for which the Contractor is requesting a steel price adjustment.

Submittal Requirements

The items in categories 1,2, and 3, shall be specifically stored, labeled, or tagged, recognizable by color marking, and identifiable by Project for inspection and audit verification immediately upon arrival at the fabricator.

Furnish the following documentation for all steel products to be incorporated into the work and documented on Form SPA-2, found on the Departments website at the following address:

https://connect.ncdot.gov/projects/construction/Construction%20Forms/Form%20SPA-2.xlsx

Submit all documentation to the Engineer prior to incorporation of the steel into the completed work. The Department will withhold progress payments for the affected contract line item if the documentation is not provided and at the discretion of the Engineer the work is allowed to proceed. Progress payments will be made upon receipt of the delinquent documentation.

Step 1 (Form SPA -2)

Utilizing Form SPA-2, submit separate documentation packages for each line item from Form SPA-1 for which the Contractor opted for a steel price adjustment. For line items with multiple components of steel, each component should be listed separately. Label each SPA-2 documentation package with a unique number as described below.

a. Documentation package number: (Insert the contract line-item) - (Insert sequential package number beginning with "1").
   Example: 412 - 1,
   412 - 2,
   424 – 1,
   424 – 2,
   424 – 3, etc.
b. The steel product quantity in pounds
   i. The following sources should be used, in declining order of precedence, to determine the weight of steel/iron, based on the Engineers decision:
      1. Department established weights of steel/iron by contract pay item per pay unit;
      2. Approved Shop Drawings;
      3. Verified Shipping Documents;
      4. Contract Plans;
      5. Standard Drawing Sheets;
      6. Industry Standards (i.e., AISC Manual of Steel Construction, AWWA Standards, etc.); and
      7. Manufacture's data.
   ii. Any item requiring approved shop drawings shall have the weights of steel calculated and shown on the shop drawings or submitted and certified separately by the fabricator.
c. The date the steel product, subject to adjustment, was shipped from the producing mill (Categories 1-3), received on the project (Categories 4-6), or casting date (Category 7).

Step 2 (Monthly Calculator Spreadsheet)

For each month, upon the incorporation of the steel product into the work, provide the Engineer the following:

1) Completed NCDOT Steel Price Adjustment Calculator Spreadsheet, summarizing all the steel submittal packages (Form SPA-2) actually incorporated into the completed work in the given month.
   a. Contract Number
   b. Bidding Index Reference Month
   c. Contract Completion Date or Revised Completion Date
   d. County, Route, and Project TIP information
   e. Item Number
   f. Line-Item Description
   g. Submittal Number from Form SPA-2
   h. Adjustment date
   i. Pounds of Steel
2) An affidavit signed by the Contractor stating the documentation provided in the NCDOT Steel Price Adjustment Calculator Spreadsheet is true and accurate.

Price Adjustment Conditions

Download the Monthly Steel Adjustment Spreadsheet with the most current reference data from the Department's website each month at the following address:

https://connect.ncdot.gov/projects/construction/Construction%20Forms/Form%20SPA-3%20NCDOT%20Steel%20Price%20Adjustment%20Calculator.xlsx

If the monthly Fastmarkets data is not available, the data for the most recent immediately preceding month will be used as the basis for adjustment.

Price Adjustment Calculations

The price adjustment will be determined by comparing the percentage of change in index value listed in the proposal (BI) to the monthly index value (MI). (See included sample examples). Weights and date of shipment must be documented as required herein. The final price adjustment dollar value will be determined by multiplying this percentage increase or decrease in the index by the represented quantity of steel incorporated into the work, and the established bidding index (BI) subject to the limitations herein.

Price increase/decrease will be computed as follows:

SPA = ((MI/ BI) -1) * BI *(Q/100)

Where;

SPA = Steel price adjustment in dollars

MI = Monthly Shipping Index. – in Dollars ($) per hundredweight (CWT). Use the adjustment indices from the month the steel was shipped from the producing mill, received on the project, or member cast as defined in the Product Relationship Table.

BI = Bidding Index. - in Dollars ($) per hundredweight (CWT). Use the adjustment indices as listed in the proposal.

Q = Quantity of steel, product, pounds actually incorporated into the work as documented by the Contractor, or Design Build Team and verified by the Engineer.

Calculations for price adjustment shall be shown separate from the monthly progress estimate and will not be included in the total cost of work for determination of progress or for extension of Contract time in accordance with Subarticle 108-10(B)(1).

Any apparent attempt to unbalance bids in favor of items subject to price adjustment may result in rejection of the bid proposal.

Adjustments will be paid or charged to the Contractor only. Any Contractor receiving an adjustment under this provision shall distribute the proper proportional part of such adjustments to the subcontractor who performed the applicable work.
Delays to the work caused by steel shortages may be justification for a Contract time extension but will not constitute grounds for claims for standby equipment, extended office overhead, or other costs associated with such delays.

If an increase in the steel material price is anticipated to exceed 50% of the original quoted price, the contractor must notify the Department within 7 days prior to purchasing the material. Upon receipt of such notification, the Department will direct the Contractor to either (1) proceed with the work or (2) suspend the work and explore the use of alternate options.

If the decrease in the steel material exceeds 50% of the original quoted price, the contractor may submit to the Department additional market index information specific to the item in question to dispute the decrease. The Department will review this information and determine if the decrease is warranted.

When the steel product adjustment date, as defined in the Product Relationship Table, is after the approved contract completion date, the steel price adjustments will be based on the lesser value of either the MI for the month of the approved contract completion date or the MI for the actual adjustment date.

If the price adjustment is based on estimated material quantities for that time, and a revision to the total material quantity is made in a subsequent or final estimate, an appropriate adjustment will be made to the price adjustment previously calculated. The adjustment will be based on the same indices used to calculate the price adjustment which is being revised. If the adjustment date of the revised material quantity cannot be determined, the adjustment for the quantity in question, will be based on the indices utilized to calculate the steel price adjustment for the last initial documentation package submission, for the steel product subject to adjustment, that was incorporated into the particular item of work, for which quantities are being finalized.
Example: Structural steel for a particular bridge was provided for in three different shipments with each having a different mill shipping date. The quantity of structural steel actually used for the bridge was calculated and a steel price adjustment was made in a progress payment. At the conclusion of the work an error was found in the plans of the final quantity of structural steel used for the bridge. The quantity to be adjusted cannot be directly related to any one of the three mill shipping dates. The steel price adjustment for the quantity in question would be calculated using the indices that were utilized to calculate the steel price adjustment for the quantity of structural steel represented by the last initial structural steel documentation package submission. The package used will be the one with the greatest sequential number.

Extra Work/Force Account:

When steel products, as specified herein, are added to the contract as extra work, in accordance with the provisions of Article 104-7 or 104-3, the Engineer will determine and specify in the supplemental agreement, the need for application of steel price adjustments on a case-by-case basis. No steel price adjustments will be made for any products manufactured from steel having an adjustment date prior to the supplemental agreement execution date. Price adjustments will be made as provided herein, except the Bidding Index will be based on the month in which the supplemental agreement pricing was executed.

For work performed on force account basis, reimbursement of actual material costs, along with the specified overhead and profit markup, will be considered to include full compensation for the current cost of steel and no steel price adjustments will be made.

COOPERATION BETWEEN CONTRACTORS:

(7-1-95)(Rev. 1-16-24) 105-7 SP1 G133

The Contractor's attention is directed to Article 105-7 of the *Standard Specifications*.

U-5771/BL-0080 is a roadway improvement project and is located in the vicinity of this project; anticipated for a March 16, 2027 Central Letting.

R-2555B is a roadway improvement project and is located in the vicinity of this project; anticipated for a December 21, 2027 Central Letting.

R-5721B is a roadway improvement project and is located adjacent to this project; anticipated for an October 17, 2028 Central Letting.

I-6065 is a roadway improvement project and is located adjacent to this project; anticipated for a June 19, 2029 Central Letting.

U-5108 (C204501) is a roadway improvement project and is located adjacent to this project. C204501 is currently under construction and not anticipated to be completed prior to the letting of this project.

I-5405D (C205138) is a roadway improvement project and is located adjacent to this project. C205138 is currently under construction and not anticipated to be completed prior to the letting of this project.

Map #1 of the 2026CPT.10.09.10601, etc. (C205168) resurfacing package is located adjacent to this project. C205168 is currently under construction and not anticipated to be completed prior to the letting of this project.

The Contractor on this project shall cooperate with the Contractor working within or adjacent to the limits of this project to the extent that the work can be carried out to the best advantage of all concerned.

ELECTRONIC BIDDING:

(8-18-26) 101, 102, 103 SP1 G140

Revise the *Standard Specifications* as follows:

Page 1-4, Article 101-3, DEFINITIONS, BID (OR PROPOSAL) *Electronic Bid,* line 3, replace “electronic bidding software” with “electronic bidding website”.

Page 1-16, Subarticle 102-8(B), Electronic Bids, lines 13-14, replace “electronic bidding software” with “electronic bidding website”.

Page 1-18, Article 102-10, BID BOND OR BID DEPOSIT, line 43, replace “electronic bidding software” with “electronic bidding website”.

Page 1-18, Article 102-11, DELIVERY OF BIDS, line 47, replace “electronic bidding software” with “electronic bidding website”.

compensation for supplying and connecting MSE wall reinforcement to end bent caps but not designing MSE wall reinforcement and connectors. The cost of designing reinforcement and connectors for Type 2 approach fills behind bridge end bents with MSE abutment walls will be incidental to the contract unit price for *MSE Retaining Wall No. _____*.

Payment will be made under:

Pay Item	**Pay Unit**
Type 1 Bridge Approach Fill, Station _____	Lump Sum
Type 2 Bridge Approach Fill, Station _____	Lump Sum

PRICE ADJUSTMENT - ASPHALT BINDER FOR PLANT MIX:
(11-21-00)(Rev. 1-16-24) 620 SP6 R25

Price adjustments for asphalt binder for plant mix will be made in accordance with Section 620 of the *Standard Specifications.*

The base price index for asphalt binder for plant mix is **$ 752.50** per ton.

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on **October 1, 2026**.

FINAL SURFACE TESTING REQUIRED:
(1-20-26)(Rev. 10-20-26) 610 SP6R045B(rev)

Perform final surface testing on project **I-5715** in accordance with Article 610-13 of the *Standard Specifications* in areas that meet the criteria outlined in Article 610-13 of the *Standard Specifications* or otherwise delineated in the contract.

FINAL SURFACE TESTING ASPHALT PAVEMENT:
(11-18-25)(Rev. 10-20-26) 610 SP6R048(rev)

Revise the *Standard Specifications* as follows:

Page 6-24, Article 610-13 FINAL SURFACE TESTING AND ACCEPTANCE, line 35, delete the last sentence of the first paragraph of the Article and replace with the following:

Final surface testing is not required on projects **U-5765 & BL-0119**, SR-designated routes, on any alignment where the speed limit is less than 45 mph, on roundabouts, ramps, loops and turn lanes, or where the paving limits are less than one mile in length.

payment will be made for equipment, materials or labor to meet the anchorage transition requirements.

Page 11-19, Article 1170-4 MEASUREMENT AND PAYMENT, line 28, after the third paragraph add the following:

Remove and Reset Portable Concrete Barrier (Anchored) will be measured and paid as the number of linear feet of barrier moved from one location on the project to another location on the project, including anchorage transition sections between portable concrete barrier and portable concrete barrier (anchored) as shown in the Roadway Standard Drawings, No. 1170.01. Measurement will be made by counting the number of barrier units moved during any one move and multiplying by the length of a unit. Where barrier units are moved more than once, each move will be measured separately. Whenever the Engineer directs the Contractor to move barrier units from an installed location to a stockpile either on or off the project and then back to another installed location, the complete move from the first installed location to the next installed location will be measured as 2 moves.

PAVEMENT MARKINGS:

(5-19-26)(Rev. 11-17-26) 1087, 1205 SP12 R04

Revise the *Standard Specifications* as follows:

Page 10-185, Subarticle 1087-2(A) Paint Composition, line 15, replace "TT--P-1952" with "TT--P-1952, Type III".

Page 10-185, Subarticle 1087-2(C) Thermoplastic Composition, lines 28-33, replace the first through third paragraph and the table with the following:

(C) Thermoplastic and Integrated Multipolymer (IMP) Composition

Use thermoplastic alkyd/maleic pavement markings composed of the materials in Table 1087-1A and integrated multipolymer markings composed of the materials in Table 1087-1B.

TABLE 1087-1A
PHYSICAL PROPERTIES
OF THERMOPLASTIC PAVEMENT MARKINGS

Component	By Weight
Alkyd/Maleic Binder	18.0% Min
Premixed Glass Beads (AASHTO M 247 – 50% Type 3 and 50% Type 1)	40.0% Min
Titanium Dioxide Pigment (ASTM D476 Type 2)	10.0% Min. (white) 1.5% Min. (yellow)

TABLE 1087-1B
PHYSICAL PROPERTIES
OF INTEGRATED MULTIPOLYMER (IMP) PAVEMENT MARKINGS

Component	By Weight
Binder	21.0% Min
Premixed Glass Beads (AASHTO M 247 – 50% Type 3 and 50% Type 1)	40.0% Min
Titanium Dioxide Pigment (ASTM D476 Type 2)	10.0% Min. (white only)
Inert Filler	15% Max white / 24% Max Yellow

Use white material that does not contain anatase titanium dioxide pigment. Use yellow material that does not contain any intentionally added lead chromate.

Calcium carbonate and inert fillers may be used by the manufacturer, providing all other qualifications are met.

Page 10-185, Subarticle 1087-2(C) Thermoplastic Composition, line 34, replace "thermoplastic" with "material".

Page 10-185, Subarticle 1087-2(C) Thermoplastic Composition, line 36, replace "alkyd/maleic binder" with "binder".

Page 10-185, Subarticle 1087-2(C) Thermoplastic Composition, line 38, replace "maleic-modified glycerol of resin" with "rosin ester".

Page 10-186, Subarticle 1087-2(C) Thermoplastic Composition, insert the following paragraph after line 2:

The integrated multipolymer binder shall consist of a mixture of modified rosin ester, polyamide and a copolymer (e.g. EVA) with waxes and/or plasticizers. At least 3% of the total formulation weight shall be 100% polyamide. The binder shall contain no petroleum hydrocarbon resins.

Page 10-186, Subarticle 1087-2(C) Thermoplastic Composition, lines 3, 6, 9 and 11, replace "thermoplastic material" with "material".

Page 10-186, Article 1087-3 COLOR, after line 27, replace "Crystal: Color No. 17886 (White)" with "White: Color No. 17925".

Page 10-186, Subarticle 1087-4(A) Composition, lines 31-34, replace the second paragraph with the following:

Manufacture the beads from 100% recycled or virgin non-pigmented glass from a composition designed to be highly resistant to traffic wear and to the effects of weathering. All intermix and drop-on glass beads shall be manufactured using 100% North American recycled glass cullet, virgin North American glass or a combination of the two.

Page 10-187, Subarticle 1087-4(C) Gradation & Roundness, lines 4-6, replace the first

paragraph and table with the following:

Use drop-on and intermixed glass beads in all pavement markings with at least 80% true spheres when tested in accordance with ASTM D1155. Drop-on glass beads for permanent pavement markings shall be high performance glass beads listed on the NCDOT APL. If otherwise specified, or at the direction of the Engineer, other drop-on reflective media may be used on permanent markings. Drop-on glass beads used on any interim or temporary pavement markings shall meet Table 1087-2.

TABLE 1087-2
GLASS BEAD GRADATION REQUIREMENTS

Sieve Size	Gradation Requirements	
	Minimum	**Maximum**
Passing #20	95%	100%
Retained on #30	5%	20%
Retained on #50	40%	80%
Retained on #80	15%	50%
Passing #80	0%	10%
Retained on #200	0%	5%

Page 10-187, Article 1087-5 PACKAGING FOR SHIPMENT, line 31, replace "Thermoplastic pavement marking materials" with "Thermoplastic and integrated multipolymer pavement marking materials".

Page 10-188, Subarticle 1087-7(B) Thermoplastic Pavement Marking Material Composition, line 17, replace **"(B) Thermoplastic Pavement Marking Material Composition**" with
"**(B) Thermoplastic and Integrated Multipolymer Pavement Marking Material Composition**".

Page 10-188, Subarticle 1087-7(C) Flash Point, line 22, replace "thermoplastic" with "thermoplastic and integrated multipolymer material".

Page 10-188, Subarticle 1087-7(D) Requirements, line 25, replace "thermoplastic material" with "thermoplastic and integrated multipolymer material".

Page 10-189, Subarticle 1087-7(D), after line 15, add the following:

(9) Tensile Elongation

The integrated multipolymer material shall have an elongation of at least 10% when tested in accordance with ASTM D638 (1"x 6", 0.25"/min).

(10) Abrasion Resistance

The integrated multipolymer material shall have no more than 0.40 g weight loss following taber abrasion with CS17 wheels for 1000 cycles with 1 kg weight per ASTM D4060.

Page 10-189, Article 1087-8 MATERIAL CERTIFICATION, lines 22-23, replace the third paragraph with the following:

Reflective media not covered in this, or other specifications must meet AASHTO M 247 Type 3 or 4 and a NCDOT Type 2 Material Certification must be provided.

Page 10-189, Article 1087-8 MATERIAL CERTIFICATION, after line 23, add the following to the table:

Integrated Multipolymer	Type 2 Material Certification and Type 3 Material Certification

Page 12-3, Subarticle 1205-3(F) Surface Preparation and Curing Compound Removal, line 8, add the following as a second sentence of the first paragraph:

Only apply markings to dry clean surfaces.

Page 12-4, Subarticle 1205-3(G)(1) General for all types of Pavement Markings, line 16, replace the first sentence of the eighth paragraph with the following:

Protect the pavement markings until they are track free before exposing them to traffic.

Page 12-4, Subarticle 1205-3(G)(1) General for all types of Pavement Markings, lines 22-24, delete the second sentence of the tenth paragraph.

Page 12-4, Subarticle 1205-3(G)(1) General for all types of Pavement Markings, after line 24, replace "White: Color No. 17886" with "White: Color No. 17295".

Page 12-5, Subarticle 1205-3(I) Removal of Pavement Markings, line 32, add the following as the third sentence of the seventh paragraph:

Before applying integrated multipolymer (IMP) pavement markings over existing thermoplastic pavement markings, remove at least 85% of the oxidized existing thermoplastic.

Page 12-5, Subarticle 1205-3(I) Removal of Pavement Markings, line 35, replace "thermoplastic" with "thermoplastic or IMP".

Page 12-6, Article 1205-4 THERMOPLASTIC, line 3, replace "**1205-4 THERMOPLASTIC**" with **"1205-4THERMOPLASTIC AND INTEGRATED MULTIPOLYMER (IMP)".**

Page 12-6, Subarticle 1205-4(A) Application Equipment, lines 7, 16, 20, 24, 25, 27 and 29, delete "thermoplastic"

Page 12-6, Subarticle 1205-4(B) Weather Limitations and Seasonal Limitations, line 38, replace "thermoplastic pavement markings" with "thermoplastic or integrated multipolymer pavement markings".

Page 12-6, Subarticle 1205-4(B) Weather Limitations and Seasonal Limitations, line 42,

delete “thermoplastic”.

Page 12-7, Subarticle 1205-4(C) Application, lines 2, 3, 10, 21 and 31, delete “thermoplastic”.

Page 12-7, Subarticle 1205-4(C) Application, after line 17, in Table 1205-2 MINIMUM REFLECTOMETER REQUIREMENTS FOR THERMOPLASTIC replace “Standard Glass Beads” with “High Performance Glass Beads” and for the Reflectivity of White replace “375 mcd/lux/m^2” with “425 mcd/lux/m^2” and Yellow replace “250 mcd/lux/m^2” with “325 mcd/lux/m^2”

Page 12-7, Subarticle 1205-4(C) Application, line 23, replace “thermoplastic pavement marking” with “final pavement marking”.

Page 12-7, Subarticle 1205-4(C) Application, after line 32, replace “**TABLE 1205-3 THICKNESS REQUIREMENTS FOR THERMOPLASTIC**” with “**TABLE 1205-3 THICKNESS REQUIREMENTS FOR THERMOPLASTIC AND INTEGRATED MULTIPOLYMER**”.

Page 12-9, Subarticle 1205-5(C) Observation Period, before line 1, replace “375 mcd/lux/m^2” with “425 mcd/lux/m^2” and replace “250 mcd/lux/m^2” with “325 mcd/lux/m^2”.

Page 12-11, Subarticle 1205-8(C) Application, lines 17-20, replace the first paragraph with the following:

Final pavement marking application of paint shall be placed in 1 application of 30 mils wet and consist of reflective media applied at a rate to immediately obtain the minimum retroreflective values.

Page 12-11, Subarticle 1205-8(C) Application, line 26, delete “15 mil”.

Page 12-11, Subarticle 1205-8(C) Application, after line 31, replace Table 1205-6 with the following:

TABLE 1205-6
REFLECTOMETER REQUIREMENTS
FOR PAINT

Item	Color	Reflectivity
Standard Glass Beads	White	225 mcd/lux/m^2
	Yellow	200 mcd/lux/m^2
High Performance Glass Beads	White	425 mcd/lux/m^2
	Yellow	325 mcd/lux/m^2

Page 12-12, Article 1205-10 MEASUREMENT AND PAYMENT, lines 5-7, delete and replace the second sentence of the first paragraph with the following:

In addition, *Paint Pavement Marking Lines* will be paid per linear foot for each 15 mil wet application placed in accordance with Subarticle 1205-8(C) for temporary pavement markings

during temporary traffic patterns and in accordance with Subarticle 1205-8(C) final paint pavement marking lines of 1 application of 30 mils wet will be measured and paid as 2 applications of 15 mils wet.

Page 12-12, Article 1205-10 MEASUREMENT AND PAYMENT, lines 12-14, delete and replace the second sentence of the second paragraph with the following:

In addition, *Paint Pavement Marking Symbols* will be paid for each 15 mil wet application placed in accordance with Subarticle 1205-8(C) for temporary pavement markings during temporary traffic patterns and in accordance with Subarticle 1205-8(C) final paint pavement marking symbols of 1 application of 30 mils wet will be measured and paid as 2 applications of 15 mils wet.

Page 12-12, Article 1205-10 MEASUREMENT AND PAYMENT, lines 17-19, delete and replace the third sentence of the third paragraph with the following:

In addition, *Paint Pavement Marking Characters* will be paid for each 15 mil wet application placed in accordance with Subarticle 1205-8(C) for temporary pavement markings during temporary traffic patterns and in accordance with Subarticle 1205-8(C) final paint pavement marking characters of 1 application of 30 mils wet will be measured and paid as 2 applications of 15 mils wet.

Page 12-12, Article 1205-10 MEASUREMENT AND PAYMENT, lines 17-19, replace the second sentence of the ninth paragraph with the following:

No direct payment will be made for the work involved in applying the lines, including but not limited to surface preparation, reapplication of molten pavement marking crossed by a vehicle, removal of all pavement marking materials spilled on the roadway surface, and repair of markings tracked by a vehicle.

Page 12-13, Article 1205-10 MEASUREMENT AND PAYMENT, after line 12, add the following to the pay item and pay unit list:

Pay Item	**Pay Unit**
Integrated Multipolymer Pavement Marking Lines, __", __ mils	Linear Foot
Integrated Multipolymer Pavement Marking Symbols, __ mils	Each
Integrated Multipolymer Pavement Marking Characters, __ mils	Each

SNOWPLOWABLE DELINEATION:

(10-15-24) 1253 SP12 R53

Description

Furnish, install and maintain snowplowable delineation.

There are five snowplowable delineation alternate options approved for use in North Carolina. They include the following markers and markings options:

(1) Polycarbonate H-shaped Markers

PROJECT SPECIAL PROVISIONS

GEOTECHNICAL

COIR FIBER MAT (SPECIAL)	GT-1.1 - GT-1.2
STANDARD SHORING - (01/16/2024)	GT-2.1 - GT-2.4
TEMPORARY SOIL NAIL WALLS - (01/16/2024)	GT-3.1 - GT-3.9
THERMAL PROFILE LOGGING (SPECIAL)	GT-4.1 - GT-4.2
DRILLED PIERS (SPECIAL)	GT-5.1 - GT-5.18
ARCHITECTURAL SURFACE TREATMENT (SPECIAL)	GT-6.1 - GT-6.6
MSE RETAINING WALLS - (01/16/2024)	GT-7.1 - GT-7.12
FOUNDATION PREPARATION FOR PEDESTRIAN BRIDGE END BENT 2 (SPECIAL)	GT-8.1 - GT-8.2

DocuSigned by:
Geotechnical Engineering Unit
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Wattle Barrier will be measured and paid as the actual number of linear feet of wattle barrier installed and accepted. Such price and payment will be full compensation for all work covered by this provision, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to install the *Wattle Barrier*.

Coir Fiber Wattle Barrier will be measured and paid as the actual number of linear feet of coir fiber wattle barrier installed and accepted. Such price and payment will be full compensation for all work covered by this provision, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to install the *Coir Fiber Wattle Barrier*.

Page 16-25, Article 1642-5 MEASUREMENT AND PAYMENT, after line 9, delete and replace "___ Wattle Check" with "Wattle".

Page 16-25, Article 1642-5 MEASUREMENT AND PAYMENT, after line 9, delete and replace "___ Wattle Barrier" with "Wattle Barrier".

Page 16-25, Article 1642-5 MEASUREMENT AND PAYMENT, after line 9, add the following:

Pay Item	**Pay Unit**
Coir Fiber Wattle	Linear Foot
Coir Fiber Wattle Barrier	Linear Foot

TEMPORARY GUARDRAIL:

(11-17-26) 862 SP8 R60

Revise the *Standard Specifications* as follows:

Page 8-40, Article 862-5 TEMPORARY GUARDRAIL, lines 39-40, replace the first and second sentence of the first paragraph with the following:

Install temporary guardrail in accordance with this section and the plans. Temporary guardrail may be reused if it is in satisfactory condition and meets the requirements of Article 862-2.

FHWA-1273 -- Revised June 25, 2026

CONTRACT PROVISIONS FOR
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Davis-Bacon and Related Act Provisions
IV. Contract Work Hours and Safety Standards Act Provisions
V. Subletting or Assigning the Contract
VI. Safety: Accident Prevention
VII. False Statements Concerning Highway Projects
VIII. Implementation of Clean Air Act and Federal Water Pollution Control Act
IX. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
X. Certification Regarding Use of Contract Funds for Lobbying
XI. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only).

I. GENERAL

1. Historically, contracting agencies using Federal-aid highway funds were required to ensure Form FHWA-1273 was physically incorporated into all contracts and subcontracts. Effective June 10, 2026, this requirement was eliminated [91 FR 25492]. Future use of Form FHWA-1273 is now optional on the part of the contracting agency using Federal-aid highway funds. FHWA continues to make Form FHWA-1273 available as a convenience to contracting agencies. Contracting agencies must continue to ensure compliance with the provisions cited in Form FHWA-1273 in accordance with the provisions regardless of the use of Form FHWA-1273. Accordingly, the contracting agency retains the authority to determine whether the contractor must use Form FHWA-1273 to physically incorporate required contract provisions in each subcontract and in lower tier contracts. Where permitted by the contracting agency, the contractor may choose other ways to include required contract provisions in each subcontract, besides incorporating Form FHWA-1273. Contract provisions in Form FHWA-1273 are not required to be physically included in subcontracts for design services on Federal-aid design-build contracts, or in purchase orders, rental agreements and other agreements for supplies or services.

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor or design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents.

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION

The contractor and all subcontractors must comply with the following policies: 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27, including any amendments thereto.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27, including any amendments thereto.

The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract.

1. Assurances Required:

a. The requirements of 49 CFR Part 26, including any amendments thereto, and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26, including any amendments thereto, in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

(1) Withholding monthly progress payments;
(2) Assessing sanctions;
(3) Liquidated damages; and/or
(4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E, including any amendments thereto, are incorporated by reference. 49 CFR Part 21.

III. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits*. All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided,* That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH–1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance*. (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the

classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to *DBAconformance@dol.gov*. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to *DBAconformance@dol.gov,* refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. Priority to withheld funds. The Department has priority to funds withheld or to be withheld in accordance with paragraph 2.a. of this section or Section IV, paragraph 3.a., or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements* (1) *Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number

of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements* (1) *Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.,* the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH–347 or in any other format desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division website at *https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347/.pdf* or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH–347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with 29 CFR part 30, including any amendments thereto.

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section III. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs (1) through (11) of this section, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. **Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the

contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or 29 CFR part 1 or 3; or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or 29 CFR part 1 or 3.

IV. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* $33 as of January 15, 2025 (See 90 FR 1859) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section III paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

V. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph 1. of this section is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however,

contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VI. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

VIII. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of $150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

IX. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.355(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

* * * * *

3. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

X. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

XI. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS (40 U.S.C. sections 14501(d) and 14701) and the Appalachian Regional Commission Code as authorized under 40 U.S.C. section 14302)
This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 40 U.S.C. 14501 allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

STANDARD SPECIAL PROVISION

ON-THE-JOB TRAINING

(10-16-07) (Rev. 6-16-26) Z-10

Description

The North Carolina Department of Transportation administers a custom version of the Federal On-the-Job Training (OJT) Program, commonly referred to as the Alternative OJT Program. All Contractors will be automatically placed in the Alternative OJT Program.

The Alternate OJT Program will allow a Contractor to train employees on Federal, State and privately funded projects located in North Carolina. However, priority shall be given to training employees on NCDOT Federal-Aid funded projects.

On the Job Training shall meet the requirements of 23 CFR 230.107 (b), 23 USC – Section 140, this special provision and the NCDOT On-the-Job Training Program Manual.

Minorities and Women

Developing, training and upgrading of minorities and women toward journeyman level status is a primary objective of this special provision. Accordingly, the Contractor shall make every effort to enroll minority and women as trainees to the extent that such persons are available within a reasonable area of recruitment. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

Assigning Training Goals

The Department, through the OJT Program Unit, will assign annual training goals based on the Contractor's activity over the past three years' on federal projects with the Department. At the beginning of each year, all eligible Contractors will be contacted by the Department to determine the number of trainees that will be assigned for the upcoming calendar year. At that time, the Contractor shall enter into an agreement with the Department to implement a self-imposed on-the-job training program for the calendar year. This agreement will specify the annual training goals agreed upon by both parties. The number of training assignments may range from 1 to 15 per Contractor per calendar year, unless a higher number is agreed to by the Contractor. The Contractor shall sign an agreement committing to fulfill their annual goal for the year.

Training Classifications

The Contractor shall provide on-the-job training aimed at developing full journeyman level workers in the construction craft/operator positions.

The Department has established common training classifications and their respective training requirements that may be used by the Contractors. However, the classifications established are not all-inclusive. Where the training is oriented toward construction applications, training will be allowed in lower-level management positions such as office engineers and estimators. Contractors shall submit new classifications for specific job functions that their employees are performing. The Department will review and recommend for acceptance to FHWA the new

classifications proposed by contractors, if applicable. New classifications shall meet the following requirements:

Proposed training classifications are reasonable and realistic based on the job skill classification needs, and

The number of training hours specified in the training classification is consistent with common practices and provides enough time for the trainee to obtain journeyman level status.

The Contractor may allow trainees to be trained by a subcontractor provided that the Contractor retains primary responsibility for meeting the training and this special provision is made applicable to the subcontract. However, only the Contractor will receive credit towards the annual goal for the trainee.

Where feasible, 25 percent of trainees in each occupation shall be in their first year of training. The number of trainees shall be distributed among the work classifications on the basis of the Contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment.

No employee shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journeyman level status or in which they have been employed as a journeyman.

Records and Reports

The Contractor shall maintain enrollment, monthly and completion reports documenting company compliance under these contract documents. These documents and any other information as requested shall be submitted to the OJT Program Manager.

Upon completion and graduation of the program, the Contractor shall provide each trainee with a certification Certificate showing the type and length of training satisfactorily completed.

Trainee Interviews

All trainees enrolled in the program will receive at minimum an initial and Trainee/Post graduate interview conducted by the OJT program staff.

Trainee Wages

Contractors shall compensate trainees on a graduating pay scale based upon a percentage of the prevailing minimum journeyman wages (Davis-Bacon Act). Minimum pay shall be as follows:

60 percent	of the journeyman wage for the first half of the training period
75 percent	of the journeyman wage for the third quarter of the training period
90 percent	of the journeyman wage for the last quarter of the training period

In no instance shall a trainee be paid less than the local minimum wage. The Contractor shall adhere to the minimum hourly wage rate that will satisfy both the NC Department of Labor (NCDOL) and the Department.

Achieving or Failing to Meet Training Goals

The Contractor will be credited for each trainee currently enrolled or becomes enrolled in an approved program and who receives training for at least 50 percent of the specific program requirement. Trainees will be allowed to be transferred between projects if required by the Contractor's scheduled workload to meet training goals.

If a Contractor fails to attain their training assignments for the calendar year, they may be taken off the NCDOT's Bidders List.

Measurement and Payment

No compensation will be made for providing required training in accordance with these contract documents.

STANDARD SPECIAL PROVISION
MINIMUM WAGES
GENERAL DECISION NC20260088 05/18/2026 NC88

Z-088

Date: May 18, 2026

General Decision Number: NC20260088 05/18/2026 NC88

Superseded General Decision Numbers: NC20250088

State: North Carolina

Construction Type: HIGHWAY

COUNTIES:

Alamance	Forsyth	Randolph
Anson	Gaston	Rockingham
Cabarrus	Guilford	Stokes
Chatham	Mecklenburg	Union
Davie	Orange	Yadkin
Durham	Person	

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Modification Number	Publication Date
0	01/02/2026
1	05/18/2026

SUNC2014-003 11/14/2014

	Rates	Fringes
TRUCK DRIVER (GVWR of 26,001 Lbs or Greater)	13.57	.03
TRUCK DRIVER (GVWR of 26,000 Lbs or Less)	11.45	
POWER EQUIPMENT OPERATORS (Milling Machine)	15.22	
POWER EQUIPMENT OPERATORS (Mechanic)	17.51	
POWER EQUIPMENT OPERATORS (Tack Truck/Distributor Operator)	14.82	
POWER EQUIPMENT OPERATORS (Slip Form Machine)	19.60	
POWER EQUIPMENT OPERATORS (Scraper Rough)	11.50	
POWER EQUIPMENT OPERATORS (Scraper Finish)	12.65	
POWER EQUIPMENT OPERATORS (Roller Other)	12.08	
POWER EQUIPMENT OPERATORS (Roller Asphalt Finish)	13.76	
POWER EQUIPMENT OPERATORS (Roller Asphalt Breakdown)	12.79	
POWER EQUIPMENT OPERATORS (Paver Concrete)	18.20	
POWER EQUIPMENT OPERATORS (Paver Asphalt)	15.97	
POWER EQUIPMENT OPERATORS (Pavement Marking Equipment)	12.05	
POWER EQUIPMENT OPERATORS (Oiler/Greaser)	14.16	
POWER EQUIPMENT OPERATORS (Off-Road Hauler/Water Tanker)	11.83	
POWER EQUIPMENT OPERATORS (Material Transfer Vehicle (Shuttle Buggy))	15.44	
POWER EQUIPMENT OPERATORS (Loader Greater Than 2 Cubic Yards)	16.19	
POWER EQUIPMENT OPERATORS (Loader 2 Cubic Yards or Less)	13.31	
POWER EQUIPMENT OPERATORS (Grader/Blade Rough)	15.47	

	Rates	Fringes
POWER EQUIPMENT OPERATORS (Grader/Blade Fine)	19.84	
POWER EQUIPMENT OPERATORS (Excavator Rough)	13.63	
POWER EQUIPMENT OPERATORS (Excavator Fine)	16.95	
POWER EQUIPMENT OPERATORS (Drill Operator Structure)	20.89	
POWER EQUIPMENT OPERATORS (Drill Operator Rock)	14.28	
POWER EQUIPMENT OPERATORS (Crane Rough/All-Terrain)	19.10	
POWER EQUIPMENT OPERATORS (Crane Other)	19.83	
POWER EQUIPMENT OPERATORS (Crane Boom Trucks)	18.19	
POWER EQUIPMENT OPERATORS (Concrete Grinder/Groover)	17.92	
POWER EQUIPMENT OPERATORS (Bulldozer Rough)	14.36	
POWER EQUIPMENT OPERATORS (Bulldozer Fine)	16.13	
POWER EQUIPMENT OPERATORS (Asphalt Broom Tractor)	10.00	
PAINTER (Bridge)	23.77	
LABORER (Pipelayer)	12.43	
LABORER (Common or General)	10.40	.01
LABORER (Traffic Signal/Lighting Installer)	15.65	.24
LABORER (Guardrail/Fence Installer)	13.22	
LABORER (Cement Mason/Concrete Finisher Tender)	11.04	
LABORER (Carpenter Tender)	12.51	.27
LABORER (Asphalt Screed/Jackman)	14.50	
LABORER (Asphalt Raker and Spreader)	12.78	
IRONWORKER	13.30	
ELECTRICIAN (Telecommunications Technician)	15.19	1.25
ELECTRICIAN (Electrician)	18.79	2.72
CEMENT MASON/CONCRETE FINISHER	13.93	
CARPENTER	13.68	.05
BLASTER	18.64	

Welders – Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at http://www.dol.gov/agencies/whd/government-contracts.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least $13.65 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract from May 11, 2026, through December 31, 2026. The applicable Executive Order minimum wage rate will be adjusted annually.

Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than "SU", "UAVG", "SA", or "SC" denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The "SU" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

"SU" wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The "SA" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the "SA" identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via mail to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

END OF GENERAL DECISION

DRILLED PIERS:

(SPECIAL)

Revise the *Standard Specifications* as follows:

Replace Section 411 with the following:

SECTION 411
DRILLED PIERS

411-1 DESCRIPTION

Construct drilled piers consisting of CIP reinforced concrete cylindrical sections in excavated holes typically stabilized with casings or slurry. Provide permanent casings, standard penetration tests, integrity testing and assistance with the shaft inspection device as noted in the plans. Construct drilled piers with the required resistances and dimensions in accordance with the contract and accepted submittals. Use a prequalified Drilled Pier Contractor to construct drilled piers.

Define "excavation" and "hole" as a drilled pier excavation and "pier" as a drilled pier. Define "permanent casing" as a casing that remains in the excavation and acts as a form for Drilled Pier concrete and "temporary casing" as any casing that is not permanent. Define "rock" as a continuous intact natural material with a standard penetration resistance of 0.1 foot or less per 60 blows or a rock auger penetration rate of less than 2 inches per 5 minutes of drilling at full crowd force or as determined by the Engineer when rock is not encountered as expected based on these criteria. This definition excludes discontinuous loose natural materials such as boulders and man-made materials such as concrete, steel, timber, etc. and is not for measurement and payment purposes. See Article 411-7 for measurement and payment of drilled piers.

411-2 MATERIALS

Refer to Division 10.

Item	Section
Grout, Type 2	1003
Portland Cement Concrete, Class Drilled Pier	1000
Reinforcing Steel	1070

Provide Type 3 material certifications in accordance with Article 106-3 for permanent casings and roller, chair, steel pipe and cap materials. Store steel materials on blocking at least 12 inches above the ground and protect it at all times from damage; and when placing in the work make sure it is free from dirt, dust, loose mill scale, loose rust, paint, oil or other foreign materials. Load, transport, unload and store drilled pier materials so materials are kept clean and free of damage.

(A) Steel Casing

Define "casing" as a temporary or permanent casing. If permanent casing is required for an excavation, the largest diameter casing in the hole is the permanent casing. This does not apply to working casings around permanent casings as approved by the Engineer.

Use smooth non-corrugated clean watertight steel casings of ample strength to withstand handling and installation stresses and pressures imposed by concrete, earth, backfill and fluids.

(1) Temporary Casings

Provide temporary casings with a nominal wall thickness of at least 0.375 inch and an outside diameter equal to or larger than the design pier diameter for which temporary casing is used.

(2) Permanent Casings

Use permanent casings with a yield strength of at least 36 ksi and a nominal wall thickness that meets Table 411-1.

TABLE 411-1
MINIMUM PERMANENT CASING WALL THICKNESS

Casing Diameter	Nominal Wall Thickness
< 48"	0.375"
48" - 78"	0.500"
> 78"	0.625"

Provide permanent casings with an outside diameter equal to the design pier diameter for which permanent casing is used unless larger diameter permanent casings are approved by the Engineer.

(B) Slurry

Define "slurry" as bentonite or polymer slurry. Mix bentonite clay or synthetic polymer with water to make bentonite or polymer slurry.

(1) Bentonite Slurry

Provide bentonite slurry that meets Table 411-2.

TABLE 411-2
BENTONITE SLURRY REQUIREMENTS[A]

Property	ANSI/API RP[B] 13B-1	Requirement
Density[C] (Mud Weight)	Section 4 Mud Balance	64.3 - 72.0 pcf
Viscosity	Section 6.2 Marsh Funnel	28 - 50 sec/qt
Sand Content	Section 9	≤ 4 %[D]
		≤ 2 %[E]
pH	Section 11 Glass Electrode pH Meter[F]	8 - 11

A. Slurry temperature of at least 40°F required
B. American National Standards Institute/American Petroleum Institute Recommended Practice
C. Increase density requirements by 2 pcf in saltwater
D. In tanks before pumping slurry into excavations

E. In excavations immediately before placing concrete
F. pH paper is also acceptable for measuring pH

(2) Polymer Slurry

Use polymer slurry products qualified by the Department. Provide polymer slurry with density, viscosity, sand content and pH properties that meet the product requirements. The polymer slurry QPL with the property requirements for each qualified polymer slurry product is available on the Geotechnical Engineering Unit's website.

(C) Rollers and Chairs

Use rollers and chairs that are non-metallic and resistant to corrosion and degradation. Provide rollers with the necessary dimensions to maintain the minimum required concrete cover shown in the plans and center rebar cages within excavations. Use chairs of sufficient strength to support rebar cages in excavations and of the size necessary to raise cages off bottom of holes to maintain the minimum required distance shown in the plans.

(D) Steel Pipes and Caps

Use Schedule 40 black steel pipes for access tubes for crosshole sonic logging (CSL). Provide CSL tubes with an inside diameter of at least 1.5 inches. Use CSL tubes with a round, regular inside diameter free of defects and obstructions, including any pipe joints, in order to permit free, unobstructed passage of probes for CSL testing. Provide watertight CSL tubes free of corrosion with clean internal and external faces to ensure a good bond between concrete and tubes. Fit CSL tubes with watertight plastic caps on the bottom and removable caps on top.

(E) Drilled Pier Concrete

Use drilled pier concrete material meeting the requirements of Section 1000, except as modified below:

(1) Supplementary Cementitious Materials (SCMs)

Add SCMs to reduce peak concrete hydration temperature, improve thermal performance, and mitigate risk of thermal cracking in Drilled Pier Concrete in accordance with Table 411-3. Use any one or combination of the SCMs that satisfies the required minimum dosages below:

(a) ≥ 25% Class F fly ash that meets ASTM C618
(b) ≥ 35% Class C fly ash that meets ASTM C618
(c) ≥ 35% slag cement that meets ASTM C989/C989M
(d) ≥ 5% silica fume that meets ASTM C1240 with ≥ 25% slag cement
(e) ≥ 5% silica fume that meets ASTM C1240 with ≥ 20% Class F fly ash that meets ASTM C618

Use SCMs found on the Department's approved producer/supplier list. Concrete mixtures containing high alkali cements must also utilize the appropriate SCMs and minimum substitution rates provided in Article 1024-1.

(2) Equivalent Cement Content (ECC)

Determine the ECC on a per cubic yard basis with the following formula:

ECC= 1.0(PC) + 0.5(FAF) + 0.8(FAC) + 1.2(SF) + 1.0(SC)

Where:

PC = Portland cement
FAF = Class F fly ash
FAC = Class C fly ash
SF = Silica fume
SC = Slag cement

All units are in pounds per cubic yard.

ECC shall meet the requirements of Table 411-3 unless otherwise supported by a temperature prediction model in accordance with Subarticle 411-2(E)(3)(b).

(3) Thermal Control

(a) Use appropriate thermal control measures to reduce the peak concrete hydration temperature in Drilled Pier Concrete. Methods for controlling concrete temperature may include, but are not limited to, the following:
(i) Selecting constituent materials that minimize the heat generated by concrete hydration.
(ii) Cooling constituent materials to reduce the temperature of concrete in its plastic state.
(iii) Controlling the rate of concrete placement.
(iv) Other methods proposed by the Contractor and approved by the Engineer.

At a minimum, provide thermal control for Drilled Pier Concrete in accordance with Table 411-3.

TABLE 411-3
THERMAL CONTROL REQUIREMENTS FOR DRILLED PIER CONCRETE

D **Drilled Pier Diameter[A] (ft)**	**SCMs Required? (Yes/No)**	**Max ECC (lb/cy)**	**Max Temp with SCMs[C] (°F)**	**Max Temp without SCMs (°F)**	**Temp Prediction Required? (Yes/No)**	**Temp Monitoring Required? (Yes/No)**
$D < 5$	No	N/A	185	158	No	No
$5 \leq D < 6$	Yes	625		N/A	No	Yes
$D \geq 6$	Yes	B		N/A	Yes	Yes

A. Drilled pier diameter is the largest constructed diameter for any portion of a pier.

B. As determined by temperature prediction model

C. For a list of SCM's allowed see Subarticle 411-2(E)(1)

(b) Temperature Prediction

Use the Schmidt Method or numerical thermal modeling as described in *Concrete: Microstructure, Properties, and Materials* by Mehta and Monteiro (2014) or other method approved by the Engineer to predict concrete hydration temperature. Temperature predictions are required for each Drilled Pier Concrete mix design with a different drilled pier condition. Variations in constructed drilled pier diameter or drilled piers with permanent steel casing are considered different drilled pier conditions. Submit temperature prediction results and any planned thermal control measures at least 30 days before beginning Drilled Pier Concrete placement.

(c) Temperature Monitoring

Monitor concrete hydration temperature for the first drilled pier constructed with each Drilled Pier Concrete mix with a different drilled pier condition as described in Subarticle 411-2(E)(3)(b). Measure temperature at the center of the drilled pier diameter using two redundant thermal sensors inserted at least 1.5 × pier diameters below the top of pier and in accordance with ASTM D7949, Method B. Begin recording temperature data to the nearest one-degree Fahrenheit immediately after completing concrete placement. Record temperatures using an hour or smaller interval of time. Continue recording temperatures until at least 24 hours after the peak temperature has passed. If a temperature limit is exceeded, continue monitoring until all temperature values fall below the specified limit, even if the 24-hour requirement has been met. Submit temperature monitoring data within 24 hours after completing monitoring and before placing another drilled pier under the same conditions.

If temperature limits are exceeded during monitoring, submit a revised thermal control plan including but not limited to revised concrete mix designs, lower concrete placement temperature, or other modifications proposed by the contractor for review by the Engineer. Do not place additional drilled piers under the same conditions until the revised thermal control plan has been reviewed by the Engineer. Drilled piers that exceed the temperature limits established in Table 411-3 are considered unacceptable unless the Contractor demonstrates through an engineering analysis that the drilled pier is acceptable to the Engineer.

(d) Concrete Placement Temperature

For drilled piers with constructed diameters of 5 feet or greater, maintain concrete temperature at time of placement between 40°F and 75°F. Placement temperatures up to 85°F may be permitted when supported by temperature prediction or monitoring as specified in Subarticle 411-2(E)(3)(b) and (c). When placement temperatures above 75°F are permitted based on temperature monitoring, continue monitoring subsequent drilled piers until monitoring demonstrates that the maximum temperature specified in Table 411-3 will not be exceeded at the higher placement temperature.

(4) Concrete Slump Loss

Place concrete within the slump requirements listed in Table 1000-1 and maintain a minimum slump of 5 inches throughout the elapsed time. The elapsed time for placing drilled shaft concrete includes the concrete mixing and transit time, the concrete placement time, and the time required to remove any tremies, temporary casings, etc. Include the estimated elapsed time for concrete placement in the drilled shaft installation plan.

For drilled piers with a theoretical concrete volume of 75 cubic yards or more and an estimated elapsed time greater than 2 hours, perform a field slump loss test. Perform the slump loss test in accordance with the procedure posted on the NCDOT Materials and Tests Unit website and demonstrate to the Engineer, before drilled pier concrete placement, that the concrete will maintain a slump of 5 inches or greater for the estimated elapsed time. Place concrete if it's temperature at the time of placement into the drilled pier is no more than 10°F higher than the slump loss test temperature. Use ice or other concrete-cooling ingredients to lower concrete temperature or run additional slump loss tests at the higher temperatures.

411-3 PRECONSTRUCTION REQUIREMENTS

(A) Drilled Pier Construction Plan

Submit the proposed drilled pier construction plan for all drilled piers for acceptance by the Engineer. Provide an electronic copy of this plan at least 30 days before starting drilled pier construction. Do not begin drilled pier construction until a construction plan is accepted by the Engineer. Provide detailed project specific information in the drilled pier construction plan that includes the following:

(1) Overall description and sequence of drilled pier construction;

(2) List and sizes of equipment including cranes, drill rigs, vibratory and downhole hammers, Kelly bars, augers, core barrels, casings (diameters, thicknesses and lengths), cleanout buckets, air lifts, pumps, slurry equipment, tremies, pump pipes and other equipment;

(3) Procedures for casing installation and temporary casing removal including how telescoping temporary casings will be removed;

(4) If applicable, details of slurry testing and use including intended purpose, product information and additives, manufacturer's recommendations for use, name and contact information for slurry manufacturer's technical representative, mixing and handling procedures and how slurry level will be maintained above the highest piezometric head;

(5) Methods for drilling and cleaning holes including how cores will be removed and drilling spoils and slurry will be handled and disposed of;

(6) Details of CSL tubes, caps and joints including pipe size and how tubes will be attached to reinforcing steel;

(7) Procedures for lifting and setting reinforcing steel including how rebar cages will be supported and centralized;

(8) Procedures for placing concrete including how tremies and pump pipes will be controlled and contaminated concrete will be contained;

(9) Concrete mix design that meets Section 1000;

(10) Approved packaged grout or grout mix design that meets Section 1003;

(11) CSL Consultant including Field and Project Engineer; and

(12) Other information shown in the plans or requested by the Engineer.

If alternate construction procedures are proposed or necessary, a revised drilled pier construction plan submittal may be required. If the work deviates from the accepted submittal without prior approval, the Engineer may suspend drilled pier construction until a revised plan is accepted by the Engineer.

(B) Preconstruction Meeting

Before starting drilled pier construction, hold a drilled pier preconstruction meeting to discuss the installation, monitoring and inspection of the drilled piers. Schedule this drilled pier preconstruction meeting with the Engineer after the Drilled Pier Contractor mobilizes to the site. If this meeting occurs before all drilled pier submittals have been accepted by the Engineer, additional drilled pier preconstruction meetings may be required before beginning construction of drilled piers without accepted submittals. The Prime Contractor and Drilled Pier Contractor Superintendent shall attend the drilled pier preconstruction meetings.

411-4 CONSTRUCTION METHODS

Do not excavate holes, install piles or allow equipment loads or vibrations within 20 feet of completed piers until 16 hours after drilled pier concrete reaches initial set.

When drilling from a barge, use a fixed template that maintains hole position and alignment during drilled pier construction. Do not use floating templates or templates attached to barges.

Check for correct drilled pier alignment and location before beginning drilling. Check plumbness of Kelly bars before beginning and frequently during drilling.

For drilled piers constructed with slurry or permanent casings, the pier diameter may be 2 inches less than the design pier diameter shown in the plans. For all other drilled piers, construct piers with the minimum required diameters shown in the plans except for portions of drilled piers in rock which may be 2 inches less than the design pier diameter.

Install drilled piers with tip elevations no higher than shown in the plans or approved by the Engineer. Provide piers with the minimum required tip resistance and, when noted in the plans, penetration into rock.

(A) Excavation

Excavate holes with equipment of the sizes required to construct drilled piers. Use equipment and methods accepted in the drilled pier construction plan or approved by the Engineer. Inform the Engineer of any deviations from the accepted plan.

Use drill rigs with sufficient capacity to drill through soil, rock, boulders, timbers, man-made objects and any other materials encountered and drill 20 feet deeper or 20% longer than the maximum drilled pier length shown in the plans, whichever is greater. Drilling below pier tip elevations shown in the plans may be required to attain sufficient resistance.

Do not use blasting to advance drilled pier excavations. Blasting for core removal is only permitted when approved by the Engineer. See Articles 107-11 and 107-12 for protection of public and private property and control of siltation, dust and air and water pollution from blasting, drilling and excavating with down-the-hole hammers. Contain and dispose of drilling spoils and waste concrete in accordance with Section 802 or as directed by the Engineer. Drilling spoils consist of all materials and fluids removed from excavations.

Stabilize excavations with only casings or slurry and casings except, as approved by the Engineer, portions of excavations in rock. Use casings or slurry in rock if unstable material is anticipated or encountered. Stabilize excavations from beginning of drilling through concrete placement. If excavations become unstable, the Engineer may suspend drilling and require a revised drilled pier construction plan. If it becomes necessary to replace a casing during drilling, backfill the excavation, insert a larger casing around the casing to be replaced or stabilize the excavation with slurry before removing the casing.

When noted in the plans, do not dewater drilled pier excavations. Otherwise, if excavations are in rock, dewater excavations to the satisfaction of the Engineer.

(B) Casings

Provide temporary casings to stabilize holes and protect personnel entering excavations. Permanent casings may be required as noted in the plans. Install permanent casings with tip elevations no deeper than shown in the plans or approved by the Engineer. Additional drilled pier length and reinforcing steel may be required if permanent casings are installed below elevations noted in the plans.

Install casings in continuous sections. Overlap telescoping casings at least 24 inches. Remove portions of permanent casings above the ground line or top of piers, whichever is higher, after placing concrete. Do not cut off permanent casings until Drilled Pier concrete attains a compressive strength of at least 3,000 psi.

When using slurry construction without permanent casings, temporary casings at least 10 feet long are required at top of excavations. Maintain top of casings at least 12 inches above the ground line.

(C) Slurry Construction

Unless noted otherwise in the plans, slurry construction or polymer slurry is at the Contractor's option.

Use slurry and additives to stabilize holes in accordance with the manufacturer's recommendations. Provide a technical representative employed by the slurry

manufacturer to assist and guide the Drilled Pier Contractor onsite during the construction of the first drilled pier. If problems are encountered during drilled pier construction, the Engineer may require the technical representative to return to the site.

Provide documentation that mixing water is suitable for slurry. Use slurry equipment that is sufficient for mixing, agitating, circulating and storing slurry. Thoroughly premix slurry with water in tanks before pumping into excavations. Allow bentonite slurry to hydrate at least 24 hours in tanks before use.

Pump slurry into excavations before encountering water. Maintain slurry level at least 5 feet or one pier diameter, whichever is greater, above the highest piezometric head along the drilled pier length. The highest piezometric head is anticipated to be the static water or groundwater elevation. However, the Drilled Pier Contractor is responsible for determining the highest piezometric head for each pier.

Maintain the required slurry properties at all times. Desand or replace slurry as needed to meet the required sand content in tanks before pumping slurry into excavations and in excavations immediately before placing concrete.

(1) Time

Agitate bentonite slurry in holes at least every 4 hours. If this 4-hour time limit is exceeded, the Engineer may require holes to be overreamed at least 1 inch and no more than 3 inches below casings. Overream holes with grooving tools, overreaming buckets or other approved methods.

Construct drilled piers so the maximum time slurry is in contact with uncased portions of holes from drilling through concrete placement does not exceed 36 hours. If this 36 hour time limit is exceeded, the Engineer may require the hole diameter to be enlarged at least 6 inches. If the enlarged hole diameter is greater than the permanent casing diameter, replace casing with a larger permanent casing with an outside diameter equal to the diameter of the enlarged hole.

(2) Slurry Testing

Define a “sample set” as slurry samples collected from mid-height and within 2 feet of the bottom of slurry tanks or holes. Take a sample set from slurry tanks to test slurry before beginning drilling. Do not pump slurry into excavations until both slurry samples from tanks meet the required slurry properties. Take sample sets from excavations to test slurry at least every 4 hours and immediately before placing concrete. Do not place Drilled Pier concrete until both slurry samples from an excavation meet the required slurry properties. If any slurry test results do not meet the requirements, the Engineer may suspend drilling until both samples from a sample set meet the required slurry properties.

Sign, date and submit slurry test reports upon completion of each pier. The Department reserves the right to perform comparison slurry tests at any time.

(3) Disposal

Comply with all Federal, State and local regulations, as well as the project permits and commitments, when disposing of slurry and drilling spoils mixed with slurry.

Contain slurry and drilling spoils and keep out of water at all times.

(D) Cleaning and Inspection

Provide clean holes with level bottoms so elevations within bottom of holes do not vary by more than 12 inches. Remove soft and loose material from bottom of holes using methods accepted in the drilled pier construction plan or approved by the Engineer. When bottom of holes are not hand cleaned, remove sediment from holes with cleanout buckets, air lifts or pumps.

After cleaning is complete, provide all equipment, personnel and assistance required for the Engineer to visually inspect holes from above or by entering excavations. Remove all cleaning and drilling equipment from holes during inspections and do not interfere with inspections.

(1) Tip Resistance

If the Engineer determines that the material below an excavation does not provide the minimum required tip resistance, increase the drilled pier length and lengthen reinforcing steel as directed by the Engineer. One of the following methods may be required to check the conditions and continuity of material below excavations.

(a) Test Hole

If excavations are in rock, drill a 1.5 inch diameter test hole at least 6 feet below bottom of holes to determine the continuity of rock below holes.

(b) Standard Penetration Test

Standard penetration tests (SPT) may be required as noted in the plans. When required, drive a split-barrel sampler 18 inches below bottom of holes or to refusal in accordance with ASTM D1586. Perform SPT in holes at least 12 inches away from casing walls and support drill rods so rods remain vertical and straight. Report the number of blows applied in each 6 inch increment and provide recovered samples to the Engineer. The Engineer will determine the standard penetration resistance required.

(2) Bottom Cleanliness

Holes are clean if at least 50% of bottom of holes has less than 0.5 inch of sediment and no portions of bottom of holes have more than 1.5 inches of sediment. If bottom of holes does not meet this cleanliness criteria, remove sediment from holes until the Engineer determines holes are clean. One or more of the following methods may be required to inspect the bottom cleanliness of holes.

(a) Steel Probe

If drilled pier excavations are not dewatered or as directed by the Engineer, provide a #10 rebar steel probe that is 24 inches long with a flat tip on one end and a non-stretch cable connected to the other end. Provide a cable long enough to lower the steel probe to the bottom of holes for the Engineer to determine the amount of sediment in holes.

(b) Shaft Inspection Device

The Engineer may use the shaft inspection device (SID) as noted in the plans. The Engineer provides the SID and personnel to operate it. Notify the Engineer at least 2 days before finishing holes that will be inspected with the SID.

Assist the Engineer in handling the SID and associated equipment and supporting the SID during inspections. Provide working areas large enough for the SID, associated equipment and SID personnel within reach of the SID cables and clear view of holes being inspected. If necessary, provide a secure location to store the SID and associated equipment onsite overnight.

Approximately one hour is required to inspect a hole with the SID after the SID and associated equipment are set up. The Engineer will use the SID to measure the amount of sediment at 5 locations around the bottom of holes.

(E) Reinforcing Steel and Concrete

Assemble rebar cages consisting of bar and spiral reinforcing steel shown in the plans. Securely cross tie reinforcing steel at each intersection with double wire. Attach a chair under each reinforcing bar and rollers near the top and bottom of rebar cages and every 10 feet along cages in between. The number of rollers required at each location along rebar cages is one roller per foot of design pier diameter with at least 4 rollers per location. Space rollers equally around rebar cages at each location. Attach rollers so rollers are supported across 2 adjacent reinforcing bars and will freely rotate when rebar cages are lowered into excavations.

If CSL tubes are required, securely attach CSL tubes to spiral reinforcing steel on the inside of rebar cages with at least 3 inches of clearance to vertical reinforcing bars. Extend CSL tubes from 6 inches above pier tip elevations to at least 2 feet above the ground line or top of permanent casings, whichever is greater. The number of CSL tubes required for each drilled pier is one tube per foot of design pier diameter with at least 4 tubes per pier. Space CSL tubes equally around rebar cages so distances between tubes measured around spiral reinforcing steel are uniform. Install CSL tubes as straight and parallel to each other as possible. Fit caps on top and bottom of CSL tubes.

After the Engineer determines that the material below excavations provides the minimum required tip resistance and holes are clean, place rebar cages and then concrete in excavations. Do not rack or distort rebar cages and CSL tubes when lifting and handling cages. Set rebar cages directly on bottom of holes or, as approved by the Engineer, hang cages from permanent casings. When hanging rebar cages, leave devices supporting cages in place until Drilled Pier concrete attains a compressive strength of at least 3,000 psi.

Do not delay placing cages or concrete unless excavations are cased to rock or otherwise approved. If delays occur, the Engineer may require removal of rebar cages to reinspect bottom cleanliness of holes. If bottom of holes does not meet the cleanliness criteria in

Subarticle 411-4(D)(2), remove sediment from holes until the Engineer determines holes are clean before resetting rebar cages.

After placing rebar cages with CSL tubes, remove top caps, fill tubes with clean water and reinstall caps before placing concrete. Check for correct cage position before placing concrete and keep rebar cages plumb during concrete placement. Maintain cage position so rebar cages do not move vertically more than 6 inches and columns or footings have the minimum required concrete cover shown in the plans.

Remove all temporary casings during concrete placement. Do not twist, move or otherwise disturb temporary casings until the concrete depth inside casings is at least 10 feet or half the head, whichever is greater, above the bottom of casing being disturbed. Define "head" as the difference between the highest piezometric head along the drilled pier length and the static water elevation inside the excavation.

When removing temporary casings, maintain the required concrete depth above the bottom of casing being removed except when the concrete level is at or above top of piers. Sustain sufficient concrete depths to overcome pressures imposed by earth, backfill and fluids. As temporary casings are withdrawn, ensure fluids trapped behind casings is displaced upward and discharged out of excavations without contaminating or displacing concrete.

Pour concrete in excavations to form uniform jointless monolithic drilled piers. Do not trap soil, air, fluids or other contaminants in concrete. Remove contaminated concrete from top of piers at time of concrete placement.

Inform the Engineer of the volume of concrete placed for each pier. For piers constructed with slurry or as directed by the Engineer, record a graphical plot of depth versus theoretical and actual concrete volumes.

Dry or wet placement of concrete is at the Contractor's option for piers constructed with only casings if the water inflow rate into excavations is less than 6 inches per half hour after removing any pumps from holes. Wet placement of concrete is required for all other drilled pier construction.

(1) Dry Placement

If holes are filling with water for dry placement of concrete, dewater excavations as much as possible before placing concrete. For drilled piers less than 80 feet long, pour concrete down the center of excavations so concrete does not hit reinforcing steel or excavation sidewalls. For piers longer than 80 feet, place concrete with a tremie or pump pipe down the center of excavations so length of free fall is less than 80 feet.

(2) Wet Placement

For wet placement of concrete, maintain static water or slurry levels in holes before placing concrete. Place concrete through steel tremies or pump pipes. Use tremies with watertight joints and a diameter of at least 10 inches. Pump concrete in accordance with Article 420-5. Use approved devices to prevent contaminating concrete when tremies or pump pipes are initially placed in excavations. Keep

tremies or pump pipes embedded into concrete at least 5 feet at all times except when the concrete is initially placed.

When the concrete level reaches the static water elevation inside the excavation, dry placement of concrete is permitted. Before changing to dry placement, pump water or slurry out of holes and remove contaminated concrete from the exposed concrete surface.

411-5 INTEGRITY TESTING

Define "integrity testing" as crosshole sonic logging (CSL) and thermal profile logging (TPL). Integrity testing shall be performed as noted in the plans or as required by the Engineer. Perform TPL testing if required in the contract. The Engineer will determine how many and which drilled piers require integrity testing. For CSL testing, do not test piers until Drilled Pier concrete cures for at least 7 days and attains a compressive strength of at least 3,000 psi.

(A) Crosshole Sonic Logging

If CSL testing is required, use a prequalified CSL Consultant to perform CSL testing and provide CSL reports. Use a CSL Operator approved as a Field Engineer (key person) for the CSL Consultant. Provide CSL reports sealed by an engineer licensed in the State of North Carolina approved as a Project Engineer (key person) for the same CSL Consultant.

(1) CSL Testing

Perform CSL testing in accordance with ASTM D6760. If probes for CSL testing will not pass through to the bottom of CSL tubes, the Engineer may require coring to replace inaccessible tubes. Do not begin coring until core hole size and locations are approved by the Engineer. Core at least 1.5 inches diameter holes the full length of piers. Upon completion of coring, fill holes with clean water and cover to keep out debris. Perform CSL testing in core holes instead of inaccessible tubes.

For piers with 4 or 5 CSL tubes, test all tube pairs. For piers with 6 or more CSL tubes, test all adjacent tube pairs around spiral reinforcing steel and at least 50% of remaining tube pairs selected by the Engineer. Record CSL data at depth intervals of 2.5 inches or less from the bottom of CSL tubes to top of piers.

(2) CSL Testing

Submit each CSL report within 7 days of completing CSL testing. Include the following in CSL reports:

(a) Title Sheet

(i) Department's TIP number and WBS element number

(ii) Project description

(iii) County

(iv) Bridge station number

(v) Pier location

(vi) Personnel

(vii) Report date

(b) Introduction

(c) Site and Subsurface Conditions (including water table elevation)

(d) Pier Details

(i) Pier and casing diameters, lengths and elevations

(ii) Drilled Pier concrete compressive strength

(iii) Installation methods including use of casings, slurry, pumps, tremies, dry or wet placement of concrete, etc.

(e) CSL Results

(i) Logs with plots of signal arrival times and energy vs. depth for all tube pairs tested

(f) Summary/Conclusions

(i) Table of first arrival time (FAT) increases greater than 30% of the local average FAT value with corresponding locations (tube pair(s) and depth ranges) for all tube pairs tested

(ii) Table of relative energy reductions 9 dB greater than the local average relative energy value with corresponding locations (tube pair(s) and depth ranges) for all tube pairs tested

(iii) List of suspected anomalies with corresponding locations (tube pair(s) and depth ranges)

(g) Attachments

(i) Boring log(s)

(ii) Field inspection forms and concrete curves (from Engineer)

(iii) CSL tube locations, elevations, lengths and identifications

(iv) CSL hardware model and software version information

(v) PDF copy of all CSL data

(B) Drilled Pier Evaluation

Define “drilled pier evaluation” as any additional testing, excavation or coring following integrity testing. Based on concrete placement and CSL results, the Engineer will determine if drilled piers require evaluation within 7 days of receiving CSL reports, in accordance with Table 411-4.

TABLE 411-4
DRILLED PIER EVALUATION CRITERIA

FAT Increase	Relative Energy Reduction	Evaluation Required?
≤ 30%	≤ 9 dB	No
> 30%	≤ 9 dB	Yes
≤ 30%	> 9 dB	Yes
> 30%	> 9 dB	Yes

If drilled pier evaluation is necessary, use one or more of the following methods, or any other methods approved by the Engineer to investigate the pier.

(1) CSL Testing

Use CSL testing as described in Subarticle 511-5(A) and perform testing with probes vertically offset in CSL tubes. CSL offset data will typically be required for all locations (tube pair and depth) where first arrival time increases are greater than 30% and relative energy reduction exceeds 9 dB. Record offset data at depths, intervals and angles needed to completely delineate anomalies.

Provide CSL reports that meet Subarticle 411-5(A)(2). When CSL offset data is required, perform tomographic analysis and provide 3 dimensional color coded tomographic images of piers showing locations and sizes of anomalies.

(2) Excavation

Excavate around piers and remove permanent casing as needed to expose Drilled Pier concrete. Do not damage piers when excavating or removing casings. The Engineer will determine the portions of piers to expose.

(3) Coring

Core piers and provide PQ size cores that meet ASTM D2113. The Engineer will determine the number, location and depth of core holes required based on CSL and Tomographic Analysis. Handle, log and store concrete cores with methods acceptable to the Engineer. Use a consultant with an engineer licensed in the State of North Carolina to log cores and use a qualified NCDOT laboratory to test strength of the selected core specimens.

Submit to the Engineer the investigation results in a drilled pier evaluation report sealed by an engineer licensed in the State of North Carolina for review and approval.

(C) Drilled Pier Remediation

If the Engineer determines a drilled pier is unacceptable, remediation is required. Remediation may include, but is not limited to hydroblasting and pressure grouting, utilizing micropiles within the drilled pier to transfer load above and below a defect, removing part or all of unacceptable drilled piers, modifying drilled pier design or providing replacement or additional drilled piers, micropiles, and/or driven piles within a pier footing or bent cap. Submit a drilled pier remediation report including the working drawings and design calculations for acceptance in accordance with Article 105-2. Ensure the drilled pier remediation report is designed, detailed and sealed by an engineer licensed in the State of North Carolina. Do not begin remediation work until remediation

plans are approved by the Engineer. When repairing unacceptable piers, perform post repair verification testing to gauge success of the repair.

411-6 DRILLED PIER ACCEPTANCE

Drilled pier acceptance is based in part on the following criteria:

(A) Temporary casings and drilling tools are removed from the drilled pier excavation or the Engineer determines that a temporary casing may remain in the excavation.

(B) Drilled Pier concrete is properly placed and does not have any evidence of segregation, intrusions, contamination, structural damage or inadequate consolidation (honeycombing) and meets compressive strength required in Table 1000-1.

(C) Center of pier is within 3 inches of plan location and 2% of plumb. Top of pier is within 1 inch above and 3 inches below the elevation shown in the plans or approved by the Engineer.

(D) Rebar cage is properly placed and top and center of cage is within tolerances for center of pier. Tip of permanent casing does not extend below the elevation noted in the plans or approved by the Engineer.

(E) CSL report meeting Subarticle 411-5(A)(2).

(F) Drilled pier evaluation report meeting Subarticle 411-5(B).

(G) Drilled pier remediation report meeting Subarticle 411-5(C).

Do not grout CSL tubes or core holes, backfill around a pier or perform any work on a drilled pier until the Engineer accepts the pier. If the drilled pier is accepted by the Engineer, dewater and grout CSL tubes and core holes, and backfill around the pier with approved material to finished grade. No extension of completion date or time will be allowed for remediation of unacceptable drilled piers or post repair testing.

411-7 MEASUREMENT AND PAYMENT

____ *Dia. Drilled Piers in Soil*, ____ *Dia. Drilled Piers Not in Soil* and ____ *Dia. Drill Piers* will be measured and paid in linear feet. Acceptable drilled piers will be measured as the difference between the specified top of pier and pier tip elevations or revised elevations approved by the Engineer.

For bents with a not in soil pay item shown in the plans, drilled piers will be paid as ____ *Dia. Drilled Piers in Soil* and ____ *Dia. Drilled Piers Not in Soil*. Define "not in soil" as material with a rock auger penetration rate of less than 2 inches per 5 minutes of drilling at full crowd force. When not in soil is encountered, seams, voids and weathered rock less than 3 feet thick with a rock auger penetration rate of greater than 2 inches per 5 minutes of drilling at full crowd force will be paid at the contract unit price for ____ *Dia. Drilled Piers Not in Soil*. Seams, voids and weathered rock greater than 3 feet thick will be paid at the contract unit price for ____ *Dia. Drilled Piers in Soil* where not in soil is no longer encountered. For bents with a not in soil pay item shown in the plans, drilled piers through air or water will be paid at the contract unit price for ____ *Dia. Drilled Piers in Soil*.

For bents without a not in soil pay item shown in the plans, drilled piers will be paid as ____ *Dia. Drill Piers*. The contract unit price for ____ *Dia. Drilled Piers* will be full compensation for drilling through any materials encountered.

The contract unit prices for ____ *Dia. Drilled Piers in Soil*, ____ *Dia. Drilled Piers Not in Soil* and ____ *Dia. Drill Piers* will also be full compensation for spoils and slurry containment and disposal, supplying and placing Drilled Pier concrete, material and testing requirements in Subarticle 411-2(E), temporary casing and slurry construction including a slurry manufacturer representative and overreaming and enlarging piers and any concrete removal, miscellaneous grading and excavation. No additional payment will be made for excess Drilled Pier concrete due to caving or sloughing holes or telescoping casings.

Reinforcing steel will be measured and paid in accordance with Article 425-6.

Permanent Steel Casing for ____ Dia. Drilled Pier will be measured and paid in linear feet. Permanent casings will only be paid for when required by the Engineer or shown in the plans. Permanent casings will be measured as the difference between the ground line or specified top of pier elevation, whichever is higher, and the specified permanent casing tip elevation or revised elevation approved by the Engineer. If a permanent casing cannot be installed to the casing tip elevation shown in the plans, up to 3 feet of casing cut-off will be paid at the contract unit price for *Permanent Steel Casing for ____ Dia. Drilled Pier*.

SID Inspections will be measured and paid in units of each. *SID Inspections* will be measured as one per pier. The contract unit price for *SID Inspections* will be full compensation for inspecting holes with the SID the first time. No additional payment will be made for subsequent inspections of the same hole.

The Contractor is responsible for any damage to the SID equipment due to the Contractor's fault or negligence. Replace any damaged equipment at no additional cost to the Department.

SPT Testing will be measured and paid in units of each. *SPT Testing* will be measured as the number of standard penetration tests performed except no payment will be made for *SPT Testing* to determine if temporary casing is necessary.

CSL Testing will be measured and paid in units of each. *CSL Testing* will be measured as one per pier. The contract unit price for *CSL Testing* will be full compensation for performing initial CSL testing and providing CSL reports. Subsequent CSL testing of and CSL reports for the same pier will be considered further investigation. No separate payment will be made for CSL tubes. CSL tubes including coring for inaccessible tubes and grouting will be incidental to the contract unit prices for drilled piers.

No payment will be made for stuck temporary casings that cannot be removed from drilled pier excavations or additional drilled pier length and reinforcing steel required due to temporary casings that remain in excavations. Drilled pier evaluations of piers that are acceptable based on drilled pier evaluation reports will be paid as extra work in accordance with Article 104-7. No payment will be made for drilled pier evaluations of unacceptable drilled piers, drilled pier

remediation or post repair testing.

Payment will be made under:

Pay Item	**Pay Unit**
____ Dia. Drilled Piers in Soil	Linear Foot
____ Dia. Drilled Piers Not in Soil	Linear Foot
____ Dia. Drilled Piers	Linear Foot
Permanent Steel Casing for ____ Dia. Drilled Piers	Linear Foot
SID Inspections	Each
SPT Testing	Each
CSL Testing	Each



Signed by:
Daniel Gallo
B93EE4CB3B114E9...
10/01/2026

FOUNDATION PREPARATION FOR PEDESTRIAN BRIDGE END BENT 2

(SPECIAL)

1.0 GENERAL

Identifying and remove the wall reinforcement that is in conflict with the bridge abutment and surveying the wall, detailed below, as indicated in the Plans, this Special Provision, or as directed by the Engineer. Submittals and construction sequence

2.0 SUBMITTALS AND CONSTRUCTION SEQUENCE

Prior to beginning foundation excavation for the bridge abutment, schedule an onsite meeting between the Resident Engineer, Contractor and Geotechnical Operations Engineer.

Wall Inspection 1:

Prior to beginning excavation at this location, survey the existing retaining wall and establish x,y and z locations and elevations for the top, midpoint and bottom of the wall. This process should be repeated at each side of the foundation edge and again 5 and 10 feet beyond both construction edges.

Foundation Excavation:

Using hand labor along the edges, carefully excavate for the end bent cap as shown on the plans. When the wall reinforcement is encountered, cut and remove geogrid/geotextiles to the excavation edges. Depending on the wall construction, one or more layers of reinforcement may be encountered. A visual inspection of the wall face may reveal visible reinforcement edges and will indicate the approximate elevations they will be encountered.

Once the bottom of cap elevation has been reached, hand excavate to the first reinforcement layer below bottom of cap and cut and remove a 18”x18” square at each pile location prior to driving the piles.

Wall Inspection 2:

Once the piles have been driven to bearing, survey the same locations on the existing retaining wall and establish x,y and z locations and elevations for the top, midpoint and bottom of the wall. This process should be repeated at each side of the foundation edge and again 5 and 10 feet beyond both construction edges. Provide copies of both inspections to the Resident Engineer and Geotechnical Operations Engineers.

3.0 MEASUREMENT AND PAYMENT

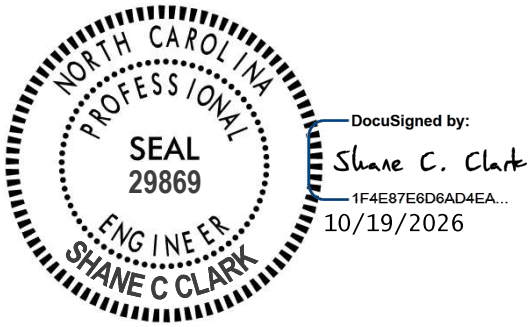
“*Foundation Preparation for Pedestrian Bridge End Bent 2*” as described in this Special Provision will be paid at the Lump Sum contract price bid. Such price and payment will

include furnishing all equipment, materials, labor, surveying and incidentals necessary to complete all work described in this special provision.

"Unclassified Structure Excavation at Station 15+46.20 -GW-" will be paid for elsewhere in the contract.

Payment will be made under:

Pay Item	**Pay Unit**
Foundation Preparation for Pedestrian Bridge End Bent 2	Lump Sum



for testing and removal. Each relocated assembly shall be tested by a Charlotte Water–approved certified tester prior to placing the water system back in service.

Measurement and Payment

Measurement and payment will be made per each backflow prevention assembly relocated and shall include removal of existing assembly. Payment shall constitute full compensation for furnishing and installing all materials, piping, valves, fittings, enclosure, concrete pad, permitting, testing, and appurtenances described above.

Pay Item:	**Pay Unit**
Relocate 2” Backflow Preventor	EA
Relocate 6” Backflow Preventor	EA
Relocate 1.5” Backflow Preventor	EA

CORROSION TEST STATION

Material and Methods

Corrosion Test Stations and all required components shall be furnished and installed in accordance with the NCDOT Standard Specifications and the Charlotte Water Standard Specifications (January 2025), Chapter 18, Section 2.7. Materials shall conform to Charlotte Water requirements and applicable AWWA standards. All components shall be installed in accordance with Charlotte Water Standard Details, including proper orientation, reference electrodes, connecting wire, and clearances. All labor, materials, equipment, excavation, backfill, testing, and incidentals necessary to complete the work described above shall be included.

Measurement and Payment

Measurement and payment will be made per each corrosion test station and shall constitute full compensation for furnishing and installing all materials required for the complete and connected test station.

Pay Item:	**Pay Unit**
Corrosion Test Station	EA

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12. I-77 MP COORDINATION

12.1. Description:

Coordinate with I-77 MP as it relates to the ITS scope of work, including but not limited to:

- Finalizing device and support structure locations for all relocated and proposed toll devices, including AVIs, MVDs, and CCTV cameras;
- Verification of required ITS pole heights, mast arm attachment heights, and mast arm lengths prior to the design and installation of metal pole foundations and structures;
- Relocation of existing devices, including I-77 MP's removal of devices at existing sites and reinstallation at proposed sites;
- I-77 MP's calibration, testing, commissioning, and acceptance of relocated and proposed devices;
- Deployment of temporary portable ITS trailers as described in the Plans, including request of cellular modems to be programmed and provided by I-77 MP;
- Relocation of the existing TRS equipment cabinet and backup generator; and
- Trunk-line cutover, including confirmation of priority buffer tubes for resplicing to minimize impacts to I-77 MP system during cutover.

Existing devices to be relocated include the following:

			Station Location	
Item No.	**ITS Plan Sheet No.**	**Device No.**	**Existing**	**Proposed**
1	ITS-03/ITS-04	TRS-01, AVI-01	-L3NB- 865+20	-L3NB- 852+23
2	ITS-03/ITS-05	MVD-03	-L3NB- 873+60	-L3NB- 858+42
3	ITS-07	MVD-05	-L3NB- 898+54	-L3NB- 896+75
4	ITS-08	MVD-06	-Y2RPD- 28+50	-Y2RPD- 41+05
5	ITS-10	AVI-05/MVD-08	-Y2RPD- 47+55	-Y2RPD- 41+00
6	ITS-12	AVI-07/MVD-11	-Y2RPB- 16+00	-Y2RPB- 15+70
7	ITS-12	AVI-08	-Y2RPA- 16+50	-Y2RPA- 16+40
8	ITS-13	CCTV-06/MVD-12	-Y2RPA- 14+00	-Y2RPA- 13+90

Note that all existing devices to be relocated will be removed, retained, reinstalled, calibrated, commissioned, and accepted by I-77 MP. Relocate existing ITS equipment cabinets and fiber control boxes as show on Plans and in accordance with *Section 10. Remove, Relocate, and Install ITS Equipment Cabinets.*

Proposed devices include the following:

			Station Location	
Item No.	**ITS Plan Sheet No.**	**Device No.**	**Existing**	**Proposed**
1	ITS-08	AVI-03/MVD-05A	N/A	-Y1RPD- 14+00

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Note that both proposed devices to be procured, installed, calibrated, commissioned, and accepted by I-77 MP. Install fiber control box, to be provided by I-77 MP, as shown on Plans and in accordance with *Section 10. Remove, Relocate, and Install ITS Equipment Cabinets.*

Existing devices to be retained but communications cable and/or electrical conductors must be rerouted include the following:

Item No.	ITS Plan Sheet No.	Device No.	Impact(s)
1	ITS-06	CCTV-02	Electrical conductors
2	ITS-10	CCTV-05/MVD-09	Fiber-optic communications, electrical conductors
3	ITS-14	CCTV-07	Electrical conductors

Contact the I-77 MP Field Systems Manager, at 817-992-6950, with regards to the following:

- Prior to the trunk-line cutover. **Provide 2 weeks' advance notice.**
- Prior to anticipated impacts to existing toll devices, including impacts to metal support structures, fiber-optic communications, and/or electrical conductors.
    - Where impacts include existing metal support structures, **provide 2 weeks' advance notice** prior to the anticipated construction impact to allow I-77 MP to remove and retain existing devices.
    - Where impacts are limited to fiber-optic communications and/or electrical conductors, provide **2 weeks' advance notice** prior to the anticipated construction impact to allow I-77 MP to commission and accept existing toll devices following installation of the new fiber-optic communications and/or electrical conductors.
- Prior to the anticipated installation of new metal pole support structures for toll devices, fiber-optic communications, and electrical conductors at proposed device locations. **Provide 2 weeks' advance notice before anticipated installation** to allow for I-77 MP's relocation of existing toll device(s) to the new metal pole support structures.
- Prior to the relocation of the TRS equipment cabinet and backup generator. **Provide 2 weeks' advance notice.**
- To request cell modems for use in Temporary Portable ITS Trailer deployments. **Allow 8 weeks lead time before anticipated deployment.**
- To request new devices AVI-03/MVD-05A and corresponding fiber control box. **Allow 6 months lead time before anticipated deployment.**

Obtain written confirmation from the I-77 MP Field Systems Manager for the proposed timing of planned system outages, including, but not limited to, trunk-line relocation, existing device impacts, and relocation of the TRS equipment cabinet and backup generator.

12.2. Measurement and Payment:

I-77 MP Coordination will be measured as a lump sum for all coordination efforts with I-77 MP, including, but not limited to, in-person and virtual meetings, and written correspondence.

Payment will be made under:

I-77 MP Coordination.....Lump Sum

County: MECKLENBURG

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
			ROADWAY ITEMS			
0001	0000100000-N	800	MOBILIZATION	Lump Sum	L.S.	
0002	0000400000-N	801	CONSTRUCTION SURVEYING	Lump Sum	L.S.	
0003	0001000000-E	200	CLEARING & GRUBBING .. ACRE(S)	Lump Sum	L.S.	
0004	0008000000-E	200	SUPPLEMENTARY CLEARING & GRUBBING	3 ACR		
0005	0022000000-E	225	UNCLASSIFIED EXCAVATION	75,100 CY		
0006	0036000000-E	225	UNDERCUT EXCAVATION	8,710 CY		
0007	0106000000-E	230	BORROW EXCAVATION	385,800 CY		
0008	0134000000-E	240	DRAINAGE DITCH EXCAVATION	7,310 CY		
0009	0156000000-E	250	REMOVAL OF EXISTING ASPHALT PAVEMENT	58,190 SY		
0010	0163000000-E	250	REMOVAL OF EXISTING CONCRETE PAVEMENT	230 SY		
0011	0177000000-E	250	BREAKING OF EXISTING ASPHALT PAVEMENT	6,590 SY		
0012	0195000000-E	265	SELECT GRANULAR MATERIAL	4,010 CY		
0013	0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZATION	6,370 SY		
0014	0199000000-E	SP	TEMPORARY SHORING	15,360 SF		
0015	0223000000-E	275	ROCK PLATING	1,720 SY		
0016	0248000000-N	SP	GENERIC GRADING ITEM TYPE 1 BRIDGE APPROACH FILL, STATION 15+46.20 -GW-	Lump Sum	L.S.	
0017	0248000000-N	SP	GENERIC GRADING ITEM TYPE 1 BRIDGE APPROACH FILL, STATION 29+90 -Y2-	Lump Sum	L.S.	

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0018	0248000000-N	SP	GENERIC GRADING ITEM TYPE 1 BRIDGE APPROACH FILL, STATION 32+59 -Y2-	Lump Sum	L.S.	
0019	0248000000-N	SP	GENERIC GRADING ITEM TYPE 2 BRIDGE APPROACH FILL, STATION 12+88 -Y3-	Lump Sum	L.S.	
0020	0248000000-N	SP	GENERIC GRADING ITEM TYPE 2 BRIDGE APPROACH FILL, STATION 15+54 -Y3-	Lump Sum	L.S.	
0021	0248000000-N	SP	GENERIC GRADING ITEM TYPE 2 BRIDGE APPROACH FILL, STATION 19+30 -Y1-	Lump Sum	L.S.	
0022	0248000000-N	SP	GENERIC GRADING ITEM TYPE 2 BRIDGE APPROACH FILL, STATION 23+44 -Y1-	Lump Sum	L.S.	
0023	0255000000-E	SP	GENERIC GRADING ITEM HAULING AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL	50 TON		
0024	0318000000-E	300	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES	3,140 TON		
0025	0321000000-E	300	FOUNDATION CONDITIONING GEOTEXTILE	9,840 SY		
0026	0335100000-E	305	12" DRAINAGE PIPE	28 LF		
0027	0343000000-E	310	15" SIDE DRAIN PIPE	1,100 LF		
0028	0344000000-E	310	18" SIDE DRAIN PIPE	132 LF		
0029	0366000000-E	310	15" RC PIPE CULVERTS, CLASS III	2,128 LF		
0030	0372000000-E	310	18" RC PIPE CULVERTS, CLASS III	760 LF		
0031	0378000000-E	310	24" RC PIPE CULVERTS, CLASS III	1,020 LF		
0032	0384000000-E	310	30" RC PIPE CULVERTS, CLASS III	828 LF		
0033	0390000000-E	310	36" RC PIPE CULVERTS, CLASS III	468 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0034	0396000000-E	310	42" RC PIPE CULVERTS, CLASS III	52 LF		
0035	0414000000-E	310	60" RC PIPE CULVERTS, CLASS III	28 LF		
0036	0448000000-E	310	****" RC PIPE CULVERTS, CLASS IV (60")	480 LF		
0037	0448200000-E	310	15" RC PIPE CULVERTS, CLASS IV	14,936 LF		
0038	0448300000-E	310	18" RC PIPE CULVERTS, CLASS IV	4,156 LF		
0039	0448400000-E	310	24" RC PIPE CULVERTS, CLASS IV	692 LF		
0040	0448500000-E	310	30" RC PIPE CULVERTS, CLASS IV	112 LF		
0041	0448600000-E	310	36" RC PIPE CULVERTS, CLASS IV	596 LF		
0042	0448700000-E	310	42" RC PIPE CULVERTS, CLASS IV	180 LF		
0043	0449000000-E	310	**" RC PIPE CULVERTS, CLASS V (24")	36 LF		
0044	0449000000-E	310	**" RC PIPE CULVERTS, CLASS V (36")	332 LF		
0045	0449000000-E	310	**" RC PIPE CULVERTS, CLASS V (96")	408 LF		
0046	0582000000-E	310	15" CS PIPE CULVERTS, 0.064" THICK	564 LF		
0047	0600000000-E	310	30" CS PIPE CULVERTS, 0.079" THICK	56 LF		
0048	0636000000-E	310	**" CS PIPE ELBOWS, *****" THICK (15", 0.064")	18 EA		
0049	0636000000-E	310	**" CS PIPE ELBOWS, *****" THICK (30", 0.079")	2 EA		
0050	0973100000-E	330	**" WELDED STEEL PIPE, ****" THICK, GRADE B IN SOIL (36", 0.625")	46 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0051	0973100000-E	330	**" WELDED STEEL PIPE, ****" THICK, GRADE B IN SOIL (60", 0.750")	148 LF		
0052	0973300000-E	330	**" WELDED STEEL PIPE, ****" THICK, GRADE B NOT IN SOIL (36", 0.625")	46 LF		
0053	0973300000-E	330	**" WELDED STEEL PIPE, ****" THICK, GRADE B NOT IN SOIL (60", 0.750")	148 LF		
0054	0995000000-E	340	PIPE REMOVAL	8,619 LF		
0055	1011000000-N	500	FINE GRADING	Lump Sum	L.S.	
0056	1099500000-E	505	SHALLOW UNDERCUT	7,770 CY		
0057	1099700000-E	505	CLASS IV SUBGRADE STABILIZATION	28,863 TON		
0058	1110000000-E	510	STABILIZER AGGREGATE	800 TON		
0059	1112000000-E	505	GEOTEXTILE FOR SUBGRADE STABILIZATION	52,525 SY		
0060	1220000000-E	545	INCIDENTAL STONE BASE	900 TON		
0061	1297000000-E	607	MILLING ASPHALT PAVEMENT, ***" DEPTH (1-1/2")	78,760 SY		
0062	1297000000-E	607	MILLING ASPHALT PAVEMENT, ***" DEPTH (3")	40,200 SY		
0063	1308000000-E	607	MILLING ASPHALT PAVEMENT, ***" TO ******" (1-1/2" TO 3")	5,020 SY		
0064	1330000000-E	607	INCIDENTAL MILLING	3,050 SY		
0065	1491000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0C	48,383 TON		
0066	1503000000-E	610	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	36,710 TON		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0067	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	610 TON		
0068	1523000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	28,010 TON		
0069	1524200000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5D	13,510 TON		
0070	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	5,630 TON		
0071	1577000000-E	620	POLYMER MODIFIED ASPHALT BINDER FOR PLANT MIX	785 TON		
0072	1693000000-E	654	ASPHALT PLANT MIX, PAVEMENT REPAIR	2,113 TON		
0073	1841000000-E	665	GENERIC PAVING ITEM MILLED RUMBLE STRIPS (ASPHALT CONCRETE), (16")	13,400 LF		
0074	2022000000-E	815	SUBDRAIN EXCAVATION	782.6 CY		
0075	2026000000-E	815	GEOTEXTILE FOR SUBSURFACE DRAINS	3,494 SY		
0076	2036000000-E	815	SUBDRAIN COARSE AGGREGATE	587.2 CY		
0077	2044000000-E	815	6" PERFORATED SUBDRAIN PIPE	3,494 LF		
0078	2070000000-N	815	SUBDRAIN PIPE OUTLET	8 EA		
0079	2077000000-E	815	6" OUTLET PIPE	48 LF		
0080	2190000000-N	828	TEMPORARY STEEL PLATE COVERS FOR MASONRY DRAINAGE STRUCTURE	1 EA		
0081	2209000000-E	838	ENDWALLS	6.8 CY		
0082	2253000000-E	840	PIPE COLLARS	2.4 CY		
0083	2275000000-E	SP	FLOWABLE FILL	395 CY		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0084	2286000000-N	840	MASONRY DRAINAGE STRUCTURES	359 EA		
0085	2297000000-E	840	MASONRY DRAINAGE STRUCTURES	62.06 CY		
0086	2308000000-E	840	MASONRY DRAINAGE STRUCTURES	240.7 LF		
0087	2364000000-N	840	FRAME WITH TWO GRATES, STD 840.16	35 EA		
0088	2364200000-N	840	FRAME WITH TWO GRATES, STD 840.20	55 EA		
0089	2365000000-N	840	FRAME WITH TWO GRATES, STD 840.22	17 EA		
0090	2366000000-N	840	FRAME WITH TWO GRATES, STD 840.24	4 EA		
0091	2367000000-N	840	FRAME WITH TWO GRATES, STD 840.29	16 EA		
0092	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)	22 EA		
0093	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)	103 EA		
0094	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)	97 EA		
0095	2396000000-N	840	FRAME WITH COVER, STD 840.54	21 EA		
0096	2440000000-N	852	CONCRETE TRANSITIONAL SECTION FOR CATCH BASIN	1 EA		
0097	2451000000-N	852	CONCRETE TRANSITIONAL SECTION FOR DROP INLET	40 EA		
0098	2535000000-E	846	**" X **" CONCRETE CURB (8" X 18")	970 LF		
0099	2542000000-E	846	1'-6" CONCRETE CURB & GUTTER	11,350 LF		
0100	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	29,790 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0101	2556000000-E	846	SHOULDER BERM GUTTER	1,831 LF		
0102	2591000000-E	848	4" CONCRETE SIDEWALK	5,850 SY		
0103	2605000000-N	848	CONCRETE CURB RAMPS	149 EA		
0104	2612000000-E	848	6" CONCRETE DRIVEWAY	60 SY		
0105	2619000000-E	850	4" CONCRETE PAVED DITCH	80 SY		
0106	2647000000-E	852	5" MONOLITHIC CONCRETE ISLANDS (SURFACE MOUNTED)	1,940 SY		
0107	2655000000-E	852	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)	4,510 SY		
0108	2703000000-E	854	CONCRETE BARRIER, TYPE ******* (T2)	2,770 LF		
0109	2724000000-E	857	PRECAST REINFORCED CONCRETE BARRIER, SINGLE FACED	1,410 LF		
0110	2738000000-E	SP	GENERIC PAVING ITEM 12" CONCRETE TRUCK APRON	3,380 SY		
0111	2738000000-E	SP	GENERIC PAVING ITEM 4" CONCRETE MULTI-USE PATH	16,680 SY		
0112	2738100000-E	SP	GENERIC PAVING ITEM DETECTABLE WARNING SURFACE	210 SF		
0113	2752000000-E	SP	GENERIC PAVING ITEM 1'-6" CONCRETE CURB & GUTTER, CLASS AA CONCRETE	1,560 LF		
0114	2753000000-E	846	GENERIC PAVING ITEM 1'-6" CONCRETE CURB & GUTTER (SPECIAL)	640 LF		
0115	2753000000-E	846	GENERIC PAVING ITEM 2'-6" CONCRETE CURB & GUTTER (SPILL CURB)	210 LF		
0116	2761000000-E	848	GENERIC PAVING ITEM 6" CONCRETE SIDEWALK	70 SY		
0117	2800000000-N	858	ADJUSTMENT OF CATCH BASINS	1 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0118	2815000000-N	858	ADJUSTMENT OF DROP INLETS	2 EA		
0119	2830000000-N	858	ADJUSTMENT OF MANHOLES	6 EA		
0120	2845000000-N	858	ADJUSTMENT OF METER BOXES OR VALVE BOXES	1 EA		
0121	2860000000-N	859	CONVERT EXISTING CATCH BASIN TO JUNCTION BOX	2 EA		
0122	2905000000-N	859	CONVERT EXISTING DROP INLET TO JUNCTION BOX	4 EA		
0123	2920000000-N	859	CONVERT EXISTING DROP INLET TO CATCH BASIN	1 EA		
0124	2995000000-N	SP	GENERIC DRAINAGE ITEM ADJUSTMENT OF JUNCTION BOXES	1 EA		
0125	3001000000-N	SP	IMPACT ATTENUATOR UNITS, TYPE TL-3	1 EA		
0126	3030000000-E	862	STEEL BEAM GUARDRAIL	14,450 LF		
0127	3045000000-E	862	STEEL BEAM GUARDRAIL, SHOP CURVED	950 LF		
0128	3145000000-E	862	EXTRA LENGTH GUARDRAIL POST (**' STEEL) (8')	100 EA		
0129	3150000000-N	862	ADDITIONAL GUARDRAIL POSTS	30 EA		
0130	3195000000-N	862	GUARDRAIL END UNITS, TYPE AT-1	4 EA		
0131	3210000000-N	862	GUARDRAIL END UNITS, TYPE CAT-1	30 EA		
0132	3215000000-N	862	GUARDRAIL ANCHOR UNITS, TYPE III	20 EA		
0133	3287000000-N	862	GUARDRAIL END UNITS, TYPE TL-3	19 EA		
0134	3288000000-N	862	GUARDRAIL END UNITS, TYPE TL-2	9 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0135	3317000000-N	862	GUARDRAIL ANCHOR UNITS, TYPE B-77	6 EA		
0136	3360000000-E	863	REMOVE EXISTING GUARDRAIL	5,661 LF		
0137	3380000000-E	862	TEMPORARY STEEL BEAM GUARDRAIL	100 LF		
0138	3389150000-N	862	TEMPORARY GUARDRAIL END UNITS, TYPE ***** (CAT-1)	1 EA		
0139	3389160000-N	862	TEMPORARY ADDITIONAL GUARDRAIL POSTS	5 EA		
0140	3420000000-E	SP	GENERIC GUARDRAIL ITEM WOOD RUB RAIL	700 LF		
0141	3536000000-E	866	CHAIN LINK FENCE, 48" FABRIC	47 LF		
0142	3542000000-E	866	METAL LINE POSTS FOR 48" CHAIN LINK FENCE	4 EA		
0143	3548000000-E	866	METAL TERMINAL POSTS FOR 48" CHAIN LINK FENCE	2 EA		
0144	3575000000-E	SP	GENERIC FENCING ITEM 48" BLACK METAL DECORATIVE FENCE	8,960 LF		
0145	3575000000-E	SP	GENERIC FENCING ITEM BICYCLE/PEDESTRIAN SAFETY RAIL	50 LF		
0146	3575000000-E	SP	GENERIC FENCING ITEM PEDESTRIAN SAFETY RAIL	2,790 LF		
0147	3575000000-E	SP	GENERIC FENCING ITEM PROTECTIVE COATING FOR PEDESTRIAN SAFETY RAIL	2,790 LF		
0148	3628000000-E	876	RIP RAP, CLASS I	180 TON		
0149	3635000000-E	876	RIP RAP, CLASS II	4,350 TON		
0150	3649000000-E	876	RIP RAP, CLASS B	1,340 TON		
0151	3656000000-E	876	GEOTEXTILE FOR DRAINAGE	10,570 SY		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0152	4048000000-E	902	REINFORCED CONCRETE SIGN FOUNDATIONS	12 CY		
0153	4054000000-E	902	PLAIN CONCRETE SIGN FOUNDATIONS	3 CY		
0154	4057000000-E	SP	OVERHEAD FOOTING	376 CY		
0155	4060000000-E	903	SUPPORTS, BREAKAWAY STEEL BEAM	4,686 LB		
0156	4066000000-E	903	SUPPORTS, SIMPLE STEEL BEAM	8,269 LB		
0157	4072000000-E	903	SUPPORTS, 3-LB STEEL U-CHANNEL	5,009 LF		
0158	4096000000-N	904	SIGN ERECTION, TYPE D	7 EA		
0159	4102000000-N	904	SIGN ERECTION, TYPE E	261 EA		
0160	4108000000-N	904	SIGN ERECTION, TYPE F	18 EA		
0161	4109000000-N	904	SIGN ERECTION, TYPE *** (OVERHEAD) (A)	42 EA		
0162	4109000000-N	904	SIGN ERECTION, TYPE *** (OVERHEAD) (B)	10 EA		
0163	4110000000-N	904	SIGN ERECTION, TYPE *** (GROUND MOUNTED) (A)	11 EA		
0164	4110000000-N	904	SIGN ERECTION, TYPE *** (GROUND MOUNTED) (D)	5 EA		
0165	4114000000-N	904	SIGN ERECTION, MILEMARKERS	11 EA		
0166	4116000000-N	904	SIGN ERECTION, OVERLAY (GROUND MOUNTED)	2 EA		
0167	4116100000-N	904	SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (A)	8 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0168	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (10+60 -Y2RPB-)	Lump Sum	L.S.	
0169	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (10+60-Y1RPD-)	Lump Sum	L.S.	
0170	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (14+60 -Y50-)	Lump Sum	L.S.	
0171	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (19+82 -Y2RPB-)	Lump Sum	L.S.	
0172	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (22+07 -Y49-)	Lump Sum	L.S.	
0173	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (22+75 -Y2-)	Lump Sum	L.S.	
0174	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (28+50 -Y2-)	Lump Sum	L.S.	
0175	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (37+50 -Y2-)	Lump Sum	L.S.	
0176	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (803+50 -L3NB-)	Lump Sum	L.S.	
0177	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (835+61 -L3NB-)	Lump Sum	L.S.	
0178	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (843+92 -L3NB-)	Lump Sum	L.S.	
0179	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (852+23 -L3NB-)	Lump Sum	L.S.	
0180	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (860+46 -L3NB-)	Lump Sum	L.S.	
0181	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (872+25 -L3NB-)	Lump Sum	L.S.	

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0182	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (881+24 -L3NB-)	Lump Sum	L.S.	
0183	4130000000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE ***** (898+95 -L3NB-)	Lump Sum	L.S.	
0184	4138000000-N	907	DISPOSAL OF SUPPORT, STEEL BEAM	26 EA		
0185	4149000000-N	907	DISPOSAL OF SIGN SYSTEM, OVERHEAD	7 EA		
0186	4155000000-N	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	60 EA		
0187	4234000000-N	907	DISPOSAL OF SIGN, A OR B (OVERHEAD)	2 EA		
0188	4238500000-N	907	DISPOSAL OF SIGN, MILEMARKER	11 EA		
0189	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	1,277 SF		
0190	4402000000-E	SP	HIGH VISIBILITY STATIONARY SIGNS	148 SF		
0191	4405000000-E	1110	WORK ZONE SIGNS (PORTABLE)	1,407 SF		
0192	4407000000-E	SP	HIGH VISIBILITY PORTABLE SIGNS	1,041 SF		
0193	4410000000-E	1110	WORK ZONE SIGNS (BARRICADE MOUNTED)	391 SF		
0194	4415000000-N	1115	FLASHING ARROW BOARD	17 EA		
0195	4420000000-N	1120	PORTABLE CHANGEABLE MESSAGE SIGN	22 EA		
0196	4430000000-N	1130	DRUMS	1,201 EA		
0197	4432000000-N	SP	HIGH VISIBILITY DRUMS	1,035 EA		
0198	4434000000-N	1140	SEQUENTIAL FLASHING WARNING LIGHTS	1,035 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0199	4435000000-N	1135	CONES	100 EA		
0200	4445000000-E	1145	BARRICADES (TYPE III)	420 LF		
0201	4447000000-E	SP	PEDESTRIAN CHANNELIZING DEVICES	3,616 LF		
0202	4455000000-N	1150	FLAGGER	79 DAY		
0203	4465000000-N	1160	TEMPORARY CRASH CUSHIONS	22 EA		
0204	4470000000-N	1160	REMOVE & RESET TEMPORARY CRASH CUSHION	43 EA		
0205	4480000000-N	1165	TMA	14 EA		
0206	4485000000-E	1170	PORTABLE CONCRETE BARRIER	5,286 LF		
0207	4490000000-E	1170	PORTABLE CONCRETE BARRIER (ANCHORED)	16,759 LF		
0208	4500000000-E	1170	REMOVE AND RESET PORTABLE CONCRETE BARRIER	9,349 LF		
0209	4505000000-E	1170	REMOVE & RESET PORTABLE CONCRETE BARRIER (ANCHORED)	23,287 LF		
0210	4507000000-E	1170	WATER FILLED BARRIER	566 LF		
0211	4508000000-E	1170	REMOVE AND RESET WATER FILLED BARRIER	227 LF		
0212	4510000000-N	1190	LAW ENFORCEMENT	272 HR		
0213	4516000000-N	1180	SKINNY DRUM	232 EA		
0214	4520000000-N	1266	TUBULAR MARKERS (FIXED)	1,500 EA		
0215	4600000000-N	SP	GENERIC TRAFFIC CONTROL ITEM AUDIBLE WARNING DEVICES	20 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0216	4600000000-N	SP	GENERIC TRAFFIC CONTROL ITEM PEDESTRIAN TRANSPORT SERVICE	20 EA		
0217	4650000000-N	1251	TEMPORARY RAISED PAVEMENT MARKERS	2,819 EA		
0218	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	30,439 LF		
0219	4688000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (6", 90 MILS)	76,672 LF		
0220	4695000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)	7,798 LF		
0221	4700000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (12", 90 MILS)	5,921 LF		
0222	4709000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)	7,056 LF		
0223	4720000000-E	1205	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS)	58 EA		
0224	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	277 EA		
0225	4770000000-E	1205	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (II)	3,362 LF		
0226	4775000000-E	1205	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (6") (II)	1,773 LF		
0227	4800000000-N	1205	COLD APPLIED PLASTIC PAVEMENT MARKING CHARACTER, TYPE ** (II)	1 EA		
0228	4805000000-N	1205	COLD APPLIED PLASTIC PAVEMENT MARKING SYMBOL, TYPE ** (II)	12 EA		
0229	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	232,184 LF		
0230	4820000000-E	1205	PAINT PAVEMENT MARKING LINES (8")	16,760 LF		
0231	4835000000-E	1205	PAINT PAVEMENT MARKING LINES (24")	9,330 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0232	4840000000-N	1205	PAINT PAVEMENT MARKING CHARACTER	52 EA		
0233	4845000000-N	1205	PAINT PAVEMENT MARKING SYMBOL	693 EA		
0234	4847300000-N	1205	IN LANE ROUTE SHIELDS	2 EA		
0235	4847400000-E	SP	WORK ZONE PERFORMANCE PAVEMENT MARKING LINES, 4"	28,732 LF		
0236	4847500000-E	SP	WORK ZONE PERFORMANCE PAVEMENT MARKING LINES, 6"	40,694 LF		
0237	4847600000-E	SP	WORK ZONE PERFORMANCE PAVEMENT MARKING LINES, 12"	2,738 LF		
0238	4850000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (4")	148,307 LF		
0239	4855000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (6")	39,165 LF		
0240	4860000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (8")	2,622 LF		
0241	4865000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (12")	1,207 LF		
0242	4870000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (24")	1,535 LF		
0243	4875000000-N	1205	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS	169 EA		
0244	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM WORK ZONE PERFORMANCE PAVEMENT MARKING LINES, 24"	433 LF		
0245	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM WORK ZONE PERFORMANCE PAVEMENT MARKING LINES, 8"	2,137 LF		
0246	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM YIELD LINE PAINT PAVEMENT MARKING (24")	161 LF		
0247	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM YIELD LINE THERMOPLASTIC PAVEMENT MARKING (24", 90 MILS)	319 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0248	4895000000-N	SP	GENERIC PAVEMENT MARKING ITEM INLAID CRADLE MARKERS	1,365 EA		
0249	5010000000-E	1401	100' HIGH MOUNT STANDARD	4 EA		
0250	5015000000-E	1401	120' HIGH MOUNT STANDARD	10 EA		
0251	5020000000-N	1401	PORTABLE DRIVE UNIT	1 EA		
0252	5025000000-E	SP	HIGH MOUNT FOUNDATIONS	122 CY		
0253	5030000000-N	SP	HIGH MOUNT LUMINAIRES ******** (560W LED)	104 EA		
0254	5120000000-N	1407	ELECTRIC SERVICE POLE ********** (30' CLASS 4)	2 EA		
0255	5125000000-E	1407	ELECTRIC SERVICE LATERAL ********** (3 #1/0 USE)	50 LF		
0256	5140000000-N	1408	LIGHT CONTROL EQUIPMENT, TYPE SP ********** (240/480 V)	2 EA		
0257	5150000000-E	1409	ELECTRICAL DUCT, TYPE **, SIZE ***** (TL, 3")	420 LF		
0258	5150000000-E	1409	ELECTRICAL DUCT, TYPE **, SIZE ***** (TL, 4")	575 LF		
0259	5155000000-E	1409	ELECTRICAL DUCT, TYPE BD, SIZE ***** (2")	740 LF		
0260	5180000000-E	1410	** #4 W/G FEEDER CIRCUIT (2)	720 LF		
0261	5185000000-E	1410	** #2 W/G FEEDER CIRCUIT (2)	845 LF		
0262	5205000000-E	1410	** #8 W/G FEEDER CIRCUIT IN *****" CONDUIT (2, 1-1/2")	640 LF		
0263	5215000000-E	1410	** #4 W/G FEEDER CIRCUIT IN *****" CONDUIT (2, 1-1/2")	18,050 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0264	5220000000-E	1410	** #2 W/G FEEDER CIRCUIT IN ******" CONDUIT (2, 1-1/2")	22,360 LF		
0265	5240000000-N	1411	ELECTRICAL JUNCTION BOXES ********** (CS36)	2 EA		
0266	5240000000-N	1411	ELECTRICAL JUNCTION BOXES ********** (HM18)	9 EA		
0267	5240000000-N	1411	ELECTRICAL JUNCTION BOXES ********** (HM36)	5 EA		
0268	5240000000-N	1411	ELECTRICAL JUNCTION BOXES ********** (IG18)	13 EA		
0269	5240000000-N	1411	ELECTRICAL JUNCTION BOXES ********** (IG36)	13 EA		
0270	5255000000-N	1413	PORTABLE LIGHTING	Lump Sum	L.S.	
0271	5260000000-N	SP	GENERIC LIGHTING ITEM DECORATIVE LIGHT POSTS	Lump Sum	L.S.	
0272	5260000000-N	SP	GENERIC LIGHTING ITEM ILLUMINATED PEDESTRIAN RAILING SYSTEM	Lump Sum	L.S.	
0273	5270000000-N	SP	GENERIC LIGHTING ITEM REMOVE 100' HIGH MOUNT STANDARD	4 EA		
0274	5270000000-N	SP	GENERIC LIGHTING ITEM REMOVE 100' HIGH MOUNT STANDARD FOUNDATION	4 EA		
0275	5270000000-N	SP	GENERIC LIGHTING ITEM REMOVE CONTROL SYSTEM - SALVAGE	1 EA		
0276	5270000000-N	SP	GENERIC LIGHTING ITEM REMOVE LIGHT STANDARD - DISPOSE	31 EA		
0277	5270000000-N	SP	GENERIC LIGHTING ITEM REMOVE LIGHT STANDARD - SALVAGE	15 EA		
0278	5270000000-N	SP	GENERIC LIGHTING ITEM REMOVE LIGHT STANDARD FOUNDATION	46 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0279	5325000000-E	1510	**" WATER LINE (36")	8,280 LF		
0280	5325600000-E	1510	6" WATER LINE	1,050 LF		
0281	5325800000-E	1510	8" WATER LINE	3,049 LF		
0282	5326200000-E	1510	12" WATER LINE	8,736 LF		
0283	5327400000-E	1510	24" WATER LINE	3,251 LF		
0284	5329000000-E	1510	DUCTILE IRON WATER PIPE FITTINGS	212,267 LB		
0285	5534000000-E	1515	**" VALVE (36")	8 EA		
0286	5540000000-E	1515	6" VALVE	3 EA		
0287	5546000000-E	1515	8" VALVE	16 EA		
0288	5558000000-E	1515	12" VALVE	31 EA		
0289	5559400000-E	1515	24" VALVE	10 EA		
0290	5562000000-E	1515	**" INSERTION VALVE (8")	2 EA		
0291	5606000000-E	1515	2" BLOW OFF	1 EA		
0292	5606400000-E	1515	4" BLOW OFF	1 EA		
0293	5643000000-E	1515	**" WATER METER (1")	8 EA		
0294	5643000000-E	1515	**" WATER METER (5/8")	4 EA		
0295	5643150000-E	1515	1-1/2" WATER METER	5 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0296	5643200000-E	1515	2" WATER METER	6 EA		
0297	5643300000-E	1515	3" WATER METER	1 EA		
0298	5643400000-E	1515	4" WATER METER	1 EA		
0299	5643600000-E	1515	6" WATER METER	6 EA		
0300	5649000000-N	1515	RECONNECT WATER METER	24 EA		
0301	5666000000-N	1515	FIRE HYDRANT	6 EA		
0302	5673000000-E	1515	FIRE HYDRANT LEG	92 LF		
0303	5678600000-E	1515	8" LINE STOP	4 EA		
0304	5679000000-E	1515	12" LINE STOP	3 EA		
0305	5684800000-E	1515	10" LINE STOP WITH BYPASS	1 EA		
0306	5686000000-E	1515	**" WATER SERVICE LINE (2")	168 LF		
0307	5686000000-E	1515	**" WATER SERVICE LINE (3")	53 LF		
0308	5686000000-E	1515	**" WATER SERVICE LINE (4")	30 LF		
0309	5686000000-E	1515	**" WATER SERVICE LINE (6")	191 LF		
0310	5686500000-E	1515	WATER SERVICE LINE	377 LF		
0311	5691000000-E	1520	**" SANITARY GRAVITY SEWER (15")	175 LF		
0312	5691300000-E	1520	8" SANITARY GRAVITY SEWER	997 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0313	5691700000-E	1520	18" SANITARY GRAVITY SEWER	728 LF		
0314	5775000000-E	1525	4' DIA UTILITY MANHOLE	8 EA		
0315	5776000000-E	1525	5' DIA UTILITY MANHOLE	8 EA		
0316	5801000000-E	1530	ABANDON 8" UTILITY PIPE	2,963 LF		
0317	5802000000-E	1530	ABANDON 10" UTILITY PIPE	3,105 LF		
0318	5804000000-E	1530	ABANDON 12" UTILITY PIPE	5,694 LF		
0319	5815500000-N	1530	REMOVE FIRE HYDRANT	10 EA		
0320	5835000000-E	1540	**" ENCASEMENT PIPE (54")	584 LF		
0321	5835700000-E	1540	16" ENCASEMENT PIPE	47 LF		
0322	5835800000-E	1540	18" ENCASEMENT PIPE	153 LF		
0323	5836000000-E	1540	24" ENCASEMENT PIPE	608 LF		
0324	5836400000-E	1540	36" ENCASEMENT PIPE	399 LF		
0325	5872500000-E	1550	BORE AND JACK OF **" (16")	47 LF		
0326	5872500000-E	1550	BORE AND JACK OF **" (18")	153 LF		
0327	5872500000-E	1550	BORE AND JACK OF **" (24")	334 LF		
0328	5872500000-E	1550	BORE AND JACK OF **" (36")	213 LF		
0329	5872500000-E	1550	BORE AND JACK OF **" (54")	207 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0330	5882000000-N	SP	GENERIC UTILITY ITEM CORROSION TEST STATION	34 EA		
0331	5882000000-N	SP	GENERIC UTILITY ITEM HIGH VELOCITY FIRE HYDRANT	39 EA		
0332	5882000000-N	SP	GENERIC UTILITY ITEM RELOCATE 1-1/2" BACKFLOW PREVENTOR	1 EA		
0333	5882000000-N	SP	GENERIC UTILITY ITEM RELOCATE 2" BACKFLOW PREVENTOR	1 EA		
0334	5882000000-N	SP	GENERIC UTILITY ITEM RELOCATE 6" BACKFLOW PREVENTOR	1 EA		
0335	5888000000-E	SP	GENERIC UTILITY ITEM FIRE HYDRANT LEG (HIGH VELOCITY FH LEG 8")	392 LF		
0336	5888000000-E	SP	GENERIC UTILITY ITEM FIRE HYDRANT LEG (RECONNECT FIRE HYDRANT)	53 LF		
0337	5912000000-N	SP	GENERIC UTILITY ITEM TEMPORARY SANITARY SEWER BYPASS PUMPING	Lump Sum	L.S.	
0338	6000000000-E	1605	TEMPORARY SILT FENCE	58,175 LF		
0339	6006000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	2,960 TON		
0340	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	7,395 TON		
0341	6012000000-E	1610	SEDIMENT CONTROL STONE	7,680 TON		
0342	6015000000-E	1615	TEMPORARY MULCHING	88.5 ACR		
0343	6018000000-E	1620	SEED FOR TEMPORARY SEEDING	4,400 LB		
0344	6021000000-E	1620	FERTILIZER FOR TEMPORARY SEEDING	25.5 TON		
0345	6024000000-E	1622	TEMPORARY SLOPE DRAINS	6,475 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0346	6029000000-E	SP	SAFETY FENCE	1,680 LF		
0347	6030000000-E	1630	SILT EXCAVATION	35,270 CY		
0348	6036000000-E	1631	MATTING FOR EROSION CONTROL	118,060 SY		
0349	6037000000-E	1629	COIR FIBER MAT	4,190 SY		
0350	6042000000-E	1632	1/4" HARDWARE CLOTH	18,610 LF		
0351	6043000000-E	1644	LOW PERMEABILITY GEOTEXTILE	700 SY		
0352	6045000000-E	SP	**" TEMPORARY PIPE (48")	48 LF		
0353	6046000000-E	1636	TEMPORARY PIPE FOR STREAM CROSSING	50 LF		
0354	6048000000-E	SP	FLOATING TURBIDITY CURTAIN	365 SY		
0355	6070000000-N	1639	SPECIAL STILLING BASINS	13 EA		
0356	6071002000-E	1642	FLOCCULANT	2,820 LB		
0357	6071010000-E	1642	WATTLE	800 LF		
0358	6071012000-E	1642	COIR FIBER WATTLE	3,000 LF		
0359	6071030000-E	1640	COIR FIBER BAFFLE	5,650 LF		
0360	6071050000-E	1644	**" SKIMMER (1-1/2")	17 EA		
0361	6071050000-E	1644	**" SKIMMER (2")	8 EA		
0362	6071050000-E	1644	**" SKIMMER (2-1/2")	2 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0363	6071050000-E	1644	**" SKIMMER (4")	1 EA		
0364	6084000000-E	1660	SEEDING & MULCHING	84 ACR		
0365	6087000000-E	1660	MOWING	66 ACR		
0366	6090000000-E	1661	SEED FOR REPAIR SEEDING	900 LB		
0367	6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	4 TON		
0368	6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	1,975 LB		
0369	6108000000-E	1665	FERTILIZER TOPDRESSING	59 TON		
0370	6111000000-E	SP	IMPERVIOUS DIKE	2,220 LF		
0371	6114500000-N	1667	SPECIALIZED HAND MOWING	55 MHR		
0372	6114800000-N	SP	MANUAL LITTER REMOVAL	42 MHR		
0373	6114900000-E	SP	LITTER DISPOSAL	6 TON		
0374	6117000000-N	1675	RESPONSE FOR EROSION CONTROL	200 EA		
0375	6117500000-N	SP	CONCRETE WASHOUT STRUCTURE	8 EA		
0376	6120000000-E	SP	CULVERT DIVERSION CHANNEL	59 CY		
0377	6123000000-E	1670	REFORESTATION	1.25 ACR		
0378	6132000000-N	SP	GENERIC EROSION CONTROL ITEM FABRIC INSERT INLET PROTECTION CLEANOUT	1,020 EA		
0379	6132000000-N	SP	GENERIC EROSION CONTROL ITEM FABRIC INSERT INLET PROTECTION, TYPE 1	260 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0380	6132000000-N	SP	GENERIC EROSION CONTROL ITEM FABRIC INSERT INLET PROTECTION, TYPE 2	80 EA		
0381	6132000000-N	SP	GENERIC EROSION CONTROL ITEM PREFABRICATED CONCRETE WASHOUT	45 EA		
0382	6141000000-E	SP	GENERIC EROSION CONTROL ITEM COIR FIBER MAT (SPECIAL)	400 SY		
0383	6141000000-E	SP	GENERIC EROSION CONTROL ITEM PERMANENT SOIL REINFORCEMENT MAT, TYPE 3	80 SY		
0384	6890000000-E	SP	CONCRETE STEPS	15 CY		
0385	6895000000-E	SP	HANDRAIL ON STEPS	58 LF		
0386	7048500000-E	1705	PEDESTRIAN SIGNAL HEAD (16", 1 SECTION W/COUNTDOWN)	88 EA		
0387	7060000000-E	1705	SIGNAL CABLE	37,713 LF		
0388	7120000000-E	1705	VEHICLE SIGNAL HEAD (12", 3 SECTION)	227 EA		
0389	7132000000-E	1705	VEHICLE SIGNAL HEAD (12", 4 SECTION)	26 EA		
0390	7144000000-E	1705	VEHICLE SIGNAL HEAD (12", 5 SECTION)	7 EA		
0391	7180000000-N	1706	BACKPLATE	165 EA		
0392	7229000000-N	SP	APS DETECTOR STATION	70 EA		
0393	7230000000-N	SP	CENTRAL CONTROL UNIT APS DETECTOR STATION	18 EA		
0394	7252000000-E	1710	MESSENGER CABLE (1/4")	1,140 LF		
0395	7264000000-E	1710	MESSENGER CABLE (3/8")	1,905 LF		
0396	7279000000-E	1715	TRACER WIRE	13,936 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0397	7288000000-E	1715	PAVED TRENCHING (**********) (2, 2")	80 LF		
0398	7300000000-E	1715	UNPAVED TRENCHING (**********) (1, 4")	100 LF		
0399	7300000000-E	1715	UNPAVED TRENCHING (**********) (1, 5")	1,070 LF		
0400	7300000000-E	1715	UNPAVED TRENCHING (**********) (2, 2")	15,870 LF		
0401	7300000000-E	1715	UNPAVED TRENCHING (**********) (2, 2-1/4")	100 LF		
0402	7300000000-E	1715	UNPAVED TRENCHING (**********) (3, 1-1/4")	100 LF		
0403	7300000000-E	1715	UNPAVED TRENCHING (**********) (3, 2")	315 LF		
0404	7300000000-E	1715	UNPAVED TRENCHING (**********) (3, 2-1/4")	100 LF		
0405	7300000000-E	1715	UNPAVED TRENCHING (**********) (4, 1-1/4")	1,070 LF		
0406	7301000000-E	1715	DIRECTIONAL DRILL (**********) (1, 2")	225 LF		
0407	7301000000-E	1715	DIRECTIONAL DRILL (**********) (1, 4")	785 LF		
0408	7301000000-E	1715	DIRECTIONAL DRILL (**********) (1, 5")	930 LF		
0409	7301000000-E	1715	DIRECTIONAL DRILL (**********) (2, 2")	6,255 LF		
0410	7301000000-E	1715	DIRECTIONAL DRILL (**********) (2, 2-1/4")	100 LF		
0411	7301000000-E	1715	DIRECTIONAL DRILL (**********) (3, 1-1/4")	785 LF		
0412	7301000000-E	1715	DIRECTIONAL DRILL (**********) (3, 2")	165 LF		
0413	7301000000-E	1715	DIRECTIONAL DRILL (**********) (4, 1-1/4")	930 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0414	7312000000-N	1716	JUNCTION BOX (**********) (SPECIAL OVERSIZED, HEAVY DUTY)	13 EA		
0415	7324000000-N	1716	JUNCTION BOX (STANDARD SIZE)	99 EA		
0416	7348000000-N	1716	JUNCTION BOX (OVER-SIZED, HEAVY DUTY)	53 EA		
0417	7360000000-N	1720	WOOD POLE	29 EA		
0418	7372000000-N	1721	GUY ASSEMBLY	54 EA		
0419	7420000000-E	1722	2" RISER WITH WEATHERHEAD	28 EA		
0420	7432000000-E	1722	2" RISER WITH HEAT SHRINK TUBING	1 EA		
0421	7456100000-E	1726	LEAD-IN CABLE (14-2)	4,300 LF		
0422	7481000000-N	SP	SITE SURVEY	6 EA		
0423	7516000000-E	1730	COMMUNICATIONS CABLE (** FIBER) (24)	9,668 LF		
0424	7516000000-E	1730	COMMUNICATIONS CABLE (** FIBER) (48)	3,345 LF		
0425	7528000000-E	1730	DROP CABLE	8,311 LF		
0426	7540000000-N	1731	SPLICE ENCLOSURE	12 EA		
0427	7541000000-N	1731	MODIFY SPLICE ENCLOSURE	7 EA		
0428	7552000000-N	1731	INTERCONNECT CENTER	13 EA		
0429	7566000000-N	1733	DELINEATOR MARKER	60 EA		
0430	7574500000-N	SP	FURNISH WIRELESS RADIO MODEM	2 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0431	7575000000-N	SP	FIBER-OPTIC TRAINING	Lump Sum	L.S.	
0432	7575142010-N	1736	900MHZ SERIAL/ETHERNET SPREAD SPECTRUM RADIO	10 EA		
0433	7575142060-N	1737	MODIFY RADIO INSTALLATION	5 EA		
0434	7575160000-E	1734	REMOVE EXISTING COMMUNICATIONS CABLE	6,675 LF		
0435	7575170000-E	1738	BACK PULL FIBER OPTIC CABLE	415 LF		
0436	7588000000-N	SP	METAL POLE WITH SINGLE MAST ARM	24 EA		
0437	7590000000-N	SP	METAL POLE WITH DUAL MAST ARM	7 EA		
0438	7613000000-N	SP	SOIL TEST	36 EA		
0439	7614100000-E	SP	DRILLED PIER FOUNDATION	200.2 CY		
0440	7630000000-N	SP	METAL STRAIN POLE DESIGN	4 EA		
0441	7631000000-N	SP	MAST ARM WITH METAL POLE DESIGN	31 EA		
0442	7636000000-N	1745	SIGN FOR SIGNALS	101 EA		
0443	7642100000-N	1743	TYPE I POST WITH FOUNDATION	27 EA		
0444	7642200000-N	1743	TYPE II PEDESTAL WITH FOUNDATION	73 EA		
0445	7684000000-N	1750	SIGNAL CABINET FOUNDATION	16 EA		
0446	7696000000-N	1751	CONTROLLERS WITH CABINET (**********) (2070LX, BASE MOUNTED)	4 EA		
0447	7901000000-N	1753	CABINET BASE EXTENDER	16 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0448	7948000000-N	1757	TRAFFIC SIGNAL REMOVAL	4 EA		
0449	7960000000-N	SP	METAL POLE FOUNDATION REMOVAL	15 EA		
0450	7972000000-N	SP	METAL POLE REMOVAL	15 EA		
0451	7980000000-N	SP	GENERIC SIGNAL ITEM 10KVA TRANSFORMER	2 EA		
0452	7980000000-N	SP	GENERIC SIGNAL ITEM 5/8" X 10' GROUNDING ELECTRODE	12 EA		
0453	7980000000-N	SP	GENERIC SIGNAL ITEM CABINET WITH CONTROLLER (2070LX)	12 EA		
0454	7980000000-N	SP	GENERIC SIGNAL ITEM CCTV CAMERA LOWERING SYSTEM	1 EA		
0455	7980000000-N	SP	GENERIC SIGNAL ITEM CCTV OR MVD METAL POLE	4 EA		
0456	7980000000-N	SP	GENERIC SIGNAL ITEM CCTV WOOD POLE	1 EA		
0457	7980000000-N	SP	GENERIC SIGNAL ITEM EQUIPMENT CABINET DISCONNECT	3 EA		
0458	7980000000-N	SP	GENERIC SIGNAL ITEM ETHERNET EDGE SWITCH	16 EA		
0459	7980000000-N	SP	GENERIC SIGNAL ITEM INSTALL I-77 MP PROVIDED ITS CABINETS	1 EA		
0460	7980000000-N	SP	GENERIC SIGNAL ITEM LUMINAIRE ARMS	26 EA		
0461	7980000000-N	SP	GENERIC SIGNAL ITEM MICROWAVE VEHICLE DETECTOR - MULTIPLE ZONES	13 EA		
0462	7980000000-N	SP	GENERIC SIGNAL ITEM MICROWAVE VEHICLE DETECTOR - MULTIPLE ZONES (APPROACH)	23 EA		
0463	7980000000-N	SP	GENERIC SIGNAL ITEM MICROWAVE VEHICLE DETECTOR - MULTIPLE ZONES (PRESENCE)	31 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0464	7980000000-N	SP	GENERIC SIGNAL ITEM MODIFY EXISTING ELECTRICAL SERVICE	2 EA		
0465	7980000000-N	SP	GENERIC SIGNAL ITEM NON-INTRUSIVE DETECTION SYSTEM PROCESSOR	12 EA		
0466	7980000000-N	SP	GENERIC SIGNAL ITEM PORTABLE TRAFFIC SIGNAL SYSTEM (ACTUATED)	1 EA		
0467	7980000000-N	SP	GENERIC SIGNAL ITEM PROTECTIVE COATING FOR DUAL MAST ARM POLE (RAL 9005 JET BLACK)	5 EA		
0468	7980000000-N	SP	GENERIC SIGNAL ITEM PROTECTIVE COATING FOR LUMINAIRE ARMS (RAL 9005 JET BLACK)	26 EA		
0469	7980000000-N	SP	GENERIC SIGNAL ITEM PROTECTIVE COATING FOR SINGLE MAST ARM POLE (RAL 9005 JET BLACK)	23 EA		
0470	7980000000-N	SP	GENERIC SIGNAL ITEM PROTECTIVE COATING FOR TYPE I PUSHBUTTON POST (RAL 9005 JET BLACK)	27 EA		
0471	7980000000-N	SP	GENERIC SIGNAL ITEM PROTECTIVE COATING FOR TYPE II SIGNAL PEDESTAL (RAL 9005 JET BLACK)	73 EA		
0472	7980000000-N	SP	GENERIC SIGNAL ITEM RELOCATE EXISTING TRS BACKUP GENERATOR	1 EA		
0473	7980000000-N	SP	GENERIC SIGNAL ITEM REMOVE EXISTING JUNCTION BOX	35 EA		
0474	7980000000-N	SP	GENERIC SIGNAL ITEM TEMPORARY PORTABLE ITS TRAILER	2 EA		
0475	7980000000-N	SP	GENERIC SIGNAL ITEM TRS CABINET AND GENERATOR FOUNDATION	1 EA		
0476	7980000000-N	SP	GENERIC SIGNAL ITEM VARIABLE SPEED DRILL	1 EA		
0477	7985000000-N	SP	GENERIC SIGNAL ITEM I-77 MOBILITY PARTNERS COORDINATION	Lump Sum	L.S.	

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0478	7985000000-N	SP	GENERIC SIGNAL ITEM REMOVE AND RELOCATE EXISTING ITS EQUIPMENT CABINETS	Lump Sum	L.S.	
0479	7985000000-N	SP	GENERIC SIGNAL ITEM TRAINING FOR NON-INTRUSIVE DETECTION	Lump Sum	L.S.	
0480	7990000000-E	SP	GENERIC SIGNAL ITEM #4 SOLID BARE COPPER GROUNDING CONDUCTOR	240 LF		
0481	7990000000-E	SP	GENERIC SIGNAL ITEM 3-WIRE COPPER FEEDER CONDUCTORS	9,725 LF		
0482	7990000000-E	SP	GENERIC SIGNAL ITEM 4-WIRE COPPER FEEDER CONDUCTORS	1,490 LF		
			CULVERT ITEMS			
0483	8130000000-N	414	BOX CULVERT EXCAVATION, STA ******** (19+43.12 -Y2-)	Lump Sum	L.S.	
0484	8130000000-N	414	BOX CULVERT EXCAVATION, STA ******** (20+03.15 -Y2RPB-)	Lump Sum	L.S.	
0485	8130000000-N	414	BOX CULVERT EXCAVATION, STA ******** (20+52.99 -Y2RPA-)	Lump Sum	L.S.	
0486	8130000000-N	414	BOX CULVERT EXCAVATION, STA ******** (21+58.00 -Y49-)	Lump Sum	L.S.	
0487	8130000000-N	414	BOX CULVERT EXCAVATION, STA ******** (463+27.43 -L2-)	Lump Sum	L.S.	
0488	8130000000-N	414	BOX CULVERT EXCAVATION, STA ******** (468+34.19 -L2-)	Lump Sum	L.S.	
0489	8133000000-E	414	FOUNDATION CONDITIONING MATERIAL, BOX CULVERT	640 TON		
0490	8196000000-E	420	CLASS A CONCRETE (CULVERT)	1,438.5 CY		
0491	8245000000-E	425	REINFORCING STEEL (CULVERT)	212,831 LB		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
			WALL ITEMS			
0492	8801000000-E	SP	MSE RETAINING WALL NO **** (1)	5,040 SF		
0493	8801000000-E	SP	MSE RETAINING WALL NO **** (10)	985 SF		
0494	8801000000-E	SP	MSE RETAINING WALL NO **** (11)	924 SF		
0495	8801000000-E	SP	MSE RETAINING WALL NO **** (2)	5,980 SF		
0496	8801000000-E	SP	MSE RETAINING WALL NO **** (3)	6,152 SF		
0497	8801000000-E	SP	MSE RETAINING WALL NO **** (4)	4,005 SF		
0498	8801000000-E	SP	MSE RETAINING WALL NO **** (5)	4,800 SF		
0499	8801000000-E	SP	MSE RETAINING WALL NO **** (6)	5,315 SF		
0500	8801000000-E	SP	MSE RETAINING WALL NO **** (7)	4,590 SF		
0501	8801000000-E	SP	MSE RETAINING WALL NO **** (8)	5,570 SF		
0502	8801000000-E	SP	MSE RETAINING WALL NO **** (9)	3,687 SF		
0503	8802040000-E	453	CIP GRAVITY RETAINING WALLS	1,717 SF		
0504	8847000000-E	SP	GENERIC RETAINING WALL ITEM ARCHITECTURAL CONCRETE SURFACE TREATMENT	3,687 SF		
0505	8892000000-E	SP	GENERIC STRUCTURE ITEM ARCHITECTURAL SURFACE TREATMENT (SOUND BARRIER WALL NO NW1)	14,772 SF		
0506	8892000000-E	SP	GENERIC STRUCTURE ITEM SOUND BARRIER WALL	16,916 SF		

County: MECKLENBURG

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
			STRUCTURE ITEMS			
0507	3642000000-E	876	RIP RAP, CLASS A	39 TON		
0508	8035000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ********** (29+87.44 -Y2-)	Lump Sum	L.S.	
0509	8035000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ********** (31+15.82 -Y2-)	Lump Sum	L.S.	
0510	8035000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ********** (32+53.16 -Y2-)	Lump Sum	L.S.	
0511	8065000000-N	SP	ASBESTOS ASSESSMENT	Lump Sum	L.S.	
0512	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (1, 20+08.83 -Y1-)	Lump Sum	L.S.	
0513	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (1, 29+87.44 -Y2-)	Lump Sum	L.S.	
0514	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (1, 32+53.16 -Y2-)	Lump Sum	L.S.	
0515	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (10, 15+46.20 -GW-)	Lump Sum	L.S.	
0516	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (2, 15+46.20 -GW-)	Lump Sum	L.S.	
0517	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (2, 29+87.44 -Y2-)	Lump Sum	L.S.	
0518	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (2, 32+53.16 -Y2-)	Lump Sum	L.S.	
0519	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (3, 15+46.20 -GW-)	Lump Sum	L.S.	
0520	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (6, 15+46.20 -GW-)	Lump Sum	L.S.	

County: MECKLENBURG

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0521	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (7, 15+46.20 -GW-)	Lump Sum	L.S.	
0522	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (8, 15+46.20 -GW-)	Lump Sum	L.S.	
0523	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT NO ** AT STATION ********* (9, 15+46.20 -GW-)	Lump Sum	L.S.	
0524	8096000000-E	450	PILE EXCAVATION IN SOIL	166 LF		
0525	8097000000-E	450	PILE EXCAVATION NOT IN SOIL	42 LF		
0526	8105500000-E	411	**'-**" DIA DRILLED PIERS IN SOIL (5'-6")	96.5 LF		
0527	8105560000-E	411	4'-0" DIA DRILLED PIERS IN SOIL	21 LF		
0528	8105600000-E	411	**'-**" DIA DRILLED PIERS NOT IN SOIL (5'-6")	16.5 LF		
0529	8105660000-E	411	4'-0" DIA DRILLED PIERS NOT IN SOIL	8 LF		
0530	8113000000-N	411	SID INSPECTIONS	2 EA		
0531	8115000000-N	411	CSL TESTING	2 EA		
0532	8121000000-N	412	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION ******** (15+46.20 -GW-)	Lump Sum	L.S.	
0533	8147000000-E	420	REINFORCED CONCRETE DECK SLAB	47,412 SF		
0534	8156000000-E	SP	CONCRETE WEARING SURFACE	7,069 SF		
0535	8161000000-E	420	GROOVING BRIDGE FLOORS	44,198 SF		
0536	8182000000-E	420	CLASS A CONCRETE (BRIDGE)	1,133.1 CY		

County: MECKLENBURG

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0537	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (12+72.18 -Y3-)	Lump Sum	L.S.	
0538	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (15+46.20 -GW-)	Lump Sum	L.S.	
0539	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (15+64.95 -Y3-)	Lump Sum	L.S.	
0540	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (20+08.83 -Y1-)	Lump Sum	L.S.	
0541	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (23+39.87 -Y1-)	Lump Sum	L.S.	
0542	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (29+87.44 -Y2-)	Lump Sum	L.S.	
0543	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (32+53.16 -Y2-)	Lump Sum	L.S.	
0544	8217000000-E	425	REINFORCING STEEL (BRIDGE)	202,236 LB		
0545	8238000000-E	425	SPIRAL COLUMN REINFORCING STEEL (BRIDGE)	12,898 LB		
0546	8278000000-E	430	FIB **" PRESTRESSED CONCRETE GIRDERS (63")	1,196.31 LF		
0547	8280000000-E	440	APPROX ..... LBS STRUCTURAL STEEL	1,454,026 LS		
0548	8328200000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES (HP 12 X 53)	170 EA		
0549	8328200000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES (HP 14 X 73)	93 EA		
0550	8364000000-E	450	HP 12 X 53 STEEL PILES	6,705 LF		
0551	8384000000-E	450	HP 14 X 73 STEEL PILES	6,145 LF		

County: MECKLENBURG

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0552	8475000000-E	460	TWO BAR METAL RAIL	2,147.98 LF		
0553	8517000000-E	460	1'-**" X *****" CONCRETE PARAPET (1'-2" X 2'-6")	2,248.95 LF		
0554	8517000000-E	460	1'-**" X *****" CONCRETE PARAPET (1'-2" X 3'-2 3/4")	859 LF		
0555	8517000000-E	460	1'-**" X *****" CONCRETE PARAPET (1'-5" X 1'-0")	1,250.2 LF		
0556	8531000000-E	462	4" SLOPE PROTECTION	985.3 SY		
0557	8622000000-E	876	GEOTEXTILE FOR DRAINAGE	130 SY		
0558	8654000000-N	SP	DISC BEARINGS	Lump Sum	L.S.	
0559	8657000000-N	430	ELASTOMERIC BEARINGS	Lump Sum	L.S.	
0560	8692000000-N	SP	FOAM JOINT SEALS	Lump Sum	L.S.	
0561	8753000000-E	430	3'-0" X 2'-3" PRESTRESSED CONC BOX BEAMS	2,799 LF		
0562	8860000000-N	SP	GENERIC STRUCTURE ITEM FOUNDATION PREPARTION FOR PEDESTRIAN BRIDGE END BENT 2	Lump Sum	L.S.	
0563	8860000000-N	SP	GENERIC STRUCTURE ITEM PREFABRICATED FULL-THROUGH ARCH TRUSS PEDESTRIAN BRIDGE	Lump Sum	L.S.	
0564	8860000000-N	SP	GENERIC STRUCTURE ITEM SPECIAL APPROACH SLAB	Lump Sum	L.S.	
0565	8860000000-N	SP	GENERIC STRUCTURE ITEM TOWN OF HUNTERSVILLE "H" LOGO WITH BACKLIGHTING	Lump Sum	L.S.	
0566	8867000000-E	SP	GENERIC STRUCTURE ITEM 120" POLYCARBONATE BARRIER	360 LF		
0567	8867000000-E	SP	GENERIC STRUCTURE ITEM MODIFIED TWO BAR METAL RAIL	852.74 LF		
0568	8897000000-N	SP	GENERIC STRUCTURE ITEM TPL TESTING	2 EA		

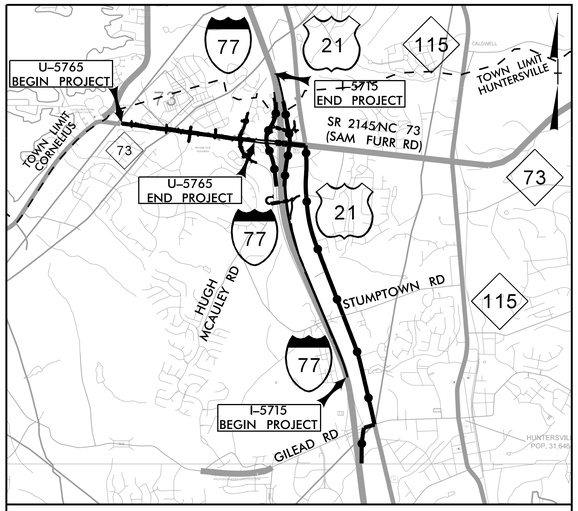
0944/Nov02/Q4696895.79/D2936090588070/E568 **Total Amount Of Bid For Entire Project :**

CONTRACT: C205223 TIP PROJECT: I-5715/U-5765/BL-0119

K:\CHL_PRJ\0I\036264 - I-5715\Roadway\Pro\N-5715_rdy_tsh_Combined.dgn

9/18/2026

SEE SHEET 1A FOR INDEX OF SHEETS
SEE SHEET 1B FOR CONVENTIONAL PLAN SHEET SYMBOLS



VICINITY MAP N.T.S.

DETOUR ROUTE *(I-5715)*

(SEE TRANSPORTATION MANAGEMENT PLANS FOR ADDITIONAL DETOUR ROUTES)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MECKLENBURG COUNTY

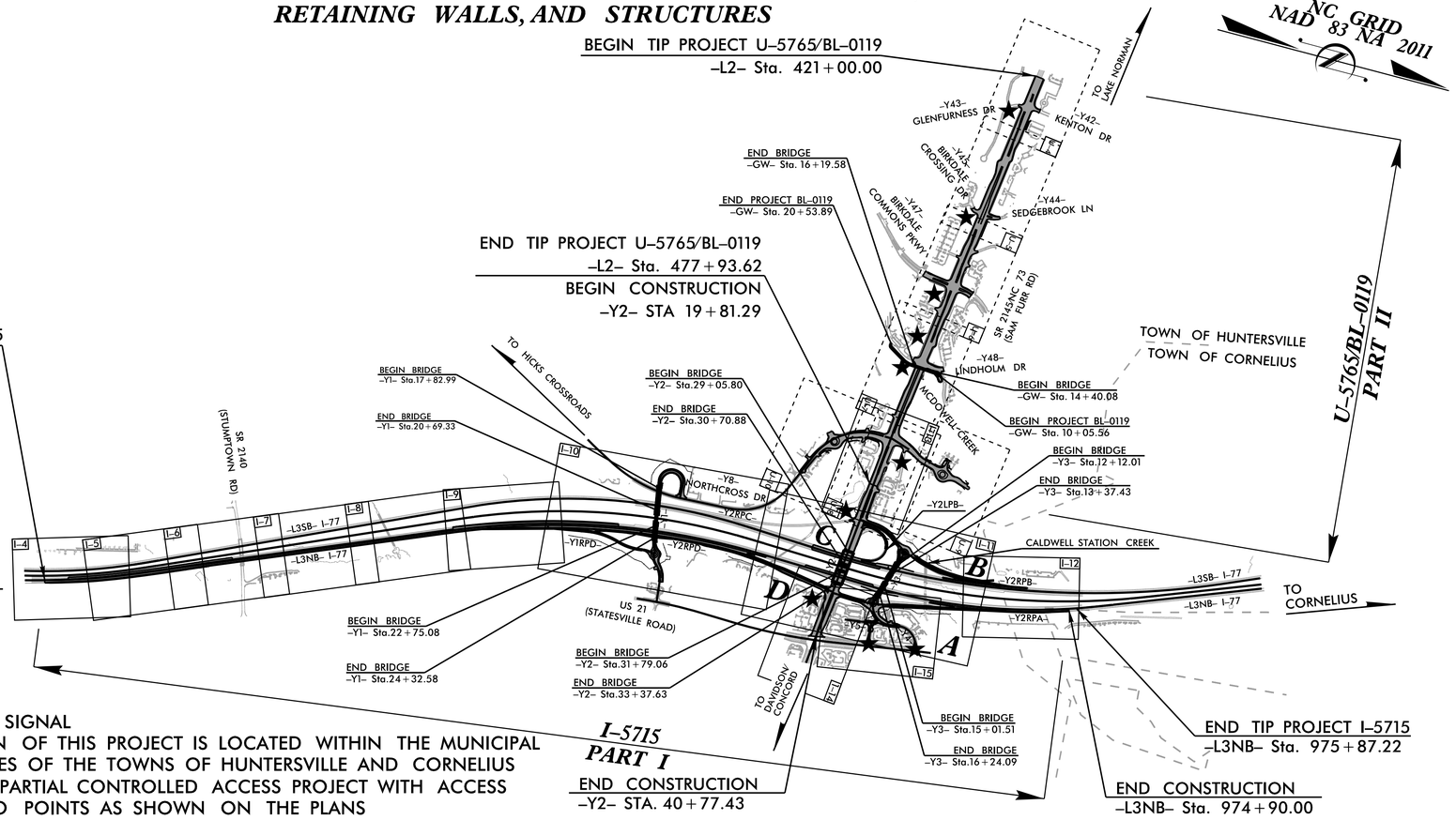
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5715 / U-5765 / BL-0119	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
50128.1.FS1	NHPP-077-1(220)29	PE (I-5715)
50128.2.1	NHPP-077-1(220)29	ROW (I-5715)
50128.2.2	NHPP-077-1(220)29	UTIL (I-5715)
50128.3.1	NHPP-077-1(220)29	CON (I-5715)
50178.1.1	N/A	PE (U-5765)
50178.2.1	N/A	ROW (U-5765)
50178.2.2	N/A	UTIL (U-5765)
50178.3.1	N/A	CON (U-5765)
51704.3.1	5170401	CON (BL-0119)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

LOCATION: I-77 AND THE NC 73 INTERCHANGE UPGRADE EXISTING INTERCHANGE TO SPLIT DIAMOND CONFIGURATION

TYPE OF WORK: DRAINAGE, GRADING, PAVING, SIGNALS, CULVERTS, RETAINING WALLS, AND STRUCTURES



BEGIN CONSTRUCTION
(FOR OVERHEAD SIGNING)
-L3NB- Sta. 803+55.00

BEGIN TIP PROJECT I-5715
-L3NB- Sta. 840+78.00

I-5715 DESIGN DATA		
ADT 2025	=	121,400
ADT 2045	=	152,000
DHV	=	8 %
D	=	55 %
T	=	14 % *
V	=	70 MPH

* (TTST 10% + DUAL 4%)
FUNC. CLASS = INTERSTATE "STATE WIDE TIER"

U-5765 DESIGN DATA		
ADT 2026	=	63,350
ADT 2045	=	76,100
DHV	=	8 %
D	=	55 %
T	=	4 % *
V	=	50 MPH

* (TTST 1% + DUAL 3%)
FUNC. CLASS = REGIONAL TIER

★ TRAFFIC SIGNAL
A PORTION OF THIS PROJECT IS LOCATED WITHIN THE MUNICIPAL BOUNDARIES OF THE TOWNS OF HUNTERSVILLE AND CORNELIUS
THIS IS A PARTIAL CONTROLLED ACCESS PROJECT WITH ACCESS LIMITED TO POINTS AS SHOWN ON THE PLANS

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

PROJECT LENGTH

I-5715
LENGTH ROADWAY TIP PROJECT I-5715 = 2.559 MILES
TOTAL LENGTH OF TIP PROJECT I-5715 = 2.559 MILES
** NOTE: PROJECT LENGTH BASED ON L3NB*

U-5765/BL-0119
LENGTH ROADWAY TIP PROJECT U-5765/BL-0119 = 1.067 MILES
LENGTH STRUCTURE TIP PROJECT U-5765/BL-0119 = 0.011 MILES
TOTAL LENGTH TIP PROJECT U-5765/BL-0119 = 1.078 MILES

GRAND TOTAL LENGTH OF TIP PROJECTS I-5715/U-5765/BL-0119 = 3.637 MILES

Prepared for the North Carolina Department of Transportation In the Office of:

Kimley»Horn ©2026
NC LICENSE #F-0102
200 SOUTH TRYON STREET, SUITE 200
CHARLOTTE, NORTH CAROLINA 28202
PHONE: (704) 333-5131

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: I-5715 8/30/2023

RIGHT OF WAY DATE: U-5765/BL-0119 9/16/2022

LETTING DATE: NOVEMBER 17, 2026

TONY SPACEK, P.E. — *PROJECT ENGINEER*
PAUL ROBBINS, P.E. — *PROJECT ENGINEER*
SYDNEY ROSENBLUM, P.E. — *PROJECT DESIGN ENGINEER*
JORDAN BOND, P.E. — *PROJECT DESIGN ENGINEER*
NCDOT CONTACT RADHA ATTALURI — *PROJECT MANAGER*

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

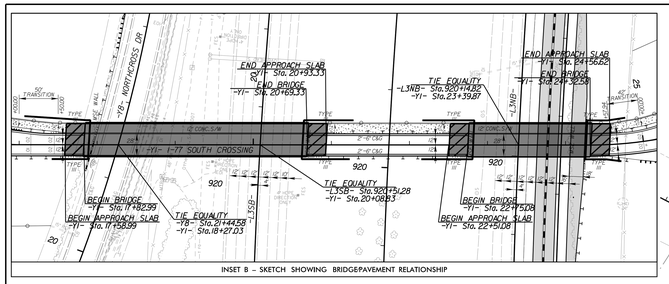
ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

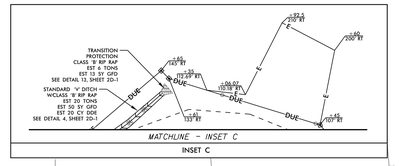
DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

Docusign Envelope ID: CF6E1989-85A9-894C-8255-03FCC1CB99B4



INSET B – SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP



2040 ADT			
	14000		I-77 SOUTH CROSSING
	1600		K = 8%
	5300	9300	DIR = 55%
			TTST = 1%
	3700	4000	DUAL = 2%
NORTHCROSS DRIVE	14500	4000	I-77 SOUTH CROSSING
K = 9%	NORTHCROSS DRIVE	I-77 RAMP	K = 8%
DIR = 55%			DIR = 55%
TTST = 1%			TTST = 1%
DUAL = 2%			DUAL = 2%

PROJECT REFERENCE NO.	SHEET NO.
I-5715	10
RW SHEET NO.	

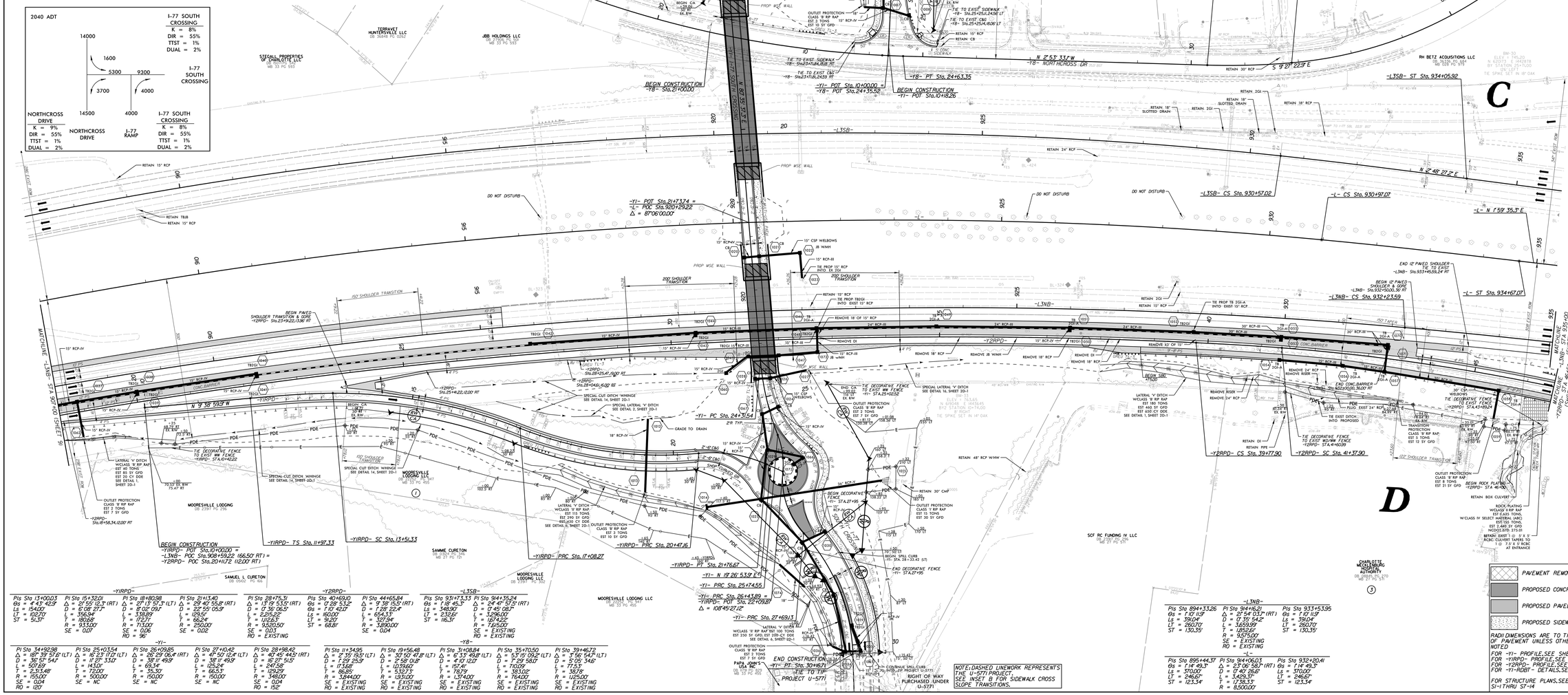
Kimley»Horn
200 S. TRYON ST. • CHARLOTTE, NC 28202

ROADWAY ENGINEER
REGISTRATION NO.
SIGNATURE
DATE

HYDRAULICS ENGINEER
Aaron Lecher
SEAL 039635 ENGINEER
SEAL 033615 SURVEYOR
10/1/2026

NC GRID NAD 83 NA 2011

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-Y1RPD-			
PI Sta 13+00.03	PI Sta 15+32.01	PI Sta 18+80.98	PI Sta 21+13.40
Δ = 4°43'42.9"	Δ = 21°55'15.7" (RT)	Δ = 27°13'51.3" (LT)	Δ = 25°40'55.8" (RT)
Ds = 4°43'42.9"	D = 6°08'27.7"	D = 8°02'09.1"	D = 22°55'05.9"
Ls = 154.00'	L = 356.94'	L = 338.28'	L = 129.56'
LT = 102.51'	T = 180.68'	T = 172.71'	T = 66.24'
ST = 51.37'	R = 933.00'	R = 715.00'	R = 250.00'
	SE = 0.07	SE = 0.06	SE = 0.02
		RO = 96'	

-Y2RPD-		
PI Sta 28+75.31	PI Sta 40+69.10	PI Sta 44+65.84
Δ = 13°19'53.5" (RT)	Ds = 0°28'53.2"	Ds = 1°07'42.0"
D = 6°08'27.7"	Ds = 1°10'42.0"	D = 1°28'22.4"
L = 226.02'	Ls = 160.00'	L = 394.53'
T = 112.63'	LT = 91.20'	T = 327.94'
R = 935.00'	ST = 68.81'	R = 3,890.00'
SE = 0.03		SE = 0.04
RO = EXISTING		

-L3SB-		
PI Sta 93+73.33	PI Sta 99+35.24	
Ds = 7°18'45.3"	Δ = 24°41'57.2" (RT)	
Ls = 348.90'	D = 0°45'08.7"	
LT = 293.26'	L = 3,296.00'	
ST = 116.31'	T = 1,674.22'	
	R = 7,615.00'	
	SE = EXISTING	
	RO = EXISTING	

-Y1-						
PI Sta 34+92.98	PI Sta 25+03.54	PI Sta 26+09.85	PI Sta 27+10.42	PI Sta 28+98.42	PI Sta 11+34.95	PI Sta 19+55.48
Δ = 18°39'57.6" (LT)	Δ = 16°23'17.2" (LT)	Δ = 26°29'18.4" (RT)	Δ = 42°50'12.6" (LT)	Δ = 40°47'44.5" (RT)	Δ = 2°35'19.5" (LT)	Δ = 30°50'41.8" (LT)
D = 36°57'54.7"	D = 11°27'33.0"	D = 38°11'49.3"	D = 38°11'49.3"	D = 40°27'51.5"	D = 1°29'23.9"	D = 2°58'01.2"
L = 507.69'	L = 143.01'	L = 69.34'	L = 125.24'	L = 247.58'	L = 173.68'	L = 1,039.60'
T = 257.48'	T = 72.00'	T = 35.30'	T = 66.53'	T = 129.29'	R = 86.85'	T = 532.73'
R = 155.00'	R = 500.00'	R = 150.00'	R = 150.00'	R = 348.00'	R = 3,844.00'	R = 1,931.00'
SE = 0.04	SE = NC	SE = NC	SE = NC	SE = 0.04	SE = EXISTING	SE = EXISTING
RO = 120'				RO = 152'	RO = EXISTING	RO = EXISTING

-Y8-		
PI Sta 31+08.84	PI Sta 35+70.50	PI Sta 39+46.72
Δ = 6°33'49.8" (LT)	Δ = 53°15'09.2" (LT)	Δ = 5°06'54.7" (LT)
D = 4°40'12.0"	D = 7°29'58.1"	D = 5°05'36.4"
L = 157.41'	L = 710.09'	L = 717.53'
T = 78.79'	T = 387.16'	T = 358.95'
R = 1,374.00'	R = 764.00'	R = 1,125.00'
SE = EXISTING	SE = EXISTING	SE = EXISTING
RO = EXISTING	RO = EXISTING	RO = EXISTING

-L3NB-		
PI Sta 894+33.26	PI Sta 914+16.21	PI Sta 933+15.395
Ds = 1°01'11.8"	D = 2°54'03.7" (RT)	Ds = 1°01'11.8"
Ls = 391.04'	D = 0°35'54.2"	Ls = 391.04'
LT = 260.70'	L = 3,659.99'	LT = 260.70'
ST = 130.35'	T = 1,852.61'	ST = 130.35'
	R = 9,570.00'	
	SE = EXISTING	
	RO = EXISTING	

-L-		
PI Sta 895+44.37	PI Sta 914+06.03	PI Sta 932+20.41
Ds = 1°14'49.3"	Δ = 23°06'58.7" (RT)	Ds = 1°14'49.3"
Ls = 370.00'	D = 0°40'25.6"	Ls = 370.00'
LT = 246.67'	L = 3,429.37'	LT = 246.67'
ST = 123.34'	T = 1,736.33'	ST = 123.34'
	R = 8,500.00'	

- PAVEMENT REMOVAL
- PROPOSED CONCRETE
- PROPOSED PAVED SHOULDER
- PROPOSED SIDEWALK

RADII DIMENSIONS ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED

FOR -Y1- PROFILE, SEE SHEET 24
FOR -Y1RPD- PROFILE, SEE SHEET 25
FOR -Y2RPD- PROFILE, SEE SHEETS 30-31
FOR -Y1-HOBT - DET MLS, SEE SHEETS 28-1

FOR STRUCTURE PLANS, SEE SHEETS SI-1 THRU SI-14

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-L3NB- Pis Sta 894+33.26 Θs = 1.01°10'9 Ls = 391.04' LT = 260.70' ST = 130.35'

Pi Sta 914+16.21 Δ = 21°54'01.2" (RT) D = 0°35'54.2" L = 3,659.99' T = 1,852.61' R = 9,570.00' SE = EXISTING RO = EXISTING

Pis Sta 933+53.95 Θs = 1.01°10'9 Ls = 391.04' LT = 260.70' ST = 130.35'

Pis Sta 949+24.11 Θs = 1.18°30'3 Ls = 349.44' LT = 233.97' ST = 116.49'

-L3SB- Pis Sta 963+92.44 Δ = 20°02'34.5" (LT) D = 0°44'56.3" L = 2,676.08' T = 1,351.85' R = 7,650.00' SE = EXISTING RO = EXISTING

Pis Sta 978+33.15 Θs = 1.18°30'3 Ls = 349.42' LT = 233.95' ST = 116.48'

-L3SB- Pis Sta 969+68.43 Δ = 28°12'46.8" (LT) D = 0°29'53.6" L = 5,262.28' T = 2,677.51' R = 11,500.00' SE = EXISTING RO = EXISTING

Pis Sta 947+30.10 Θs = 1.09'39.6" Ls = 385.00' LT = 256.67' ST = 128.34'

Pi Sta 965+93.68 Δ = 20°42'10.7" (LT) D = 0°35'11.2" L = 3,413.65' T = 1,715.24' R = 9,500.00'

Pis Sta 984+59.42 Θs = 1.09'39.6" Ls = 385.00' LT = 256.67' ST = 128.34'

-Y2RPD- Pi Sta 28+75.31 Δ = 13°19'53.25" (RT) D = 0°36'06.5" L = 2,215.52' T = 1,112.63' R = 9,520.00' SE = 0.03 RO = EXISTING

Pi Sta 40+69.10 Θs = 0°28'53.2" Ls = 60.00' LT = 9.20' ST = 6.88'

Pi Sta 44+65.84 Δ = 9°38'15.5" (RT) D = 1°28'22.4" L = 654.33' T = 327.94' R = 3,890.00' SE = 0.04

-Y2RPA- Pi Sta 27+81.99 Δ = 14°29'19.4" (RT) D = 3°08'53.2" L = 460.21' T = 231.15' R = 1,820.00' SE = NC

-Y1- Pi Sta 10+90.24 Δ = 27°07'3.13" (LT) D = 15°16'43.9" L = 177.07' T = 90.24' R = 375.00' SE = EXIST RO = EXIST

Pi Sta 14+89.26 Δ = 11°46'17.3" (LT) D = 28°39'52.4" L = 400.40' T = 312.82' R = 200.00' SE = 0.074 RO = 215'

-Y2LPB- Pis Sta 16+65.48 Δ = 32°46'23.5" (LT) D = 19°05'54.9" L = 171.06' T = 87.98' R = 300.00' SE = 0.074 RO = 215'

Pis Sta 18+90.04 Δ = 90°12'59.5" (LT) D = 11°45'29.6" L = 78.73' T = 50.13' R = 500.00' SE = 0.02 RO = 57'

Pis Sta 14+31.02 Θs = 2°58'29.9" Ls = 180.00' LT = 126.02' ST = 63.02'

Pi Sta 17+97.25 Δ = 18°55'10.2" (RT) D = 3°08'53.2" L = 600.98' T = 303.26' R = 1,820.00' SE = 0.07

Pi Sta 22+03.95 Δ = 29°22'26.5" (LT) D = 11°9'23.8" L = 269.41' T = 152.62' R = 506.00' SE = 0.06 RO = 166'

-Y2RPB- PC Sta. 25+71.33

-Y2RPB- PT Sta. 28+30.74

-Y2RPB- POT Sta. 30+15.74 = -Y2- POT Sta. 24+16.29 Δ = 90°12'59.5"

-Y2RPB- PI Sta. 23+19.44 = -Y1- POT Sta. 10+90.00 Δ = 89°52'44.76"

-Y2RPB- S 11°12' 37.17" W

-Y2RPB- PT Sta. 20+19.98

-Y2RPB- SC Sta. 14+19.00

-Y2LPB- PT Sta. 11+48.66

-Y2LPB- PCC Sta. 15+77.50

-Y2LPB- PC Sta. 18+39.85

-Y2LPB- PT Sta. 19+18.58 = -Y2- POT Sta. 25+34.69 (15' IN)

-Y2LPB- PCC Sta. 11+77.10

-Y2LPB- PC Sta. 10+00

-L3NB- ST Sta. 936+14.64

-L3NB- SC Sta. 946+91.15

-Y2- POT Sta. 31+15.89 = -L- POC Sta. 945+23.57 Δ = 93°56'24.00"

-L- TS Sta. 944+73.43

-L3NB- SC Sta. 950+40.59

-L- SC Sta. 948+58.43

-Y3- POT Sta. 14+17.11 = -L- POC Sta. 951+35.63 Δ = 101°52'12.00"

-Y2RPD- POT Sta. 55+99.80 = -Y2- POT Sta. 34+62.67 Δ = 86°28'12.00"

-Y2RPA- POT Sta. 32+17.06 = -Y2- POT Sta. 34+73.80 Δ = 86°34'12.00"

-Y2RPA- PC Sta. 25+50.64

-Y2RPA- PT Sta. 30+10.87

-Y2RPA- PI NC Sta. 27+28.30 = -Y3- POT Sta. 17+48.76 = -Y4- PC Sta. 10+00.00

-Y2RPD- PT Sta. 47+92.23

-Y3- PC Sta. 10+48.76

-Y3- PT Sta. 15+30.73

-Y3- PC Sta. 15+40.68

-Y3- PT Sta. 16+40.68

-Y3- PC Sta. 17+25.55

-Y3- PT Sta. 19+40.54

-Y3- PC Sta. 19+50.93

-Y3- PT Sta. 20+50.93

-Y3- PC Sta. 14+77.55

-Y3- PT Sta. 15+64.95

-Y4- PT Sta. 12+71.48

-Y3- Sta. 13+16.39

-Y3- Sta. 13+37.43

-Y3- Sta. 11+27.18

-Y3- Sta. 16+40.68

-Y3- Sta. 16+42.09

-Y3- Sta. 12+24.09

-Y3- Sta. 11+88.07

-Y3- Sta. 19+40.54

-Y3- Sta. 19+50.93

-Y3- Sta. 14+77.55

-Y3- Sta. 15+64.95

-Y2RPA- Sta. 34+73.80

-Y2RPB- Sta. 30+15.74

-Y2RPD- Sta. 55+99.80

-Y2RPA- Sta. 32+17.06

-Y2RPA- Sta. 25+50.64

-Y2RPB- Sta. 23+19.44

-Y2RPB- Sta. 20+19.98

-Y2RPB- Sta. 14+19.00

-Y2RPB- SC Sta. 14+19.00

-Y2LPB- Sta. 14+00.00

-Y2LPB- Sta. 11+48.66

-Y2LPB- Sta. 15+77.50

-Y2LPB- Sta. 18+39.85

-Y2LPB- Sta. 19+18.58

-Y2LPB- Sta. 11+77.10

-Y2LPB- Sta. 10+00

-L3NB- Sta. 936+14.64

-L3NB- Sta. 946+91.15

-L3NB- Sta. 950+40.59

-L- Sta. 948+58.43

-Y3- Sta. 14+17.11

-Y2RPD- Sta. 47+92.23

-Y3- Sta. 10+48.76

-Y3- Sta. 15+30.73

-Y3- Sta. 15+40.68

-Y3- Sta. 16+40.68

-Y3- Sta. 17+25.55

-Y3- Sta. 19+40.54

-Y3- Sta. 19+50.93

-Y3- Sta. 20+50.93

-Y3- Sta. 14+77.55

-Y3- Sta. 15+64.95

-Y4- Sta. 12+71.48

-Y3- Sta. 13+16.39

-Y3- Sta. 13+37.43

-Y3- Sta. 11+27.18

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-Y3- Sta. 19+50.93

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-Y3- Sta. 15+64.95

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-Y3- Sta. 13+16.39

-Y3- Sta. 13+37.43

-Y3- Sta. 11+27.18

-Y3- Sta. 16+40.68

-Y3- Sta. 16+42.09

-Y3- Sta. 12+24.09

-Y3- Sta. 11+88.07

-Y3- Sta. 19+40.54

-Y3- Sta. 19+50.93

-Y3- Sta. 20

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MANAGEMENT STRATEGIES

THE FOLLOWING LISTED WORK ZONE STRATEGIES ARE RECOMMENDED FOR INCLUSION WITHIN THIS TRANSPORTATION MANAGEMENT PLAN (TMP).

RECOMMENDED STRATEGIES:

TRAFFIC MANAGEMENT STRATEGIES:
- FULL ROADWAY CLOSURES
- ROLLING ROADBLOCK
- LANE SHIFTS OR CLOSURES
- SHOULDER CLOSURES
- ONE-LANE, TWO WAY OPERATION (FLAGGING)
- RAMP CLOSURES / RELOCATION
- NIGHT WORK
- WEEKEND WORK
- WORK HOUR RESTRICTIONS FOR PEAK TRAVEL
- PEDESTRIAN / BICYCLE ACCOMMODATIONS
- OFF-SITE DETOURS / USE OF ALTERNATIVE ROUTES
- ON-SITE DETOURS

WORK ZONE SAFETY & MOBILITY STRATEGIES:
- TEMPORARY TRAFFIC SIGNALS

TRAFFIC / INCIDENT MANAGEMENT & SPEED ENFORCEMENT STRATEGIES:
- COORDINATION WITH STATE TRAFFIC OPERATIONS CENTER (STOC)
- COORDINATION WITH MEDIA
- COORDINATION WITH I-77 MOBILITY PARTNERS TRAFFIC MANAGEMENT CENTER

CONTRACTING & INNOVATIVE CONSTRUCTION STRATEGIES:
- INTERMEDIATE CONTRACT TIMES / LIQUIDATED DAMAGES

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 PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

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

ROAD NAME	DAY AND TIME RESTRICTIONS
I-77 NB & SB & ALL RAMPS/LOOP	MONDAY - FRIDAY 5:00 AM - 10:00 PM SATURDAY & SUNDAY 9:00 AM - 10:00 PM
-L2-/-Y2- NC 73 -Y2-/-Y5- CALDWELL CR. DR -Y8-/-Y49-/-Y50- NORTHCROSS DR -Y9- GLENHURST LN -Y42- KENTON DR -Y43- GLENFURNESS DR -Y44- SEDGEBROOK LN -Y45- BIRKDALE CROSSING -Y46-/-Y47- BIRKDALE COMMONS PKWY -Y48- LINDHOLM DR	MONDAY - SUNDAY 5:00 AM - 9:00 PM

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME

I-77 NB & SB
& ALL RAMPS/LOOP

-L2-/-Y2- NC 73
-Y2-/-Y5- CALDWELL CR. DR
-Y8-/-Y49-/-Y50- NORTHCROSS DR
-Y9- GLENHURST LN
-Y42- KENTON DR
-Y43- GLENFURNESS DR
-Y44- SEDGEBROOK LN
-Y45- BIRKDALE CROSSING
-Y46-/-Y47- BIRKDALE COMMONS PKWY
-Y48- LINDHOLM DR

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 5:00 AM DECEMBER 31st TO 10:00 PM JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 10:00 PM THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 5:00 AM THURSDAY AND 10:00 PM MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 5:00 AM FRIDAY TO 10:00 PM TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 5:00 AM THE DAY BEFORE INDEPENDENCE DAY AND 10:00 PM THE DAY AFTER INDEPENDENCE DAY.

   IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 5:00 AM THE THURSDAY BEFORE INDEPENDENCE DAY AND 10:00 PM THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 5:00 AM FRIDAY AND 10:00 PM TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 5:00 AM TUESDAY TO 10:00 PM MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 5:00 AM THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 10:00 PM THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
9. FOR ANY EVENTS AT BANK OF AMERICA, BETWEEN THREE (3) HOURS BEFORE THE START OF THE EVENT AND THREE (3) HOURS AFTER THE END OF THE EVENT.

   FOR ANY EVENTS AT CHARLOTTE MOTOR SPEEDWAY, BETWEEN THREE (3) HOURS BEFORE THE START OF THE EVENT AND THREE (3) HOURS AFTER THE END OF THE EVENT.

C) DO NOT CLOSE ROADS AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
I-77 NB & SB & ALL RAMPS/LOOP	MONDAY - SUNDAY 5:00 AM - 11:00 PM
-L2-/-Y2- NC 73	MONDAY - SUNDAY 5:00 AM - 9:00 PM

D) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
-L2-/-Y2- NC 73 -Y2-/-Y5- CALDWELL CR. DR -Y8-/-Y49-/-Y50- NORTHCROSS DR -Y9- GLENHURST LN -Y42- KENTON DR -Y43- GLENFURNESS DR -Y44- SEDGEBROOK LN -Y45- BIRKDALE CROSSING -Y46-/-Y47- BIRKDALE COMMONS PKWY -Y48- LINDHOLM DR	MONDAY - SUNDAY 5:00 AM TO 9:00 PM	20 MINUTES TRAFFIC SHIFTS OVERHEAD SIGNS

E) DO NOT CONDUCT SINGLE VEHICLE HAULING AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
I-77 NB & SB & ALL RAMPS/LOOP -L2-/-Y2- NC 73	MONDAY - FRIDAY 5:00 AM - 9:00 AM 3:00 PM - 7:00 PM

F) DO NOT CONDUCT MULTI-VEHICLE HAULING AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
I-77 NB & SB & ALL RAMPS/LOOP -L2-/-Y2- NC 73	MONDAY - SUNDAY 5:00 AM - 9:00 PM

G) 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 ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

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 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.

J) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 5 FT OF AN OPEN TRAVEL LANE ON AN UNDIVIDED FACILITY, 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 WITHIN 10 FT OF AN OPEN TRAVEL LANE ON A DIVIDED FACILITY, 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 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.

L) 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.

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NORTH CAROLINA PROFESSIONAL SEAL 034207 ENGINEER ANTHONY J. SPACEK
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APPROVED: Michael T. Rzepka DATE: 9/25/2026 SEAL
NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA
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DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

TRANSPORTATION OPERATIONS PLAN (SHEET 1 OF 2)

REVISIONS

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GENERAL NOTES (CONT.)

LANE AND SHOULDER CLOSURE REQUIREMENTS (CONT.)

M) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON I-77 OR NC 73.

LANE AND SHOULDER CLOSURES NEED TO BE AGREED UPON AND COORDINATED WITH I-77 MOBILITY PARTNERS ONE (1) WEEK IN ADVANCE.

N) USE SEQUENTIAL FLASHING WARNING LIGHTS ON DRUMS USED FOR THE MERGING TAPERS OF NIGHTTIME LANE CLOSURES IN ACCORDANCE WITH SECTION 1140 IN THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

O) NOTIFY THE NCDOT STATEWIDE TRANSPORTATION OPERATIONS CENTER (STOC) AT 877-627-7832 AND I-77 MOBILITY PARTNERS TMC AT 704-492-2994 APPROXIMATELY 30 MINUTES PRIOR TO INSTALLING AND WITHIN 15 MINUTES AFTER REMOVING LANE CLOSURES ON INTERSTATE FREEWAYS, CONTROLLED ACCESS FACILITIES, AND US ROUTES.

PAVEMENT EDGE DROP OFF REQUIREMENTS

P) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

Q) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500' IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

R) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

NOTIFY I-77 MOBILITY PARTNERS FIFTEEN (15) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

S) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

T) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.
AND
PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

U) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.
AND
COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

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

W) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) [LENGTH] IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

X) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRANSPORTATION MANAGEMENT PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE / RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

Y) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS: (SEE ALSO 1101.05)

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45 - 50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

Z) USE NON-GATING CRASH CUSHIONS AS REQUIRED IN THE TMP.

TRAFFIC CONTROL DEVICES

AA) 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.

TRAFFIC CONTROL DEVICES (CONT.)

BB) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

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

PAVEMENT MARKINGS AND MARKERS

DD) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
I-77 NB & SB & ALL RAMPS/LOOP	PERFORMANCE	TEMPORARY
ALL OTHER ROADS	PAINT	TEMPORARY

EE) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

FF) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

GG) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

HH) TRACE THE EXISTING AND PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO REMOVAL AND INSTALLATION. PLACE DRUMS TO DELINEATE ANY EXISTING ANY PROPOSED MONOLITHIC ISLANDS AFTER REMOVAL AND BEFORE INSTALLATION.

MISCELLANEOUS

II) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

JJ) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

KK) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.

LL) 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.).

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DATE: 9/29/2026
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NORTH CAROLINA PROFESSIONAL SEAL 034207 ENGINEER ANTHONY J. SPACEK
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APPROVED: Michael T. Rzepka
DATE: 9/25/2026
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA
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TRANSPORTATION OPERATIONS PLAN (SHEET 2 OF 2)

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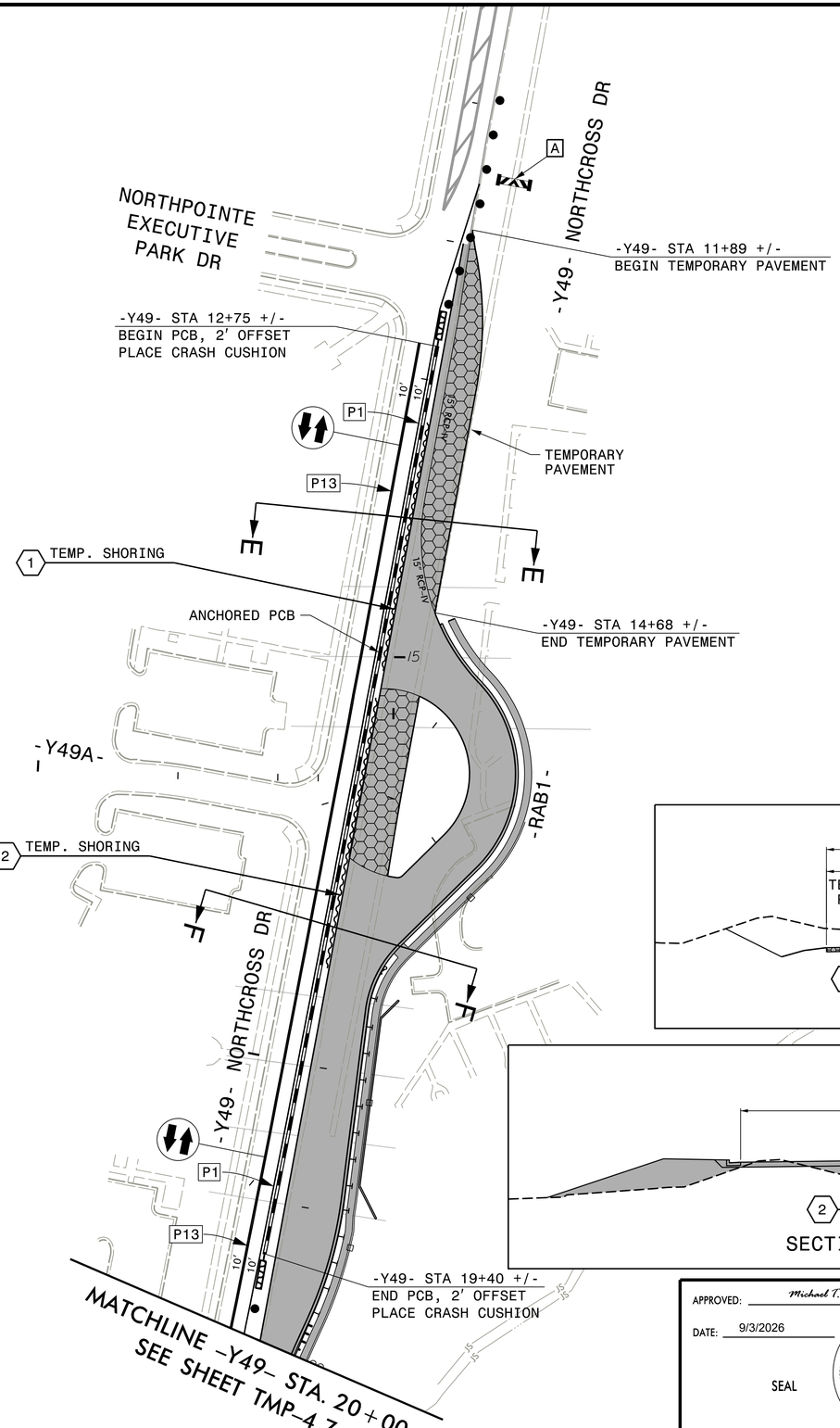
Docusign Envelope ID: DCCFDC09-5907-8B5F-83F2-ABB9F577644B

PROJ. REFERENCE NO.	SHEET NO.
U-5765 / I-5715	TMP-4.8

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116



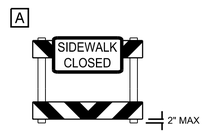
1	TEMPORARY SHORING NO. 1 - CUT FROM: -Y49- STA. 13+30 +/-, 11.5' LT TO: -Y49- STA. 15+05 +/-, 7.6' RT	Area = 532 SF
2	TEMPORARY SHORING NO. 2 - FILL FROM: -Y49- STA. 15+30 +/-, 12.7' RT TO: -Y49- STA. 17+30 +/-, 5.3' RT	Area = 750 SF

WORK AREA

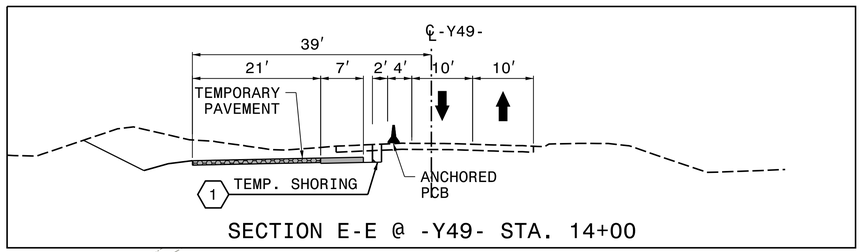
CONTINUING CONSTRUCTION

TEMPORARY PAVEMENT

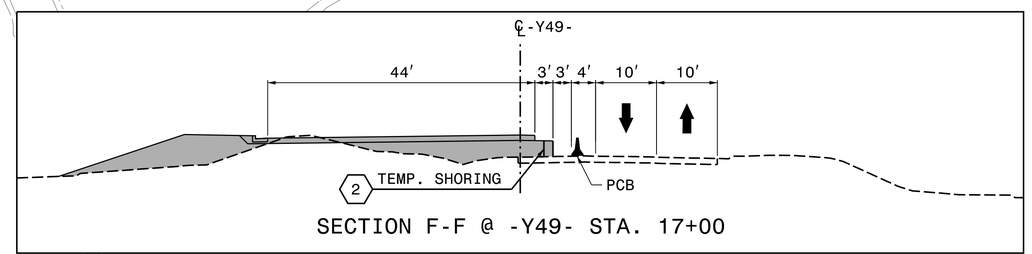
A



PEDESTRIAN BARRICADE
"MUST BE ADA-COMPLIANT"



SECTION E-E @ -Y49- STA. 14+00



SECTION F-F @ -Y49- STA. 17+00

APPROVED: Michael T. Rzepka

DATE: 9/3/2026

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

PHASE 1 - STEP 1

REVISIONS

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PROJ. REFERENCE NO.	SHEET NO.
U-5765 / I-5715	TMP-4.13

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

A — SIDEWALK CLOSED — 2" MAX
PEDESTRIAN BARRICADE
MUST BE ADA-COMPLIANT

B — SIDEWALK CLOSED AHEAD / CROSS HERE — 2" MAX
PEDESTRIAN BARRICADE
MUST BE ADA-COMPLIANT

C — DETOUR M4-9B 30" X 24"

D — DETOUR M4-9B 30" X 24"

TOWNLEY RD

-Y48- LINDHOLM DR

-Y48- STA 11+90 +/-
BEGIN CONSTRUCTION

PED CHANNELIZING DEVICE

-L2- STA 460+20 +/-
END PCB, 4' OFFSET
PLACE CRASH CUSHION

-L2- NC 73

TEMP. SIGNAL #10-1839T2

-L2- STA 468+12 +/-
END PCB, 2' OFFSET
BEGIN EB 2' LANE SHIFT RT

MATCHLINE -L2- STA. 456+00, SEE SHEET TMP-4.12

MATCHLINE -L2- STA. 469+25, SEE SHEET TMP-4.14

-L2- STA 458+00 +/-
BEGIN CONSTRUCTION

-L2- STA 456+21 +/-
BEGIN LANE SHIFT
BEGIN 4930' R

-L2- STA 459+00±, 44' RT
BEGIN TEMPORARY PAVEMENT

-L2- STA 459+24±, 23.81' RT
END 4930' R
BEGIN 6710' R

-L2- STA 460+38±, 52' RT
END TEMPORARY PAVEMENT

-L2- STA 461+45±, 58.5' RT
BEGIN TEMPORARY PAVEMENT

OPEN CUT INSTALL 54" WATER LINE CASING BEHIND PCB

PLACE 96" RCP SEGMENT

-L2- STA 463+38±, 11' RT
END LANE SHIFT
END 6710' R

OPEN CUT INSTALL 36" SEWER LINE CASING BEHIND PCB

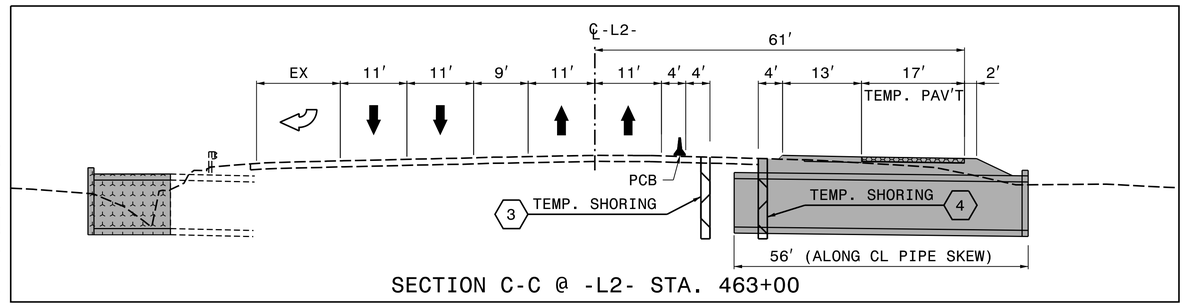
PLACE 96" RCP SEGMENT

-L2- STA 468+45±, 61.0' RT
END TEMPORARY PAVEMENT

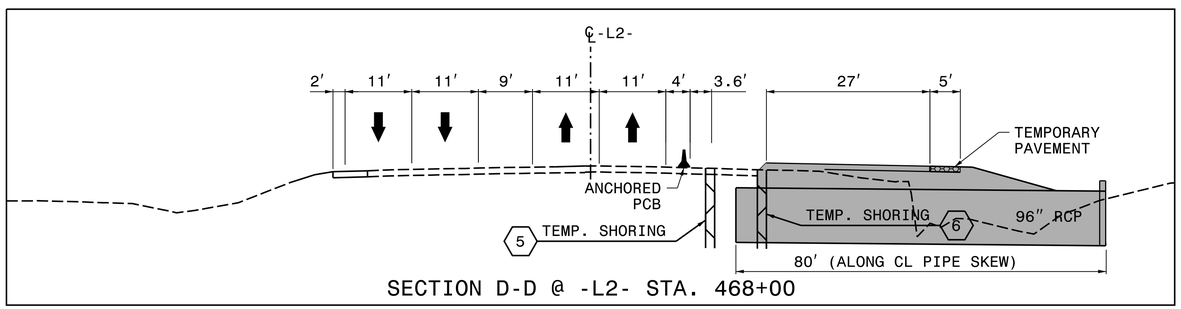
-L2- STA 468+88±, 62.5' RT
BEGIN TEMPORARY PAVEMENT

TEMP. SHORING 3
TEMP. SHORING 4
TEMP. SHORING 5 6
TEMP. SHORING 11 12
TEMP. SHORING 13 14

WORK AREA
CONTINUING CONSTRUCTION
TEMPORARY PAVEMENT



SECTION C-C @ -L2- STA. 463+00



SECTION D-D @ -L2- STA. 468+00

3	TEMPORARY SHORING NO. 3 - CUT Area = 535 SF FROM: -L2- STA. 463+31 +/-, 19.0' RT TO: -L2- STA. 463+82 +/-, 19.0' RT	11	TEMPORARY SHORING NO. 11 - CUT Area = 120 SF FROM: -L2- STA. 462+02 +/-, 19.0' RT TO: -L2- STA. 462+12 +/-, 18.8' RT
4	TEMPORARY SHORING NO. 4 - FILL Area = 515 SF FROM: -L2- STA. 463+26 +/-, 27.0' RT TO: -L2- STA. 463+82 +/-, 27.0' RT	12	TEMPORARY SHORING NO. 12 - FILL Area = 120 SF FROM: -L2- STA. 462+02 +/-, 21.8' RT TO: -L2- STA. 462+12 +/-, 21.6' RT
5	TEMPORARY SHORING NO. 5 - CUT Area = 545 SF FROM: -L2- STA. 467+46 +/-, 20.1' RT TO: -L2- STA. 468+03 +/-, 20.8' RT	13	TEMPORARY SHORING NO. 13 - CUT Area = 432 SF FROM: -L2- STA. 466+34 +/-, 17.5' RT TO: -L2- STA. 466+94 +/-, 17.5' RT
6	TEMPORARY SHORING NO. 6 - FILL Area = 536 SF FROM: -L2- STA. 467+38 +/-, 27.1' RT TO: -L2- STA. 467+95 +/-, 27.7' RT	14	TEMPORARY SHORING NO. 14 - FILL Area = 432 SF FROM: -L2- STA. 466+33 +/-, 20.9' RT TO: -L2- STA. 466+93 +/-, 20.9' RT

APPROVED: *Michael T. Rzepka*

DATE: 9/3/2026

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PHASE 1 - STEP 2

REVISIONS

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Docusign Envelope ID: DCCFDC09-5907-8B5F-83F2-ABB9F577644B

PROJ. REFERENCE NO.	SHEET NO.
U-5765 / I-5715	TMP-4.18

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

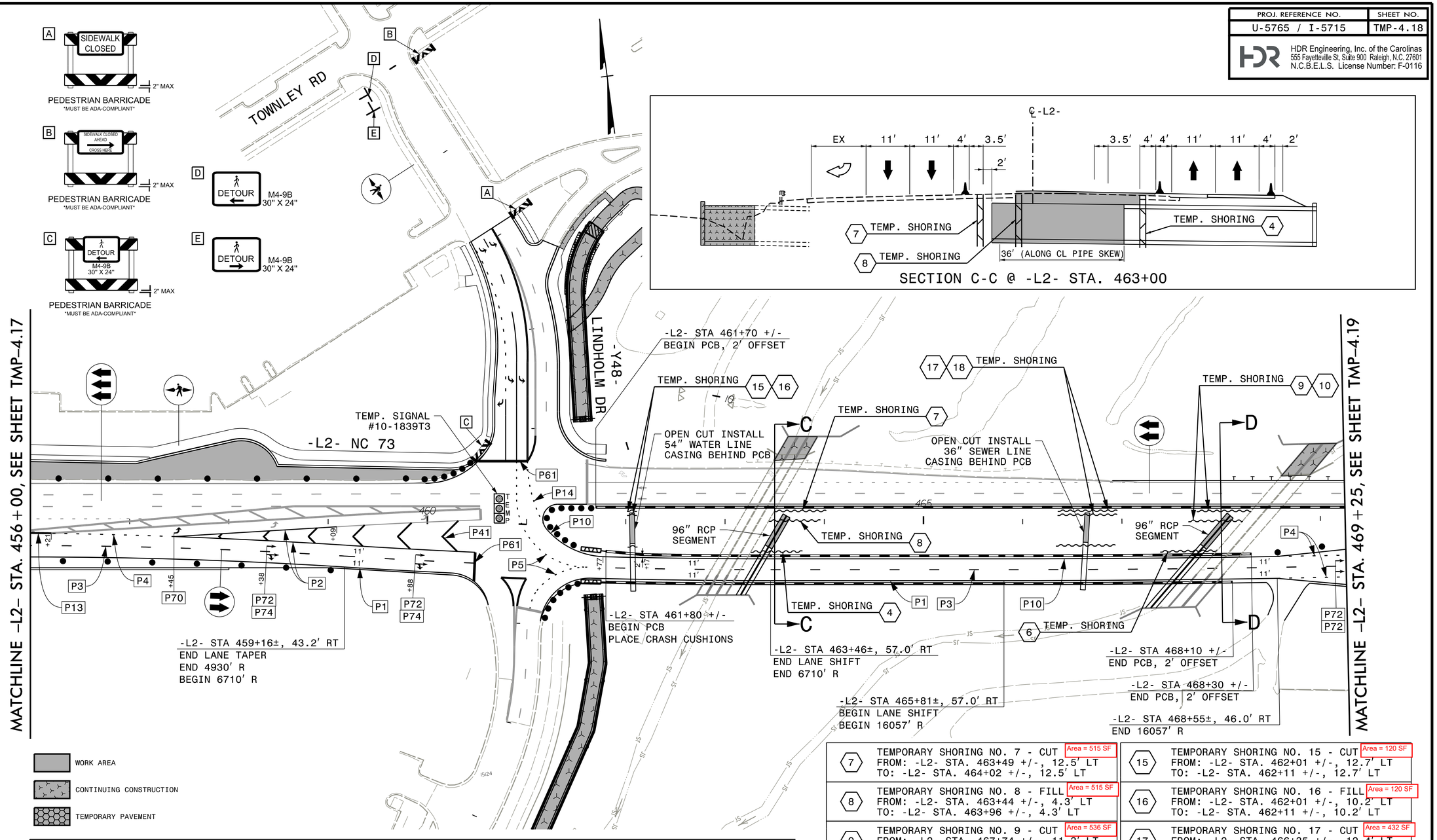
A — SIDEWALK CLOSED — 2" MAX
PEDESTRIAN BARRICADE
MUST BE ADA-COMPLIANT

B — SIDEWALK CLOSED AHEAD, CROSS HERE — 2" MAX
PEDESTRIAN BARRICADE
MUST BE ADA-COMPLIANT

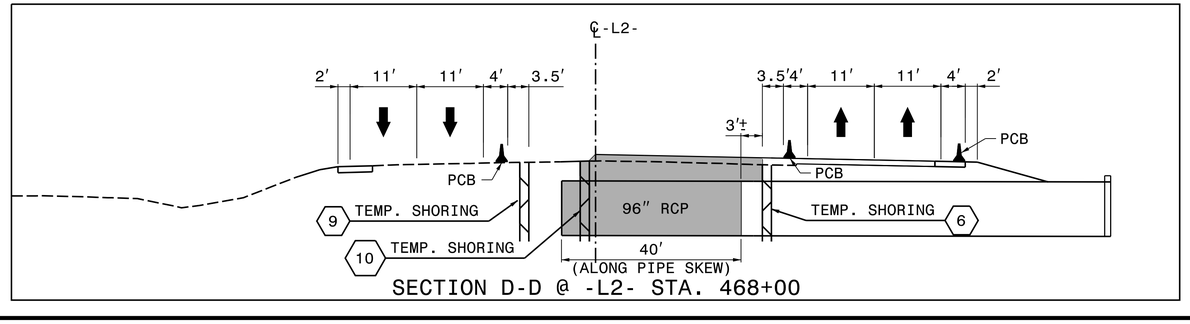
C — DETOUR M4-9B 30" X 24" — 2" MAX
PEDESTRIAN BARRICADE
MUST BE ADA-COMPLIANT

D — DETOUR M4-9B 30" X 24"

E — DETOUR M4-9B 30" X 24"



SECTION C-C @ -L2- STA. 463+00



SECTION D-D @ -L2- STA. 468+00

7	TEMPORARY SHORING NO. 7 - CUT Area = 515 SF FROM: -L2- STA. 463+49 +/-, 12.5' LT TO: -L2- STA. 464+02 +/-, 12.5' LT	15 TEMPORARY SHORING NO. 15 - CUT Area = 120 SF FROM: -L2- STA. 462+01 +/-, 12.7' LT TO: -L2- STA. 462+11 +/-, 12.7' LT
8	TEMPORARY SHORING NO. 8 - FILL Area = 515 SF FROM: -L2- STA. 463+44 +/-, 4.3' LT TO: -L2- STA. 463+96 +/-, 4.3' LT	16 TEMPORARY SHORING NO. 16 - FILL Area = 120 SF FROM: -L2- STA. 462+01 +/-, 10.2' LT TO: -L2- STA. 462+11 +/-, 10.2' LT
9	TEMPORARY SHORING NO. 9 - CUT Area = 536 SF FROM: -L2- STA. 467+74 +/-, 11.3' LT TO: -L2- STA. 468+30 +/-, 11.5' LT	17 TEMPORARY SHORING NO. 17 - CUT Area = 432 SF FROM: -L2- STA. 466+35 +/-, 12.4' LT TO: -L2- STA. 466+95 +/-, 12.4' LT
10	TEMPORARY SHORING NO. 10 - FILL Area = 545 SF FROM: -L2- STA. 467+65 +/-, 2.8' LT TO: -L2- STA. 468+22 +/-, 2.3' LT	18 TEMPORARY SHORING NO. 18 - FILL Area = 432 SF FROM: -L2- STA. 466+35 +/-, 9.9' LT TO: -L2- STA. 466+95 +/-, 9.9' LT

APPROVED: *Michael T. Rzepka*
DATE: 9/3/2026
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

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

PHASE 1 - STEP 3

REVISIONS

PLOT DRIVER: NCDOT_pdf_color-eng-50.plt PENTABLE: NCDOT_Tcp.tbl
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Docusign Envelope ID: 883FDE93-292A-9448-8328-337056706TFE

PROJ. REFERENCE NO.	SHEET NO.
U-5765 / I-5715	TMP-5.15

NC GRID
NAD 83 NA 2011

50' 25' 0' 50' 100'

(ENGLISH)

REVISIONS

10/5/2026 K:\CHL_PRJ\0I0336264 - I-5715\Traffic\Traffic Control\TCP\Sheets\I-5715_tmp_psh_15.dgn

END PORTABLE CONCRETE BARRIER FLARE (ANCHORED) –Y2RPB–DTR– STA. 24+97.90 OFF. 18.00' (RT)

END CONSTRUCTION –Y2RPB–DTR– Sta. 24+88.37

BEGIN PORTABLE CONCRETE BARRIER FLARE (ANCHORED) –Y2RPB–DTR– STA. 24+09.27 OFF. 6.00' (RT)

BEGIN PORTABLE CONCRETE BARRIER FLARE (ANCHORED) –L35B– STA. 943+47.41 OFF. 37.00' (LT)

BEGIN CONSTRUCTION –L35B– Sta. 944+50.03

END PORTABLE CONCRETE BARRIER FLARE (ANCHORED) –L35B– STA. 942+47.13 OFF. 39.00' (LT)

TIE TEMPORARY PAVEMENT MARKINGS TO EXISTING PAVEMENT MARKINGS

TEMPORARY SHORING #2 FROM –L35B– STA. 946+40.64, 39.5' LT TO –L35B– STA. 946+76.79, 40' LT QUANTITY – 227 SF

TEMPORARY SHORING #1 FROM –L35B– STA. 945+21.56, 39' LT TO –L35B– STA. 945+48.40, 42' LT QUANTITY – 189 SF

BEGIN PCB FLARE (UNANCHORED) INSTALL TEMPORARY CRASH CUSHION –Y2– STA. 25+58.54 OFF. 34.00' (LT)

END PCB FLARE (ANCHORED) BEGIN PCB (UNANCHORED) –L35NB– STA. 947+23.35 OFF. 36.00' (LT)

END CONSTRUCTION –L35B– Sta. 947+42.88

END PCB FLARE (UNANCHORED) INSTALL TEMPORARY CRASH CUSHION –L35B– STA. 948+41.17 OFF. 53.00' (LT)

END PCB FLARE (UNANCHORED) –Y2LPB– STA.13+12.73 OFF. 28.00' (RT)

BEGIN PORTABLE CONCRETE BARRIER FLARE (UNANCHORED) –Y2LPB– STA. 13+68.73 OFF. 13.00' (LT)

END PORTABLE CONCRETE BARRIER FLARE (UNANCHORED) –Y2LPB– STA. 17+65.22 OFF. 13.00' (LT)

–Y28PB–DTR– STA. 19+70.14 OFF. 149.00' (RT)

DRAINAGE NOTE:
PLACES STRUCTURES P103 THROUGH P104 AND TEMPORARY DITCHES BEFORE CONSTRUCTION OF NEW ALIGNMENT AND ROUNDABOUT STRUCTURES MUST BE IN PLACE FOR CONSTRUCTION TO OCCUR.

BUILD TEMPORARY DETOUR FOR PLAN, SEE SHEET 28-6 AND 28-7 FOR PROFILE, SEE SHEET 35 AND 36

–Y28PB–DTR– STA. 14+99.81 OFF. 61.00' (RT)

BEGIN CONSTRUCTION –Y2RPB–DTR– Sta. 13+00.00

BEGIN PCB FLARE (ANCHORED) INSTALL TEMPORARY CRASH CUSHION –Y2RPB–DTR– STA. 12+00.00 OFF. 4.00' (RT)

USE NIGHT TIME TEMPORARY LANE CLOSURE TO PERFORM WEDGING

MATCHLINE –Y28PB– STA. 14+00 (SHEET TMP-16)

END PCB FLARE (ANCHORED) –Y2RPB–DTR– STA. 13+03.55 OFF. 25.00' (RT)

END PCB FLARE (ANCHORED) –L3NB– STA. 958+28.35 OFF. 26.00' (RT)

END PCB FLARE (ANCHORED) –Y2RPA– STA. 18+72.55 OFF. 33.00' (LT)

TIE TEMPORARY PAVEMENT MARKINGS TO EXISTING PAVEMENT MARKINGS

BEGIN PORTABLE CONCRETE BARRIER FLARE (ANCHORED) –Y2RPA–DTR– STA. 16+70.48 OFF. 20.00' (LT)

40' SPACING

240' TRANSITION

END CONSTRUCTION –Y2RPA–DTR– Sta. 17+00.00

DRAINAGE NOTE:
PLACES STRUCTURES P105 THROUGH P111 AND TEMPORARY DITCHES BEFORE CONSTRUCTION OF NEW ALIGNMENT AND ROUNDABOUT STRUCTURES MUST BE IN PLACE FOR CONSTRUCTION TO OCCUR.

BUILD TEMPORARY DETOUR FOR PLAN, SEE SHEET 28-4 AND 28-5. FOR PROFILE, SEE SHEET 34 AND 35.

MATCHLINE –Y2RPA– STA. 15+00 (SHEET TMP-16)

–L35B– I-77 SOUTHBOUND

–L3NB– I-77 NORTHBOUND

100' LANE SHIFT

152' LANE SHIFT

–Y2RPB–DTR–

–Y2RPA–DTR–

–SR 2145 NC 73 CSX/M FORK ROAD–

I-77 NORTH CROSSING

MATCHLINE –L3NB– STA 940+00 SEE SOUTH PHASING PLANS (TMP-5.10)

MATCHLINE –Y2RPA– STA 15+00 SEE SOUTH PHASING PLANS (TMP-5.10)

BACK OF R1-1

R3-2 24" X 24"

R3-1 X 36" X 12"

INSTALL GRAVEL CONSTRUCTION ENTRANCE PER RSD 1607.01 AND BREAK BARRIER FOR ACCESS TO MEDIAN

TEMPORARY SHORING #3 FROM –L3NB– STA. 944+96.66, 34.5' RT TO –L3NB– STA. 945+22.68, 35' RT QUANTITY – 185 SF

BEGIN PCB FLARE (ANCHORED) INSTALL TEMPORARY CRASH CUSHION –L3NB– STA. 942+17.03 OFF. 27.00' (RT)

BEGIN CONSTRUCTION –L3NB– Sta. 943+21.77

BEGIN PCB (ANCHORED) INSTALL TEMPORARY CRASH CUSHION –L3NB– STA. 945+52.20 OFF. 38.00' (LT)

TEMPORARY SHORING #4 FROM –L3NB– STA. 946+12.01, 34.5' RT TO –L3NB– STA. 946+47.34, 35' RT QUANTITY – 217 SF

END CONSTRUCTION –L3NB– Sta. 946+11.62

BEGIN PCB (ANCHORED) –L35B– STA. 950+40.05 OFF. 39.00' (RT)

–L3NB– STA. 950+54.29

–L3NB– STA. 950+40.59 OFF. 27.00' (RT)

END PCB (ANCHORED) –L3NB– STA. 953+14.80 OFF. 39.00' (LT)

END PCB (ANCHORED) INSTALL TEMPORARY CRASH CUSHION –L35B– STA. 954+37.33 OFF. 44.00' (RT)

–L35B– STA. 955+66.26

INSTALL GRAVEL CONSTRUCTION ENTRANCE PER RSD 1607.01 AND BREAK BARRIER FOR ACCESS TO MEDIAN

BEGIN PCB (UNANCHORED) INSTALL TEMPORARY CRASH CUSHION –Y2RPA–DTR– STA. 29+08.99 OFF. 21.00' (RT)

BEGIN CONSTRUCTION –Y2RPA–DTR– Sta. 28+18.39

END PCB FLARE (UNANCHORED) BEGIN PCB (ANCHORED) –Y2RPA–DTR– 28+29.98 OFF. 4.00' (RT)

REMOVE EXIST DI AND REPLACE W/ JB W/MH

RETAIN EXIST DI

RETAIN EXIST 30" CMP

RETAIN EXIST 24" RCP

RETAIN EXIST 30" RCP

RETAIN EXIST 15"

PLUG AND ABANDON EXIST 30" RCP

PIPE AND COLLAR EXIST. 15"

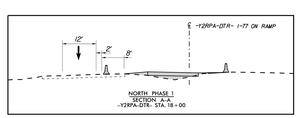
GRADE TO DRAIN

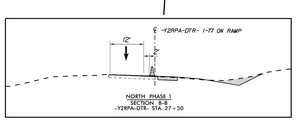
RISER TO JB W/MH

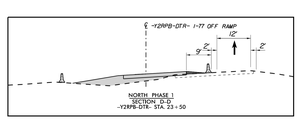
DROP_70" "DKRH"

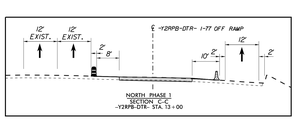
DROP_60" "DKRH"

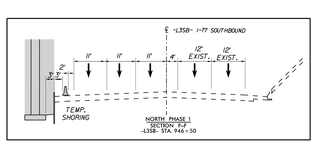
TEMP. SHORING

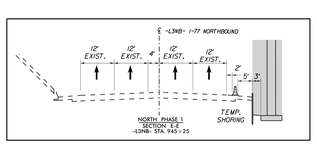












* NOTE:
SEE SHEETS 2B-4 AND 2B-5 FOR –Y2RPA– AND –Y2RPB– DETOUR PLANS AND SHEETS 34 THRU 36 FOR –Y2RPA– AND –Y2RPB– DETOUR PROFILES.

COORDINATE WORK BEING PERFORMED DURING SOUTH PHASING WITH WORK BEING PERFORMED DURING NORTH PHASING AS SEEN ON TMP-14 THRU TMP-30.WORK CAN BE PERFORMED CONCURRENTLY BETWEEN EACH AREA.

SAFETY FENCING TO BE ADDED TO I-77 MEDIAN AS DIRECTED BY ENGINEER.

WORK AREA
PAVEMENT REMOVAL
WEDGING

APPROVED [signature] DATE 10/5/2026

CAROLINA PROFESSIONAL ENGINEER SEAL 042424 ENGINEERING

DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PHASE 1 NORTH TRAFFIC CONTROL DETAILS

Kimley»Horn

Docusign Envelope ID: 883FDE93-292A-9448-8328-3310587067FE

PROJ. REFERENCE NO.	SHEET NO.
U-5765 / I-5715	TMP-5.17

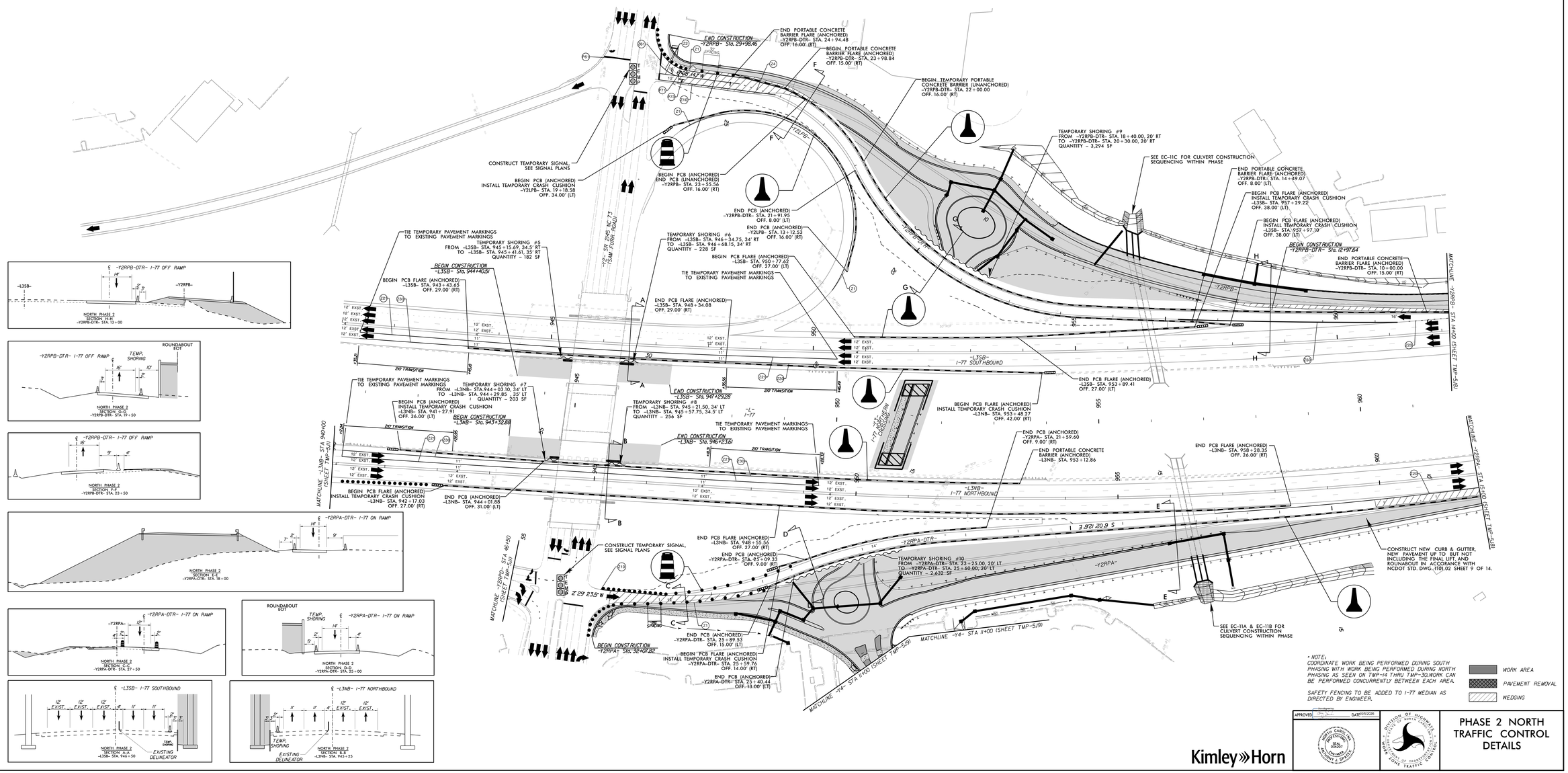
NC GRID
NAD 83 NA 2011

50' 25' 0' 50' 100'

(ENGLISH)

REVISIONS

10/5/2026 K:\CHL_PRJ\0I0362\64 - I-5715\TraffTicTraffTicControlVTCPS\SheetsV-5715_tmp_psh_l7.dgn



• NOTE:
COORDINATE WORK BEING PERFORMED DURING SOUTH PHASING WITH WORK BEING PERFORMED DURING NORTH PHASING AS SEEN ON TMP-14 THRU TMP-30.WORK CAN BE PERFORMED CONCURRENTLY BETWEEN EACH AREA.

SAFETY FENCING TO BE ADDED TO I-77 MEDIAN AS DIRECTED BY ENGINEER.

WORK AREA
PAVEMENT REMOVAL
WEDGING

Kimley»Horn

APPROVED: _____ DATE: 10/5/2026

CAROLINA PROFESSIONAL ENGINEER SEAL 053026 ENGINEERING

DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH TRAFFIC CONTROL UNIT

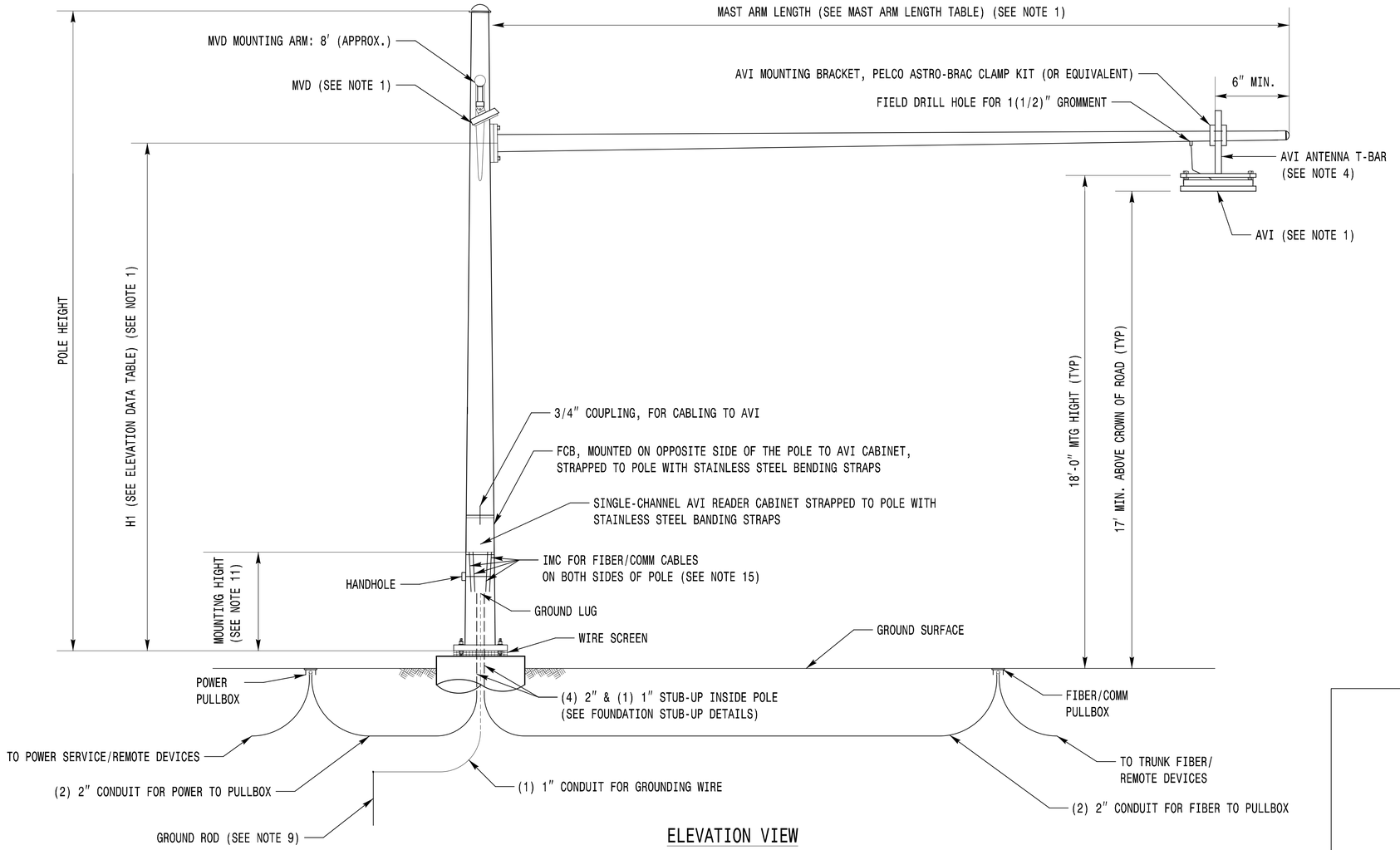
PHASE 2 NORTH TRAFFIC CONTROL DETAILS

Docusign Envelope ID: 98E94709-7942-8396-8228-9A2CF9231402

PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-02C

MAST ARM POLE (MAP)

AUTOMATIC VEHICLE IDENTIFICATION (AVI) WITH SINGLE-CHANNEL AVI READER CABINET AND MICROWAVE VEHICLE DETECTOR (MVD) WITH FIBER COMMUNICATION BOX (FCB)



ELEVATION VIEW

SPECIAL NOTE

I-5715 CONTRACTOR SHALL COORDINATE WITH I-77 MP TO DETERMINE THE FINAL DEVICE AND SUPPORT STRUCTURE LOCATIONS FOR ALL TOLL DEVICES, INCLUDING AVIs, MVDs, AND CCTV CAMERAS.

CONTRACTOR SHALL COORDIANTE WITH I-77 MP REGARDING FINAL DEVICE LOCATIONS TO VERIFY THE REQUIRED ITS POLE HEIGHTS, MAST ARM ATTACHMENT HEIGHTS, AND MAST ARM LENGTHS PRIOR TO THE DESIGN AND INSTALLATION OF THE METAL POLE FOUNDATIONS AND STRUCTURES.

ELEVATION DATA FOR MAST ARM ATTACHMENT (H1) AND MAST ARM LENGTH

Device No.	Sheet No.	Approx. Station Location	Pole Base Elevation (FT)	Edge of Pavement Elevation (FT)	Highest Pavement Elevation (FT)	H1 - Mast Arm Attachment (FT)	Mast Arm Length (FT)
AVI-03/MVD-05A	ITS-08	-Y1RPD- 14+00	767.0	768.8	770.0	21.1	35
AVI-05/MVD-08	ITS-10	-Y2RPD- 41+00	742.4	744.5	744.4	19.3	40
AVI-07/MVD-11	ITS-12	-Y2RPB- 15+70	719.8	720.6	722.6	22.1	35

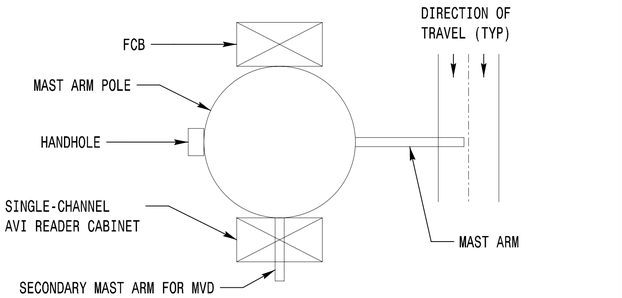
NOTES:

1) I-5715 contractor to coordinate with I-77 Moility Partners (I-77 MP) on device relocation and installation by I-77 MP. I-5715 contractor to coordnate with I-77 MP on final locations of all relocated and proposed devices and associated metal pole support structures to ensure that device placement supports the intended tolling functionality.
2) Refer to Elevation Data for Mast Arm Attachment (H1) and Mast Arm Length table below for approximate mast arm attachment heights and lengths. Contractor shall coordinate with the toll integrator on the final device location(s) to verify the required mast arm attachment height and mast arm length prior to metal pole structure and/or foundation design.
3) AVI antenna(s) shall be centered over the monitored lane(s). Final device locations and associated metal pole support structures shall be determined by the toll integrator.
4) I-5715 contractor to provide a galvanized steel tube inverted T-bar (to be field verified).
5) AVI antenna mounting height shall be set to keep the entire antenna at approximately 17' - 6" but no lower than 17'.
6) Contractor to provide (4) 2" stub-ups and (1) 1" stub-up at base of mast arm pole as shown.
7) Contractor to provide (2) 2" conduits from mast arm pole stub-ups to power pullbox.
8) Contractor to provide (2) 2" conduits from mast arm pole stub-ups to fiber/communications pullbox.
9) Refer to TRS Cabinet and Generator Pad Detail (ITS-02A), Inset 'A' for Ground Rod Placement Detail.
10) Ground surface layout shown is diagrammatic. Drawing for typical reference only.
11) FCB and AVI cabinets shall be mounted 6" above handhole.
12) All conduit shall not exceed maximum fill ratio.
13) Device cabling will be ran through the closest available weatherhead and the equipment wil be minimized as much as possible with only enough slack to accommodate reaching the device mounting location. Vertical cable runs between the weatherhead and the device will be lashed to the pole and should run the length of the pole to device level then 90° to the device. Do not route cable under metal banding.
14) Install MVD mast arm such that the MVD can be installed facing perpendicular to the roadway, as per the manufacturer's recommendations.
15) MVD mast arm may be installed on the upstram or downstream side of the pole, depending on the side conditions as indivated in the design. Contractor to confirm MVD mast arm placement with toll integrator.
16) Pole cap is required for both upright and mast arm.

NOTES CONTINUED:

17) Weatherhead shall be used at coupling(s) where cabling is accessed from pole. All unused couplings must be capped for future use.
18) Conduit reducer may be used where applicable. All conduit shall not exceed maximum fill ratio.
19) Install all equipment per manufacturer's recommendations and as shown in the design.

CONFIGURATION DETAIL



PLANS PREPARED IN THE OFFICE OF:
Kimley»Horn
NC License #F-0102
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Raleigh, NC 27601
(919) 677-2000

Prepared for the Offices of:
NCDEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

I-5715
Equipment Details
AVI, MVD, FCB Mast Arm Pole

Division 10 Mecklenburg Huntersville

PLAN DATE:	March 2026	REVIEWED BY:	MC Burke
PREPARED BY:	SP Pennington	REVIEWED BY:	

SCALE: 0 N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE-MCELHANEY
Signed by: Molly Burke-McElhaney
10/2/2026
SIGNATURE DATE
CADD Filename:

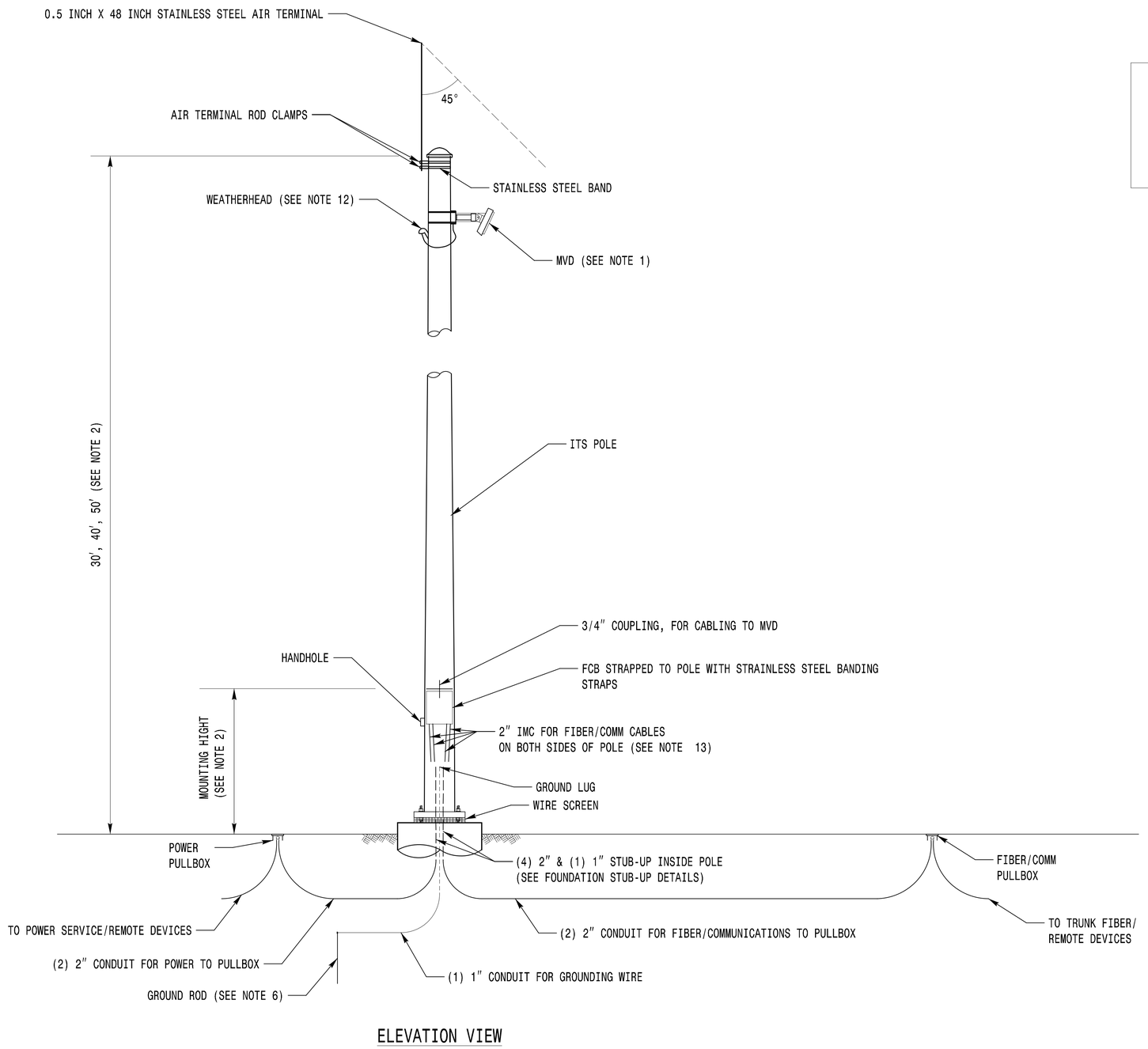
K:\MCHL_PRJ\MO11036264 - I-5715\Signals\ITS - ITS\ITS-02C (Mast Arm w AVI MVD) (2026-07-12 MCBurke Edits).dgn
Molly.Burke
8:10:42 AM
10/2/2026

Docusign Envelope ID: 98E94709-7942-8396-8228-9A2CF9231402

PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-02D

VARIABLE HEIGHT ITS POLES

MICROWAVE VEHICLE DETECTOR (MVD) ON 30′, 40′, AND 50′ ITS POLES



ELEVATION VIEW

SPECIAL NOTE

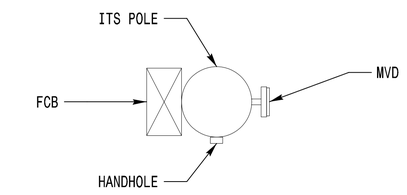
I-5715 CONTRACTOR SHALL COORDINATE WITH I-77 MP TO DETERMINE THE FINAL DEVICE AND SUPPORT STRUCTURE LOCATIONS FOR ALL TOLL DEVICES, INCLUDING AVIs, MVDs, AND CCTV CAMERAS.

CONTRACTOR SHALL COORDIANTE WITH I-77 MP REGARDING FINAL DEVICE LOCATIONS TO VERIFY THE REQUIRED ITS POLE HEIGHTS, MAST ARM ATTACHMENT HEIGHTS, AND MAST ARM LENGTHS PRIOR TO THE DESIGN AND INSTALLATION OF THE METAL POLE FOUNDATIONS AND STRUCTURES.

NOTES:

1) I-5715 contractor to coordinate with I-77 Moility Partners (I-77 MP) on device relocation and installation by I-77 MP. I-5715 contractor to coordnate with I-77 MP on final locations of all relocated and proposed devices and associated metal pole support structures to ensure that device placement supports the intended tolling functionality.
2) Refer to the Metal Pole Support Structure Summary (see ITS-02F) for approximate ITS pole heights. Contractor shall coordinate with the toll integrator on the final device location(s) to verify the required ITS pole height prior to metal pole structure and/or foundation design.
3) Contractor to provide (4) 2″ stub-ups and (1) 1″ stub-up at base of mast arm pole as shown.
4) Contractor to provide (2) 2″ conduits from mast arm pole stub-ups to power pullbox.
5) Contractor to provide (2) 2″ conduits from mast arm pole stub-ups to fiber/communications pullbox.
6) Refer to TRS Cabinet and Generator Pad Detail (ITS-02A), Inset 'A' for Ground Rod Placement Detail.
7) Ground surface layout shown is diagrammatic. Drawing for typical reference only.
8) FCB cabinets shall be mounted 6″ above handhole.
9) All conduit shall not exceed maximum fill ratio.
10) Device cabling will be ran through the closest available weatherhead and the equipment wil be minimized as much as possible with only enough slack to accommodate reaching the device mounting location. Vertical cable runs between the weatherhead and the device will be lashed to the pole and should run the length of the pole to device level then 90° to the device. Do not route cable under metal banding.
11) Pole cap is required for both upright and mast arm.
12) Weatherhead shall be used at coupling(s) where cabling is accessed from pole. All unused couplings must be capped for future use.
13) Conduit reducer may be used where applicable. All conduit shall not exceed maximum fill ratio.
14) Install all equipment per manufacturer's recommendations and as shown in the design.

CONFIGURATION DETAIL



PLANS PREPARED IN THE OFFICE OF:
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Prepared for the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

I-5715
Equipment Details
Variable Height ITS Poles for MVD

Division 10 | Mecklenburg | Huntersville

PLAN DATE: March 2026 | REVIEWED BY: MC Burke
PREPARED BY: SP Pennington | REVIEWED BY:

SCALE: 0 N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE-MCKEARNEY
Signed by: Molly Burke-Mckearney
10/2/2026
SIGNATURE DATE
CADD Filename:

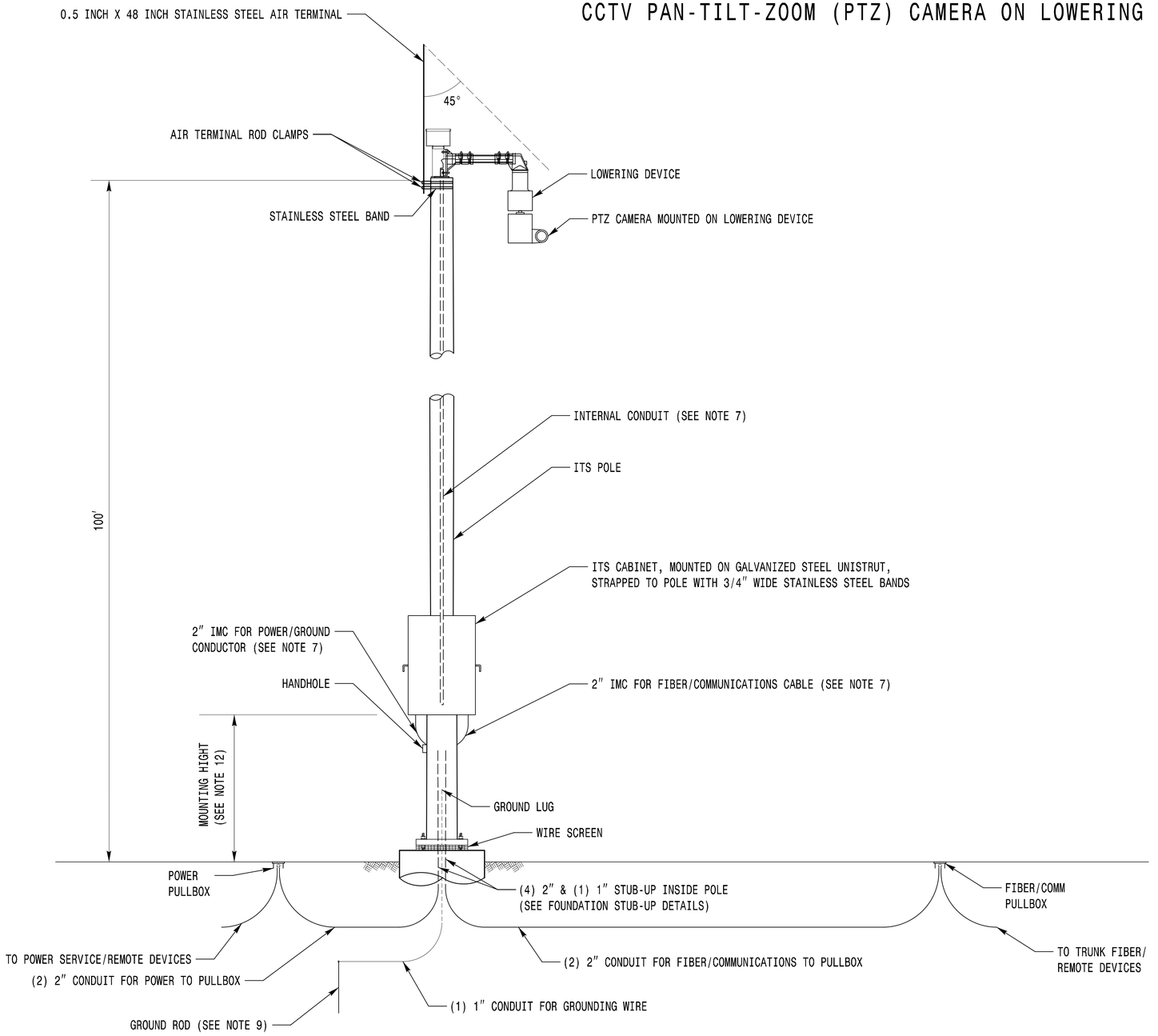
10/2/2026 8:10:47 AM Molly.Burke K:\CHL_PRJ\4011036264 - I-5715\Signals\SSA - ITS\ITS-02D (MVD Pole) (2026-07-12 MCBurke Edits).dgn

Docusign Envelope ID: 98E94709-7942-8396-8228-9A2CF9231402

PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-02E

100′ ITS POLE

CCTV PAN-TILT-ZOOM (PTZ) CAMERA ON LOWERING DEVICE

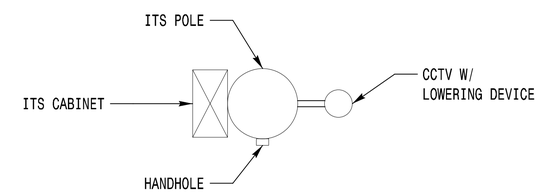


ELEVATION VIEW

NOTES:

1) I-5715 contractor to coordinate with I-77 Moility Partners (I-77 MP) on device relocation and installation by I-77 MP. I-5715 contractor to coordnate with I-77 MP on final locations of all relocated and proposed devices and associated metal pole support structures to ensure that device placement supports the intended tolling functionality.
2) Contractor to provide (4) 2″ stub-ups and (1) 1″ stub-up at base of camera pole as shown.
3) Contractor to provide (2) 2″ conduits from camera pole stub-ups to power pullbox.
4) Contractor to provide (2) 2″ conduits from camera pole stub-ups to fiber/communications pullbox.
5) Refer to TRS Cabinet and Generator Pad Detail (ITS-02A), Inset 'A' for Ground Rod Placement Detail.
6) Ground surface layout shown is diagrammatic. Drawing for typical reference only.
7) Conduit reducer may be used where applicable. All conduit shall not exceed maximum fill ratio.
8) Base of cabinet to be mounted above pole handhole at 6″ minimum to 12″ maximum to allow for conduit connections between couplings and cabinet.
9) Install all equipment per manufacturer's recommendations and as shown in the design.

CONFIGURATION DETAIL



PLANS PREPARED IN THE OFFICE OF:
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(919) 677-2000

Prepared for the Offices of:
NCDOT Transportation Mobility and Safety Division
750 N. Greenfield Pkwy., Garner, NC 27529

I-5715
Equipment Details
100′ CCTV Camera Pole

Division 10 | Mecklenburg | Huntersville

PLAN DATE: March 2026 | REVIEWED BY: MC Burke
PREPARED BY: SP Pennington | REVIEWED BY:

SCALE: 0 N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL
SEAL 058683
ENGINEER
MOLLY C. BURKE-MCKARNEY

Signed by: Molly Burke-Mckarney
DIGITALLY RECORDED
10/2/2026
SIGNATURE DATE

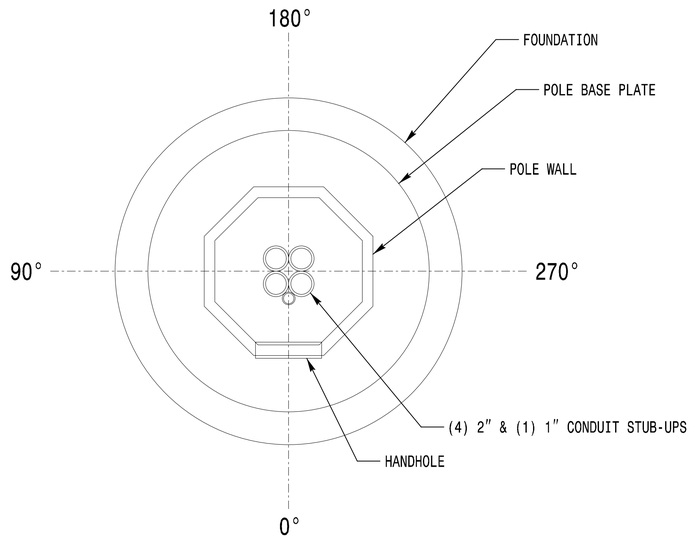
CADD Filename:

10/2/2026 8:10:50 AM Molly.Burke K:\DHL_PRJ\4011036264 - I-5715\Signals\SGA - ITS\ITS-02E (100ft CCTV Pole) (2026-07-12 MCBurke Edits).dgn

Docusign Envelope ID: 98E94709-7942-8396-8228-9A2CF9231402

PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-02F

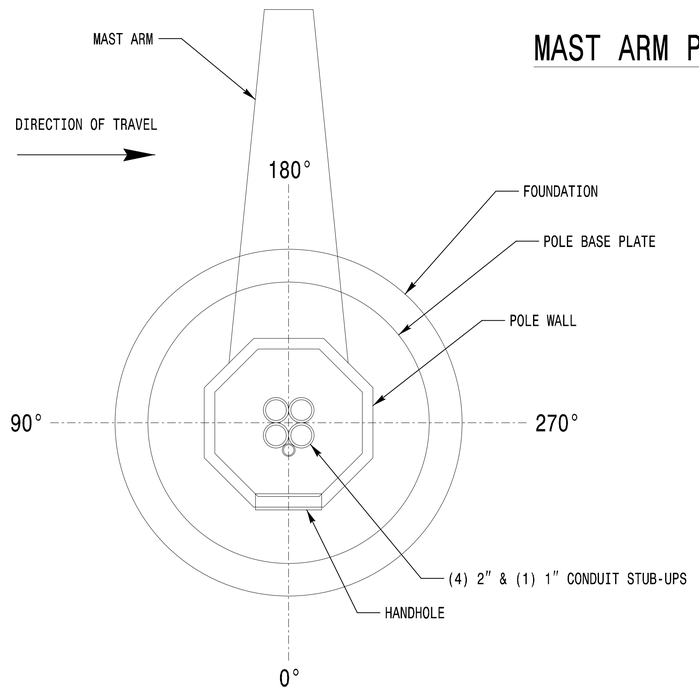
ITS POLES



NOTES:

1) I-5715 contractor to coordinate with I-77 Moility Partners (I-77 MP) on device relocation and installation by I-77 MP. I-5715 contractor to coordnate with I-77 MP on final locations of all relocated and proposed devices and associated metal pole support structures to ensure that device placement supports the intended tolling functionality.
2) For variable height ITS poles, the contractor shall coordinate with I-77 MP on the final device locations to verify the required ITS pole height prior to metal pole/foundation design.
3) Inner dimensions of pole at the base plate range from 13″ to 15″.
4) (2) 2″ (Fiber/Communications), (2) 2″ (Power), & (1) 1″ (Ground)conduit stub-ups shall be installed in all ITS pole foundations.
5) Stub-up area shall be located at center of foundation.

MAST ARM POLES



NOTES:

1) I-5715 contractor to coordinate with I-77 Moility Partners (I-77 MP) on device relocation and installation by I-77 MP. I-5715 contractor to coordnate with I-77 MP on final locations of all relocated and proposed devices and associated metal pole support structures to ensure that device placement supports the intended tolling functionality.
2) Refer to Elevation Data for Mast Arm Attachment (H1) and Mast Arm Length table (see ITS-02B and ITS-02C) for approximate mast arm attachment heights and lengths. Contractor shall coordinate with I-77 MP on the final device location(s) to verify the required mast arm attachment height and mast arm length prior to metal pole structure and/or foundation design.
3) Inner dimensions of pole at the base plate range from 8.5″ to 11.5″.
4) (2) 2″ (Fiber/Communications), (2) 2″ (Power), & (1) 1″ (Ground)conduit stub-ups shall be installed in all ITS pole foundations.
5) Stub-up area shall be located at center of foundation.

METAL POLE SUPPORT STRUCTURE SUMMARY

Device No.	Sheet No.	Approx. Station Location	Structure Type
MVD-03	ITS-03	-L3NB- 858+42	30′ Pole
MVD-05	ITS-07	-L3NB- 896+75	50′ Pole
AVI-03	ITS-08	-Y1RPD- 14+00	AVI Mast Arm
MVD-06	ITS-08	-Y2RPD- 41+05	40′ Pole
AVI-05/MVD-08	ITS-10	-Y2RPD- 41+00	AVI Mast Arm
AVI-07/MVD-11	ITS-12	-Y2RPB- 15+70	AVI Mast Arm
AVI-08	ITS-12	-Y2RPA- 16+40	AVI Mast Arm
CCTV-05/MVD-12	ITS-13	-Y2RPA- 13+90	100′ Pole

SPECIAL NOTE

I-5715 CONTRACTOR SHALL COORDINATE WITH I-77 MP TO DETERMINE THE FINAL DEVICE AND SUPPORT STRUCTURE LOCATIONS FOR ALL TOLL DEVICES, INCLUDING AVIs, MVDs, AND CCTV CAMERAS.

CONTRACTOR SHALL COORDIANTE WITH I-77 MP REGARDING FINAL DEVICE LOCATIONS TO VERIFY THE REQUIRED ITS POLE HEIGHTS, MAST ARM ATTACHMENT HEIGHTS, AND MAST ARM LENGTHS PRIOR TO THE DESIGN AND INSTALLATION OF THE METAL POLE FOUNDATIONS AND STRUCTURES.

PLANS PREPARED IN THE OFFICE OF:
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(919) 677-2000

Prepared for the Offices of:
NCDOT Transportation Mobility and Safety Division
750 N. Greenfield Pkwy., Garner, NC 27529

I-5715
Equipment Details
Foundation Stub-Up Detail and
Metal Pole Support Structure Summary

Division 10 | Mecklenburg | Huntersville

PLAN DATE:	March 2026	REVIEWED BY:	MC Burke
PREPARED BY:	SP Pennington	REVIEWED BY:	

SCALE 0 N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE-MCKEARNEY

Signed by: Molly Burke-Mckearney
10/2/2026
SIGNATURE DATE

CADD Filename:

K:\CHL_PRJ\011036264 - I-5715\Signals\SGA - ITS\ITS-02F (MP Foundation Stub Ups) (2026-07-12 MCBurke Edits).dgn
10/2/2026 8:10:53 AM Molly.Burke

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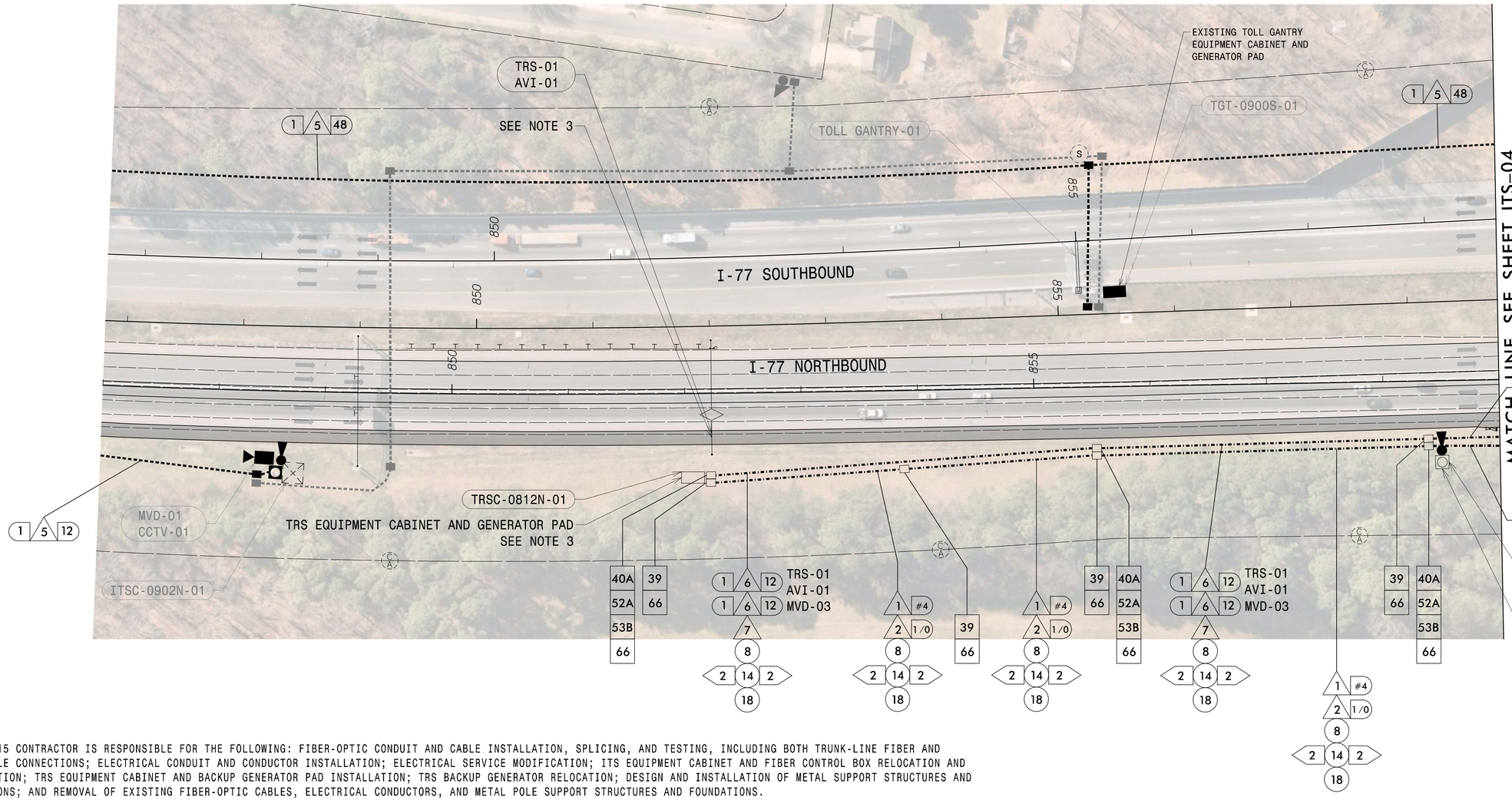
PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-03

SPECIAL NOTE

I-5715 CONTRACTOR SHALL COORDINATE WITH I-77 MP TO DETERMINE THE FINAL DEVICE AND SUPPORT STRUCTURE LOCATIONS FOR ALL TOLL DEVICES, INCLUDING AVIs, MVDs, AND CCTV CAMERAS.

CONTRACTOR SHALL COORDINATE WITH I-77 MP REGARDING FINAL DEVICE LOCATIONS TO VERIFY THE REQUIRED ITS POLE HEIGHTS, MAST ARM ATTACHMENT HEIGHTS, AND MAST ARM LENGTHS PRIOR TO THE DESIGN AND INSTALLATION OF THE METAL POLE FOUNDATIONS AND STRUCTURES.

WHERE PLANS CALL FOR THE RELOCATION OF EXISTING FIBER CONTROL BOXES, ITS EQUIPMENT CABINETS, OR TRS BACKUP GENERATORS, THE CONTRACTOR SHALL RELOCATE AND RETERMINATE ALL FIBER-OPTIC COMMUNICATIONS CABLES, POWER OVER ETHERNET (POE) CABLES, AND COAXIAL CABLES AS NECESSARY TO MATCH EXISTING CONDITIONS. THE CONTRACTOR SHALL COORDINATE WITH I-77 MP TO OBTAIN SITE-SPECIFIC FIBER CONTROL BOX AND ITS EQUIPMENT CABINET LAYOUT SCHEMATICS, AS NEEDED, TO FACILITATE EQUIPMENT RELOCATION AND COMMUNICATIONS CABLE TERMINATIONS.



NOTES:

1) THE I-5715 CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING: FIBER-OPTIC CONDUIT AND CABLE INSTALLATION, SPLICING, AND TESTING, INCLUDING BOTH TRUNK-LINE FIBER AND DROP-CABLE CONNECTIONS; ELECTRICAL CONDUIT AND CONDUCTOR INSTALLATION; ELECTRICAL SERVICE MODIFICATION; ITS EQUIPMENT CABINET AND FIBER CONTROL BOX RELOCATION AND INSTALLATION; TRS EQUIPMENT CABINET AND BACKUP GENERATOR PAD INSTALLATION; TRS BACKUP GENERATOR RELOCATION; DESIGN AND INSTALLATION OF METAL SUPPORT STRUCTURES AND FOUNDATIONS; AND REMOVAL OF EXISTING FIBER-OPTIC CABLES, ELECTRICAL CONDUCTORS, AND METAL POLE SUPPORT STRUCTURES AND FOUNDATIONS.

2) I-77 MOBILITY PARTNERS IS RESPONSIBLE FOR THE FOLLOWING: RELOCATION OF EXISTING TOLLING DEVICES, INCLUDING AVI, MVD, AND CCTV CAMERAS; PROCUREMENT AND INSTALLATION OF NEW ITS DEVICES; PROCUREMENT AND PROGRAMMING OF CELL MODEMS FOR USE WITH TEMPORARY TOLLING DEVICES; AND CALLIBRATION, COMMISSIONING, AND ACCEPTANCE OF ALL TEMPORARY, RELOCATED, AND NEW TOLLING DEVICES.

3) PHASE 1 SOUTH, STEP 7

UPON CONFIRMATION OF FINAL GRADE, INSTALL CONDUIT, JUNCTION BOXES, FIBER-OPTIC CABLES, AND ELECTRICAL CONDUCTORS; TRS GENERATOR PAD (SEE ITS-02A FOR GENERATOR PAD DETAIL); AND MVD-03 METAL POLE FOUNDATION AND SUPPORT STRUCTURE AS SHOWN ON PLANS. INSTALL SPARE TRS PROVIDED BY I-77 MP IN PROPOSED OVERHEAD SIGN PRIOR TO INSTALLATION OF OVERHEAD SIGN STRUCTURE. INSTALL OVERHEAD SIGN STRUCTURE. ROUTE COMMUNICATIONS CABLE FROM TRS, THROUGH PROPOSED RISER ATTACHED TO OVERHEAD SIGN STRUCTURE, TO THE TRS GENERATOR PAD.

IN COORDINATION WITH I-77 MP, DISCONNECT AND RELOCATE EXISTING TRS EQUIPMENT CABINET AND BACKUP GENERATOR TO NEW LOCATION. TERMINATE COMMUNICATIONS CABLE IN EXISTING TRS EQUIPMENT CABINET AT NEW SITE TO MATCH EXISTING CONDITIONS. COORDINATE WITH I-77 MP TO COMPLETE INTERGRATION AND TESTING. TRS EQUIPMENT CABINET AND GENERATOR RELOCATION, INTERGRATION, AND TESTING MUST OCCUR BETWEEN THE HOURS OF 10:00PM SATURDAY AND 6:00AM SUNDAY.

COORDINATE WITH I-77 MP FOR THE RELOCATION OF MVD-03 BY I-77 MP (SEE ITS-05 FOR THE EXISTING MVD-03 LOCATION). RELOCATE THE EXISTING FIBER CONTROL BOX AND ALL COMPONTENTS TO THE NEW SITE. TERMINATE COMMUNICATIONS CABLES TO MATCH EXITING CONDITIONS. ROUTE POE CABLE FROM THE MVD THROUGH THE EXISTING POLE RISER/RACEWAY TO THE RELOCATED FIBER CONTROL BOX, AND TERMINATE TO MATCH EXISTING CONDITIONS. COORDINATE WITH I-77 MP TO COMPLETE CALLIBRATION, COMMISSIONING, AND ACCEPTANCE.

PLANS PREPARED IN THE OFFICE OF:
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(919) 677-2000

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

SCALE 0 N/A

I-5715
Communications Cable and Conduit Routing Plan

Division 10 Mecklenburg Huntersville

PLAN DATE:	March 2026	REVIEWED BY:	MC Burke
PREPARED BY:	SP Pennington	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE-MCKENNEY

Signed by: Molly Burke-Mckenney 9561F7B6C04C47E...
10/2/2026
SIGNATURE DATE

CADD Filename:

K:\MCHL_PRJ\4011036264 - I-5715\Signals\65A - ITS\ITS-03.dgn
10/2/2026 8:13:46 AM Molly.Burke

Docusign Envelope ID: F377CAAB-3B57-8CAC-831B-9507E156A696

PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-04

SPECIAL NOTE

I-5715 CONTRACTOR SHALL COORDINATE WITH I-77 MP TO DETERMINE THE FINAL DEVICE AND SUPPORT STRUCTURE LOCATIONS FOR ALL TOLL DEVICES, INCLUDING AVIs, MVDs, AND CCTV CAMERAS.

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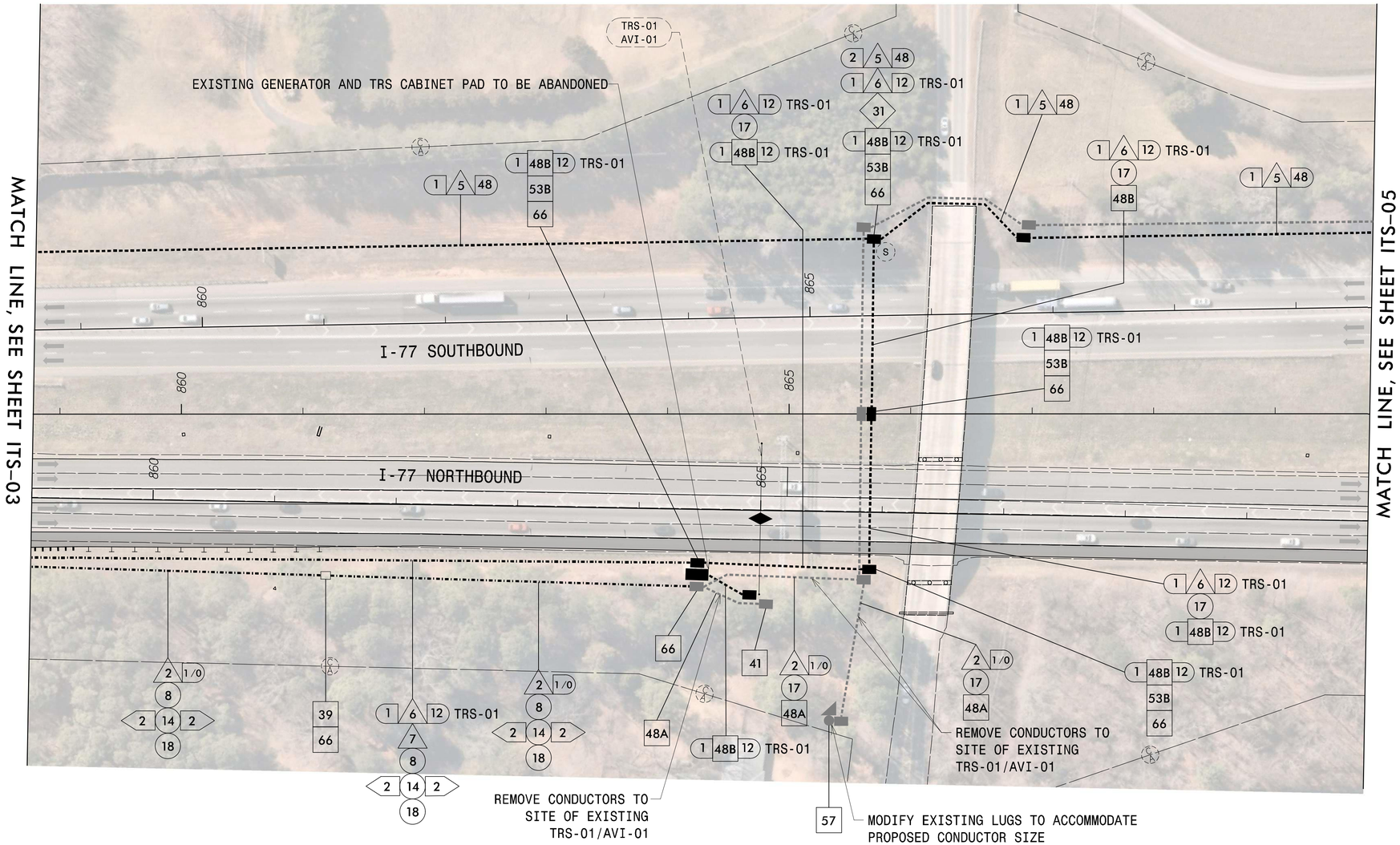
WHERE PLANS CALL FOR THE RELOCATION OF EXISTING FIBER CONTROL BOXES, ITS EQUIPMENT CABINETS, OR TRS BACKUP GENERATORS, THE CONTRACTOR SHALL RELOCATE AND RETERMINATE ALL FIBER-OPTIC COMMUNICATIONS CABLES, POWER OVER ETHERNET (POE) CABLES, AND COAXIAL CABLES AS NECESSARY TO MATCH EXISTING CONDITIONS. THE CONTRACTOR SHALL COORDINATE WITH I-77 MP TO OBTAIN SITE-SPECIFIC FIBER CONTROL BOX AND ITS EQUIPMENT CABINET LAYOUT SCHEMATICS, AS NEEDED, TO FACILITATE EQUIPMENT RELOCATION AND COMMUNICATIONS CABLE TERMINATIONS.



NOTES:

1) THE I-5715 CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING: FIBER-OPTIC CONDUIT AND CABLE INSTALLATION, SPLICING, AND TESTING, INCLUDING BOTH TRUNK-LINE FIBER AND DROP-CABLE CONNECTIONS; ELECTRICAL CONDUIT AND CONDUCTOR INSTALLATION; ELECTRICAL SERVICE MODIFICATION; ITS EQUIPMENT CABINET AND FIBER CONTROL BOX RELOCATION AND INSTALLATION; TRS EQUIPMENT CABINET AND BACKUP GENERATOR PAD INSTALLATION; TRS BACKUP GENERATOR RELOCATION; DESIGN AND INSTALLATION OF METAL SUPPORT STRUCTURES AND FOUNDATIONS; AND REMOVAL OF EXISTING FIBER-OPTIC CABLES, ELECTRICAL CONDUCTORS, AND METAL POLE SUPPORT STRUCTURES AND FOUNDATIONS.

2) I-77 MOBILITY PARTNERS IS RESPONSIBLE FOR THE FOLLOWING: RELOCATION OF EXISTING TOLLING DEVICES, INCLUDING AVI, MVD, AND CCTV CAMERAS; PROCUREMENT AND INSTALLATION OF NEW ITS DEVICES; PROCUREMENT AND PROGRAMMING OF CELL MODEMS FOR USE WITH TEMPORARY TOLLING DEVICES; AND CALLIBRATION, COMMISSIONING, AND ACCEPTANCE OF ALL TEMPORARY, RELOCATED, AND NEW TOLLING DEVICES.

3) PHASE 1 SOUTH, STEP 8

   UPON CONFIRMATION OF FINAL GRADE, INSTALL CONDUIT, JUNCTION BOXES, FIBER-OPTIC CABLES, AND ELECTRICAL CONDUCTORS AS SHOW ON PLANS.

   IN COORDINATION WITH I-77 MP, RELOCATE EXISTING TRS EQUIPMENT CABINET AND BACKUP GENERATOR AS SHOWN ON ITS-03. AFTER EXISTING TRS/AVI ARE DECOMMISSIONED, REMOVE FIBER-OPTIC CABLES, ELECTRICAL CONDUCTORS, CONDUIT, AND JUNCTION BOXES AT EXISTING TRS/AVI. CUT AND ABANDON EXISTING CONDUIT AT 30 INCHES BELOW GRADE, AND BACKFILL WITH APPROVED MATERIAL. RETAIN EXISTING ELECTRICAL JUNCTION BOXES, ELECTRICAL CONDUIT, AND CONDUCTORS ROUTES TO EXISTING MVD-02 ON ITS-05.

PLANS PREPARED IN THE OFFICE OF:
Kimley»Horn
NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

Prepared for the Offices of:
NCDOT Integrated Mobility and Rail Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems Section
750 N. Greenfield Pkwy., Garner, NC 27529

SCALE 0 N/A

I-5715
Communications Cable and Conduit Routing Plan

Division 10 Mecklenburg Huntersville

PLAN DATE:	March 2026	REVIEWED BY:	MC Burke
PREPARED BY:	SP Pennington	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL
SEAL 058683
ENGINEER
MOLLY C. BURKE-MCKEARNEY

Signed by: Molly Burke-McKearney
10/2/2026
SIGNATURE DATE

CADD Filename:

10/2/2026 8:13:58 AM Molly.Burke K:\MCHL_PRJ\MO11036264 - I-5715\Signals\56A - ITS\ITS-04.dgn

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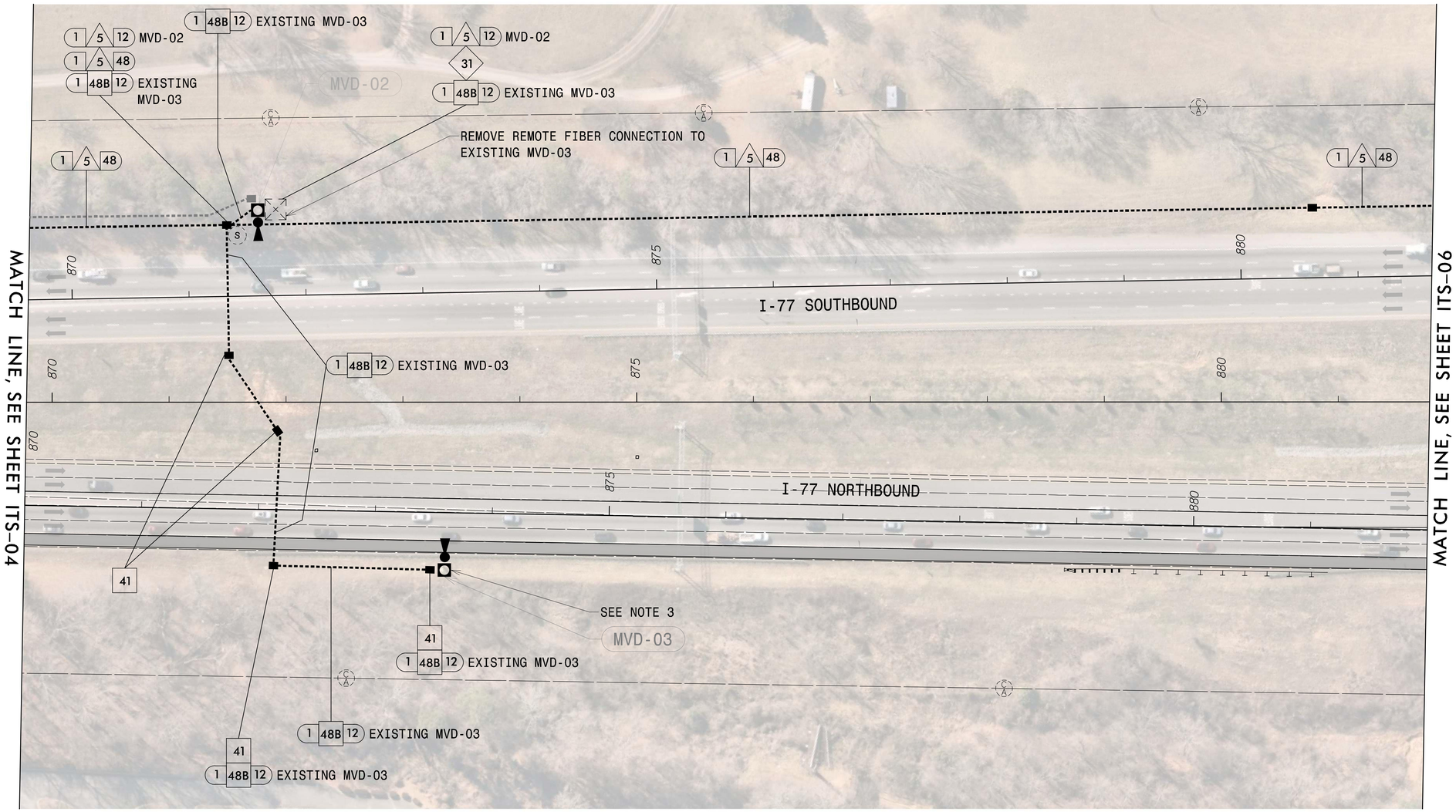
PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-05

SPECIAL NOTE

I-5715 CONTRACTOR SHALL COORDINATE WITH I-77 MP TO DETERMINE THE FINAL DEVICE AND SUPPORT STRUCTURE LOCATIONS FOR ALL TOLL DEVICES, INCLUDING AVIs, MVDs, AND CCTV CAMERAS.

CONTRACTOR SHALL COORDINATE WITH I-77 MP REGARDING FINAL DEVICE LOCATIONS TO VERIFY THE REQUIRED ITS POLE HEIGHTS, MAST ARM ATTACHMENT HEIGHTS, AND MAST ARM LENGTHS PRIOR TO THE DESIGN AND INSTALLATION OF THE METAL POLE FOUNDATIONS AND STRUCTURES.

WHERE PLANS CALL FOR THE RELOCATION OF EXISTING FIBER CONTROL BOXES, ITS EQUIPMENT CABINETS, OR TRS BACKUP GENERATORS, THE CONTRACTOR SHALL RELOCATE AND RETERMINATE ALL FIBER-OPTIC COMMUNICATIONS CABLES, POWER OVER ETHERNET (POE) CABLES, AND COAXIAL CABLES AS NECESSARY TO MATCH EXISTING CONDITIONS. THE CONTRACTOR SHALL COORDINATE WITH I-77 MP TO OBTAIN SITE-SPECIFIC FIBER CONTROL BOX AND ITS EQUIPMENT CABINET LAYOUT SCHEMATICS, AS NEEDED, TO FACILITATE EQUIPMENT RELOCATION AND COMMUNICATIONS CABLE TERMINATIONS.



NOTES:

1) THE I-5715 CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING: FIBER-OPTIC CONDUIT AND CABLE INSTALLATION, SPLICING, AND TESTING, INCLUDING BOTH TRUNK-LINE FIBER AND DROP-CABLE CONNECTIONS; ELECTRICAL CONDUIT AND CONDUCTOR INSTALLATION; ELECTRICAL SERVICE MODIFICATION; ITS EQUIPMENT CABINET AND FIBER CONTROL BOX RELOCATION AND INSTALLATION; TRS EQUIPMENT CABINET AND BACKUP GENERATOR PAD INSTALLATION; TRS BACKUP GENERATOR RELOCATION; DESIGN AND INSTALLATION OF METAL SUPPORT STRUCTURES AND FOUNDATIONS; AND REMOVAL OF EXISTING FIBER-OPTIC CABLES, ELECTRICAL CONDUCTORS, AND METAL POLE SUPPORT STRUCTURES AND FOUNDATIONS.

2) I-77 MOBILITY PARTNERS IS RESPONSIBLE FOR THE FOLLOWING: RELOCATION OF EXISTING TOLLING DEVICES, INCLUDING AVI, MVD, AND CCTV CAMERAS; PROCUREMENT AND INSTALLATION OF NEW ITS DEVICES; PROCUREMENT AND PROGRAMMING OF CELL MODEMS FOR USE WITH TEMPORARY TOLLING DEVICES; AND CALLIBRATION, COMMISSIONING, AND ACCEPTANCE OF ALL TEMPORARY, RELOCATED, AND NEW TOLLING DEVICES.

3) PHASE 1 SOUTH, STEP 8

   UPON I-77 MP'S RELOCATION OF MVD-03, RELOCATE EXISTING FIBER CONTROL BOX FROM EXISTING SITE TO PROPOSED SITE OF MVD-03 (SEE ITS-03). REMOVE EXISTING MVD-03 METAL POLE SUPPORT STRUCTURE AND FOUNDATION. REMOVE FIBER-OPTIC CABLES AND JUNCTION BOXES AS SHOWN ON THE PLANS. CUT AND ABANDON CONDUITS AT 30 INCHES BELOW GRADE, AND BACKFILL WITH APPROVED MATERIAL.

PLANS PREPARED IN THE OFFICE OF:
Kimley»Horn
NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

Prepared for the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

SCALE 0 N/A

I-5715
Communications Cable and Conduit Routing Plan

Division 10 Mecklenburg Huntersville

PLAN DATE: March 2026 REVIEWED BY: MC Burke

PREPARED BY: SP Pennington REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE-MCKEARNEY

Signed by: Molly Burke-McKearney — 10/2/2026
SIGNATURE DATE

CADD Filename:

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10/2/2026 8:14:05 AM Molly.Burke

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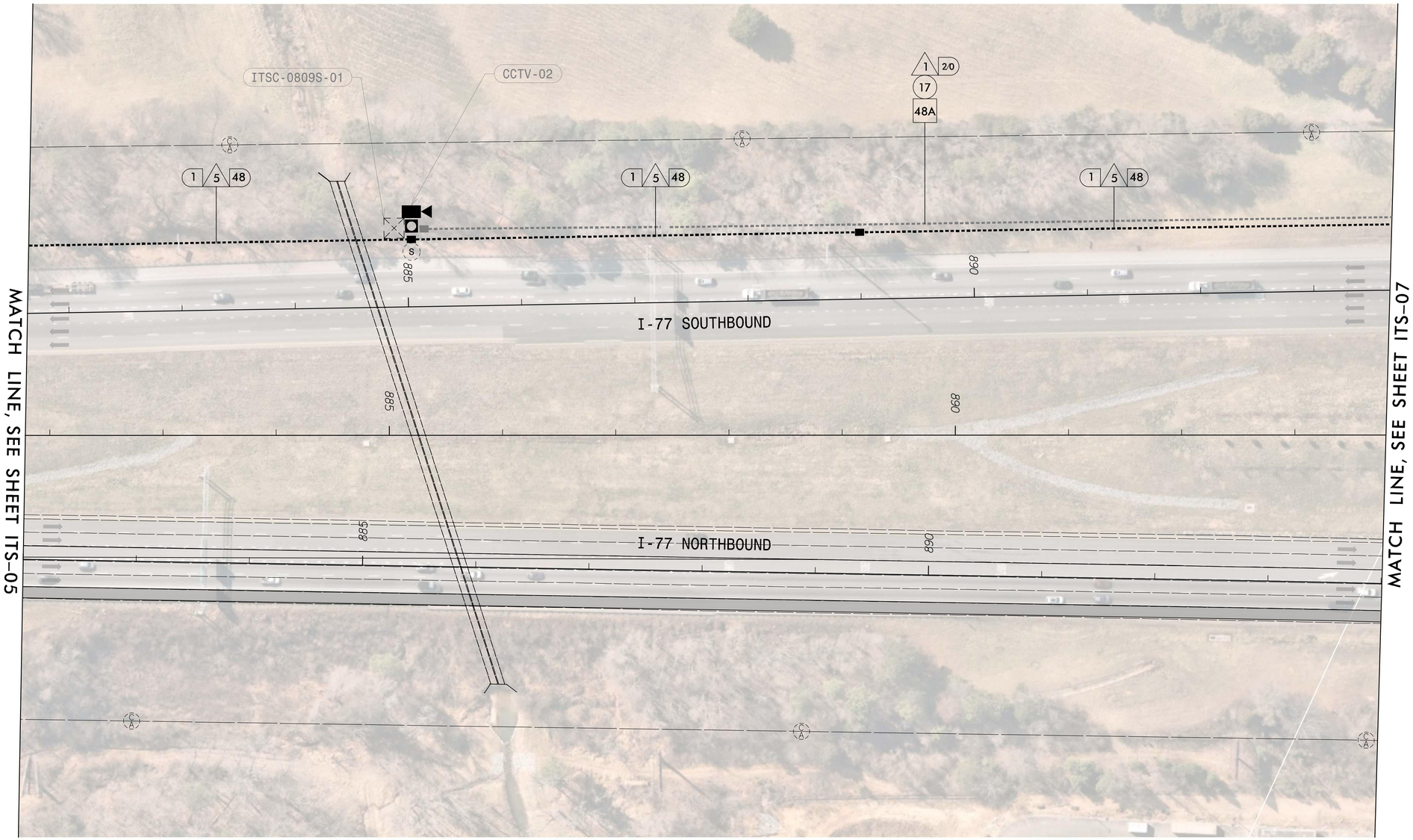
PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-06

SPECIAL NOTE

I-5715 CONTRACTOR SHALL COORDINATE WITH I-77 MP TO DETERMINE THE FINAL DEVICE AND SUPPORT STRUCTURE LOCATIONS FOR ALL TOLL DEVICES, INCLUDING AVIs, MVDs, AND CCTV CAMERAS.

CONTRACTOR SHALL COORDINATE WITH I-77 MP REGARDING FINAL DEVICE LOCATIONS TO VERIFY THE REQUIRED ITS POLE HEIGHTS, MAST ARM ATTACHMENT HEIGHTS, AND MAST ARM LENGTHS PRIOR TO THE DESIGN AND INSTALLATION OF THE METAL POLE FOUNDATIONS AND STRUCTURES.

WHERE PLANS CALL FOR THE RELOCATION OF EXISTING FIBER CONTROL BOXES, ITS EQUIPMENT CABINETS, OR TRS BACKUP GENERATORS, THE CONTRACTOR SHALL RELOCATE AND RETERMINATE ALL FIBER-OPTIC COMMUNICATIONS CABLES, POWER OVER ETHERNET (POE) CABLES, AND COAXIAL CABLES AS NECESSARY TO MATCH EXISTING CONDITIONS. THE CONTRACTOR SHALL COORDINATE WITH I-77 MP TO OBTAIN SITE-SPECIFIC FIBER CONTROL BOX AND ITS EQUIPMENT CABINET LAYOUT SCHEMATICS, AS NEEDED, TO FACILITATE EQUIPMENT RELOCATION AND COMMUNICATIONS CABLE TERMINATIONS.



NOTES:

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3) PHASE 1 SOUTH, STEP 7

   UPON CONFIRMATION OF FINAL GRADE AT SITE OF EXISTING MVD-05 (SEE ITS-07) ELECTRICAL CONDUCTORS AS SHOWN ON PLANS.

PLANS PREPARED IN THE OFFICE OF:
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421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

Prepared for the Offices of:
NC Department of Transportation
Transportation Mobility and Safety Division
Intelligent Transportation Systems Section
750 N. Greenfield Pkwy., Garner, NC 27529

SCALE 0 N/A

I-5715
Communications Cable and Conduit Routing Plan

Division 10 Mecklenburg Huntersville

PLAN DATE:	March 2026	REVIEWED BY:	MC Burke
PREPARED BY:	SP Pennington	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL
SEAL 056683
ENGINEER
MOLLY C. BURKE-MCKEARNEY

Signed by: Molly Burke-Mckearney 95AE7B0C6C6547E...
10/2/2026
SIGNATURE DATE

CADD Filename:

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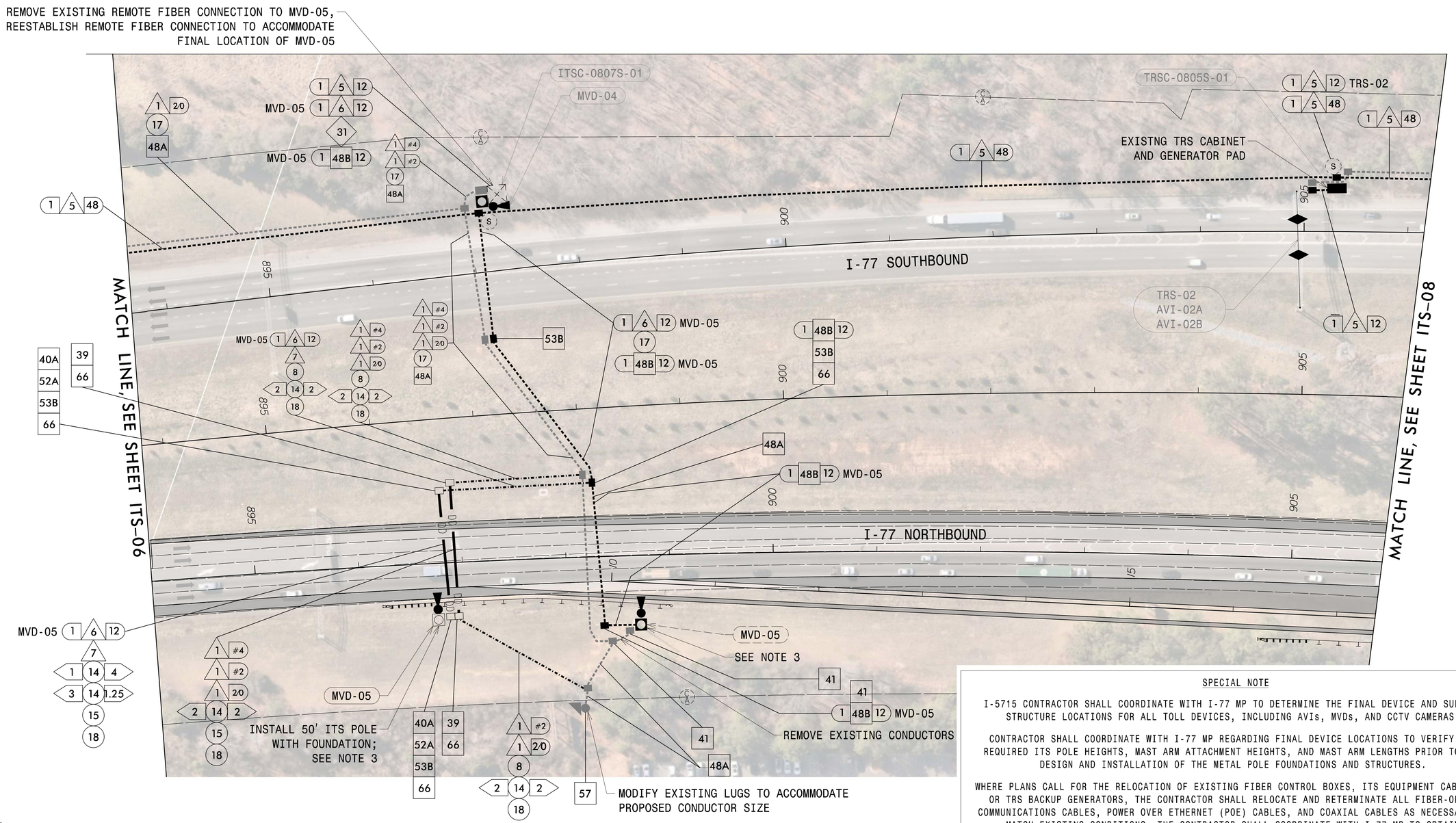
PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-07



NOTES:

1) THE I-5715 CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING: FIBER-OPTIC CONDUIT AND CABLE INSTALLATION, SPLICING, AND TESTING, INCLUDING BOTH TRUNK-LINE FIBER AND DROP-CABLE CONNECTIONS; ELECTRICAL CONDUIT AND CONDUCTOR INSTALLATION; ELECTRICAL SERVICE MODIFICATION; ITS EQUIPMENT CABINET AND FIBER CONTROL BOX RELOCATION AND INSTALLATION; TRS EQUIPMENT CABINET AND BACKUP GENERATOR PAD INSTALLATION; TRS BACKUP GENERATOR RELOCATION; DESIGN AND INSTALLATION OF METAL SUPPORT STRUCTURES AND FOUNDATIONS; AND REMOVAL OF EXISTING FIBER-OPTIC CABLES, ELECTRICAL CONDUCTORS, AND METAL POLE SUPPORT STRUCTURES AND FOUNDATIONS.

2) I-77 MOBILITY PARTNERS IS RESPONSIBLE FOR THE FOLLOWING: RELOCATION OF EXISTING TOLLING DEVICES, INCLUDING AVI, MVD, AND CCTV CAMERAS; PROCUREMENT AND INSTALLATION OF NEW ITS DEVICES; PROCUREMENT AND PROGRAMMING OF CELL MODEMS FOR USE WITH TEMPORARY TOLLING DEVICES; AND CALLIBRATION, COMMISSIONING, AND ACCEPTANCE OF ALL TEMPORARY, RELOCATED, AND NEW TOLLING DEVICES.

3) PHASE 1 SOUTH, STEP 7

   UPON CONFIRMATION OF FINAL GRADE, INSTALL CONDUIT, JUNCTION BOXES, FIBER-OPTIC CABLES, AND ELECTRICAL CONDUCTORS; AND MVD-05 METAL POLE FONDATION AND SUPPORT STRUCTURE AS SHOWN ON PLANS. COORDINATE WITH I-77 MP FOR THE RELOCATION OF MVD-05 BY I-77 MP. RELOCATE THE EXISTING FIBER CONTROL BOX AND ALL COMPONTENTS TO THE NEW SITE. TERMINATE COMMUNICATIONS CABLES TO MATCH EXITING CONDITIONS. ROUTE POE CABLE FROM THE MVD THROUGH THE EXISTING POLE RISER/RACEWAY TO THE RELOCATED FIBER CONTROL BOX, AND TERMINATE TO MATCH EXISTING CONDITIONS. COORDINATE WITH I-77 MP TO COMPLETE CALLIBRATION, COMMISSIONING, AND ACCEPTANCE.

SPECIAL NOTE

I-5715 CONTRACTOR SHALL COORDINATE WITH I-77 MP TO DETERMINE THE FINAL DEVICE AND SUPPORT STRUCTURE LOCATIONS FOR ALL TOLL DEVICES, INCLUDING AVIs, MVDs, AND CCTV CAMERAS.

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PLANS PREPARED IN THE OFFICE OF:
Kimley»Horn
NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

Prepared for the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

I-5715 Communications Cable and Conduit Routing Plan

Division 10 Mecklenburg Huntersville

PLAN DATE: March 2026 REVIEWED BY: MC Burke

PREPARED BY: SP Pennington REVIEWED BY:

SCALE 0 N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL
SEAL 058683
ENGINEER
MOLLY C. BURKE-MCKEARNEY

Signed by: Molly Burke-McKearney
SHEET RECORDCOPY
10/2/2026
SIGNATURE DATE

CADD Filename:

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10/2/2026 8:14:26 AM Molly.Burke

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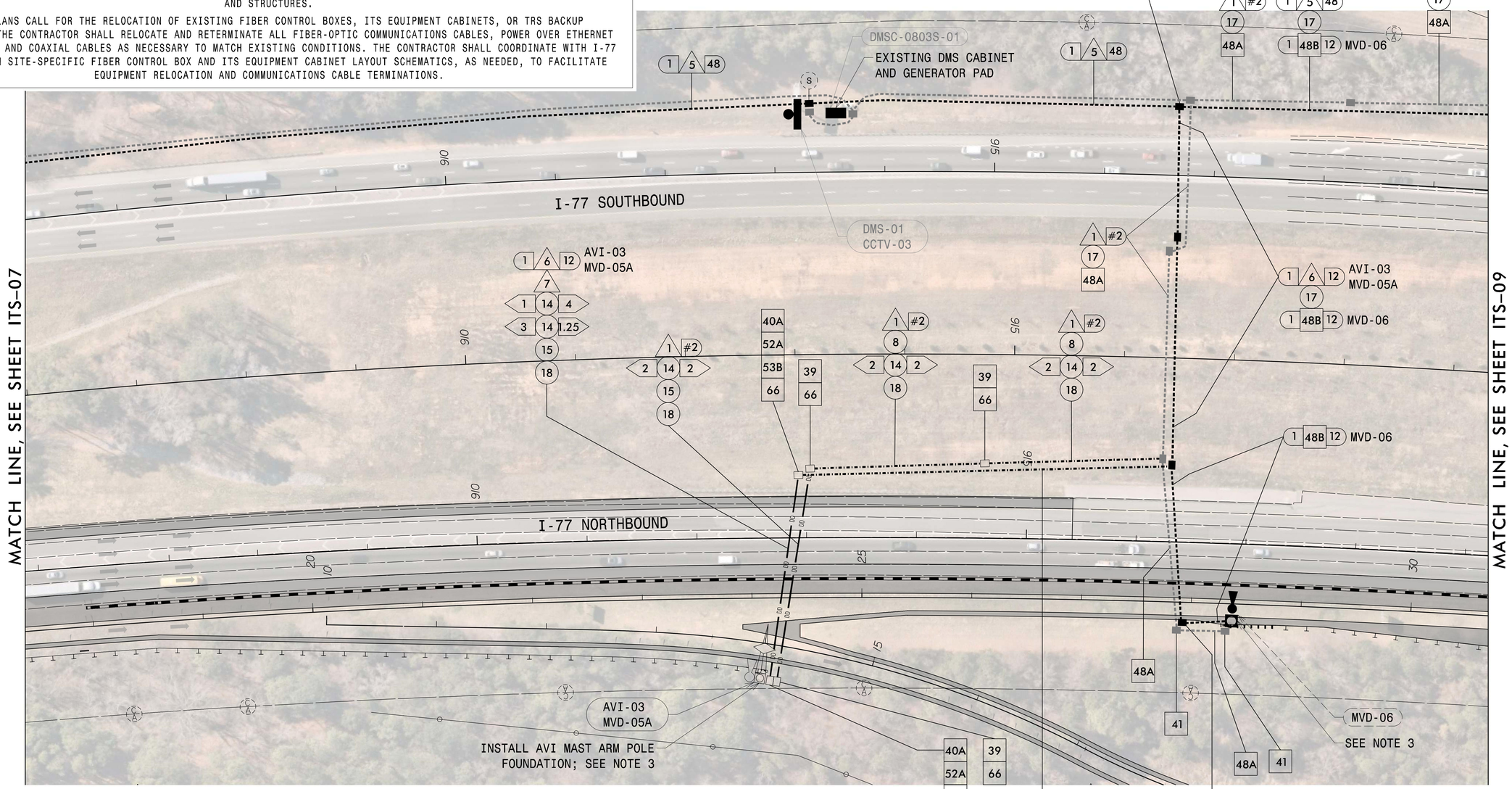
PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-08

SPECIAL NOTE

I-5715 CONTRACTOR SHALL COORDINATE WITH I-77 MP TO DETERMINE THE FINAL DEVICE AND SUPPORT STRUCTURE LOCATIONS FOR ALL TOLL DEVICES, INCLUDING AVIs, MVDs, AND CCTV CAMERAS.

CONTRACTOR SHALL COORDINATE WITH I-77 MP REGARDING FINAL DEVICE LOCATIONS TO VERIFY THE REQUIRED ITS POLE HEIGHTS, MAST ARM ATTACHMENT HEIGHTS, AND MAST ARM LENGTHS PRIOR TO THE DESIGN AND INSTALLATION OF THE METAL POLE FOUNDATIONS AND STRUCTURES.

WHERE PLANS CALL FOR THE RELOCATION OF EXISTING FIBER CONTROL BOXES, ITS EQUIPMENT CABINETS, OR TRS BACKUP GENERATORS, THE CONTRACTOR SHALL RELOCATE AND RETERMINATE ALL FIBER-OPTIC COMMUNICATIONS CABLES, POWER OVER ETHERNET (POE) CABLES, AND COAXIAL CABLES AS NECESSARY TO MATCH EXISTING CONDITIONS. THE CONTRACTOR SHALL COORDINATE WITH I-77 MP TO OBTAIN SITE-SPECIFIC FIBER CONTROL BOX AND ITS EQUIPMENT CABINET LAYOUT SCHEMATICS, AS NEEDED, TO FACILITATE EQUIPMENT RELOCATION AND COMMUNICATIONS CABLE TERMINATIONS.



NOTES:

1) THE I-5715 CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING: FIBER-OPTIC CONDUIT AND CABLE INSTALLATION, SPLICING, AND TESTING, INCLUDING BOTH TRUNK-LINE FIBER AND DROP-CABLE CONNECTIONS; ELECTRICAL CONDUIT AND CONDUCTOR INSTALLATION; ELECTRICAL SERVICE MODIFICATION; ITS EQUIPMENT CABINET AND FIBER CONTROL BOX RELOCATION AND INSTALLATION; TRS EQUIPMENT CABINET AND BACKUP GENERATOR PAD INSTALLATION; TRS BACKUP GENERATOR RELOCATION; DESIGN AND INSTALLATION OF METAL SUPPORT STRUCTURES AND FOUNDATIONS; AND REMOVAL OF EXISTING FIBER-OPTIC CABLES, ELECTRICAL CONDUCTORS, AND METAL POLE SUPPORT STRUCTURES AND FOUNDATIONS.

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3) PHASE 1 SOUTH, STEP 7

UPON CONFIRMATION OF FINAL GRADE, INSTALL CONDUIT, JUNCTION BOXES, FIBER-OPTIC CABLES, AND ELECTRICAL CONDUCTORS; AND AVI-03/MVD-05A METAL POLE FOUNDATION AND SUPPORT STRUCTURE AS SHOWN ON PLANS. COORDINATE WITH I-77 MP ON THE INSTALLATION OF AVI-03/MVD-05A BY I-77 MP. INSTALL FIBER CONTROL BOX PROVIDED BY I-77 MP AND TERMINATE AS DIRECTED BY I-77 MP. ROUTE COAXIAL AND POE CABLES FROM THE AVI AND MVD THROUGH THE EXISTING POLE RISER/RACEWAY TO THE FIBER CONTROL BOX AND TERMINATE AS DIRECTED BY I-77 MP. COORDINATE WITH I-77 MP TO COMPLETE CALLIBRATION, COMMISSIONING, AND ACCEPTANCE.

UPON I-77 MP'S RELOCATION OF MVD-06, RELOCATE EXISTING FIBER CONTROL BOX FROM EXISTING SITE TO PROPOSED SITE OF MVD-06 (SEE ITS-09). REMOVE EXISTING MVD-06 METAL POLE SUPPORT STRUCTURE AND FOUNDATION. REMOVE FIBER-OPTIC CABLES AND JUNCTION BOXES AS SHOWN ON THE PLANS. CUT AND ABANDON CUNDUITS AT 30 INCHES BELOW GRADE, AND BACKFILL WITH APPROVED MATERIAL.

PLANS PREPARED IN THE OFFICE OF:
Kimley»Horn
NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

Prepared for the Offices of:
North Carolina Department of Transportation — Traffic Engineering Branch — Traffic Management Unit — Traffic Signal Section
750 N. Greenfield Pkwy., Garner, NC 27529

I-5715
Communications Cable and Conduit Routing Plan

Division 10 Mecklenburg Huntersville

PLAN DATE:	March 2026	REVIEWED BY:	MC Burke
PREPARED BY:	SP Pennington	REVIEWED BY:	

SCALE: 0 N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE-MCKEARNEY
Signed by: Molly Burke-McKearney 10/2/2026
SIGNATURE DATE
CADD Filename:

10/2/2026 8:14:35 AM Molly.Burke K:\CHL_PRJ\4011036264 - I-5715\Signals\SGA - ITS\ITS-08.dgn

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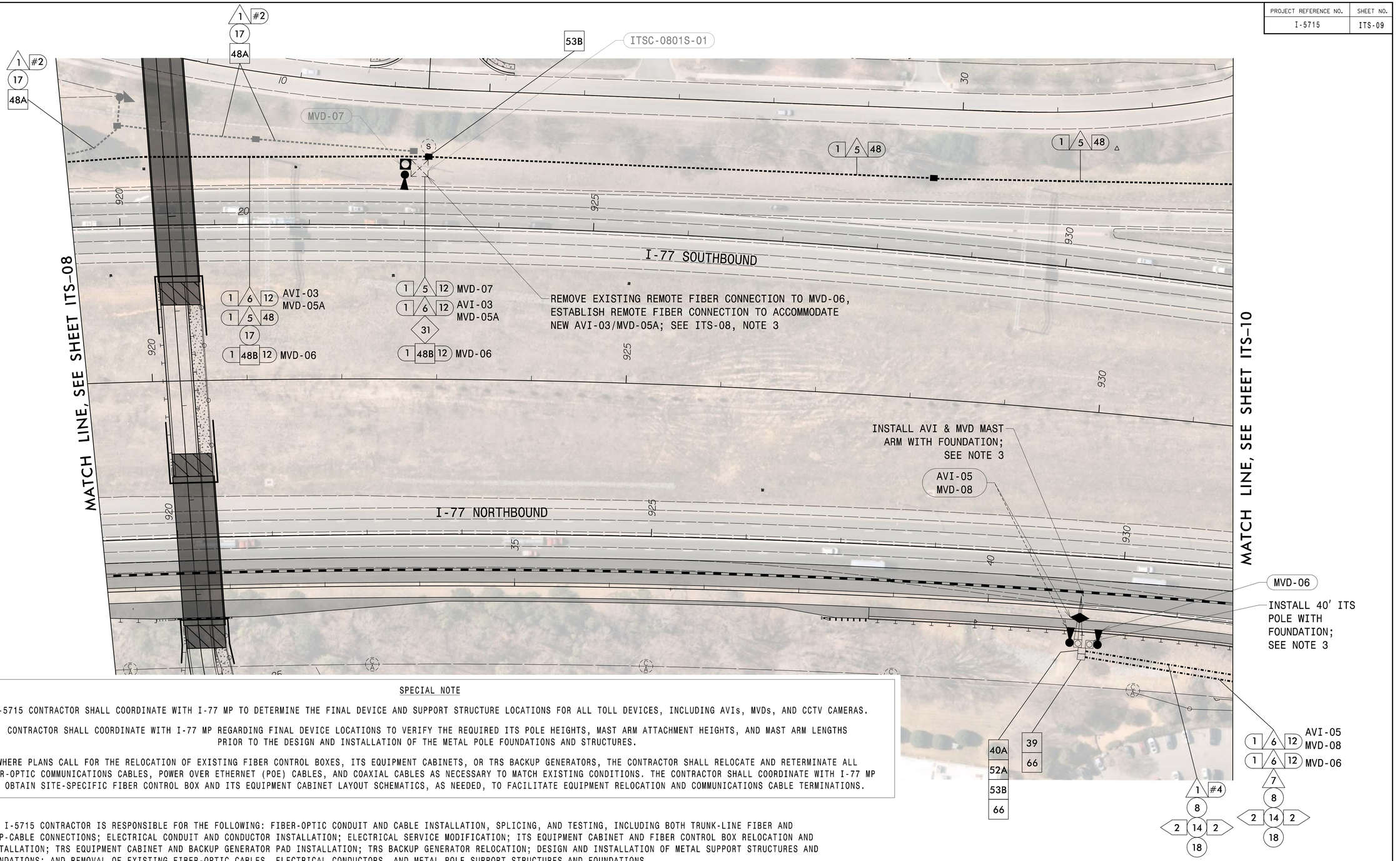
PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-09



SPECIAL NOTE

I-5715 CONTRACTOR SHALL COORDINATE WITH I-77 MP TO DETERMINE THE FINAL DEVICE AND SUPPORT STRUCTURE LOCATIONS FOR ALL TOLL DEVICES, INCLUDING AVIs, MVDs, AND CCTV CAMERAS.

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WHERE PLANS CALL FOR THE RELOCATION OF EXISTING FIBER CONTROL BOXES, ITS EQUIPMENT CABINETS, OR TRS BACKUP GENERATORS, THE CONTRACTOR SHALL RELOCATE AND RETERMINATE ALL FIBER-OPTIC COMMUNICATIONS CABLES, POWER OVER ETHERNET (POE) CABLES, AND COAXIAL CABLES AS NECESSARY TO MATCH EXISTING CONDITIONS. THE CONTRACTOR SHALL COORDINATE WITH I-77 MP TO OBTAIN SITE-SPECIFIC FIBER CONTROL BOX AND ITS EQUIPMENT CABINET LAYOUT SCHEMATICS, AS NEEDED, TO FACILITATE EQUIPMENT RELOCATION AND COMMUNICATIONS CABLE TERMINATIONS.

NOTES:

1) THE I-5715 CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING: FIBER-OPTIC CONDUIT AND CABLE INSTALLATION, SPLICING, AND TESTING, INCLUDING BOTH TRUNK-LINE FIBER AND DROP-CABLE CONNECTIONS; ELECTRICAL CONDUIT AND CONDUCTOR INSTALLATION; ELECTRICAL SERVICE MODIFICATION; ITS EQUIPMENT CABINET AND FIBER CONTROL BOX RELOCATION AND INSTALLATION; TRS EQUIPMENT CABINET AND BACKUP GENERATOR PAD INSTALLATION; TRS BACKUP GENERATOR RELOCATION; DESIGN AND INSTALLATION OF METAL SUPPORT STRUCTURES AND FOUNDATIONS; AND REMOVAL OF EXISTING FIBER-OPTIC CABLES, ELECTRICAL CONDUCTORS, AND METAL POLE SUPPORT STRUCTURES AND FOUNDATIONS.

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3) PHASE 1 SOUTH, STEP 7

   UPON CONFIRMATION OF FINAL GRADE, INSTALL CONDUIT, JUNCTION BOXES, FIBER-OPTIC CABLES, AND ELECTRICAL CONDUCTORS AS SHOWN ON PLANS. INSTALL AVI-05/MVD-08 AND MVD-06 METAL POLE FOUNDATIONS AND SUPPORT STRUCTURES AS SHOWN ON PLANS. COORDINATE WITH I-77 MP FOR THE RELOCATION OF AVI-05/MVD-08 AND MVD-06 BY I-77 MP. RELOCATE THE EXISTING FIBER CONTROL BOXES AND ALL COMPONTENTS TO THE NEW SITES. TERMINATE COMMUNICATIONS CABLES TO MATCH EXITING CONDITIONS. ROUTE COAXIAL AND POE CABLES FROM THE AVI AND MVD THROUGH THE EXISTING POLE RISERS/RACEWAYS TO THE RELOCATED FIBER CONTROL BOXES, AND TERMINATE TO MATCH EXISTING CONDITIONS. COORDINATE WITH I-77 MP TO COMPLETE CALLIBRATION, COMMISSIONING, AND ACCEPTANCE.

PLANS PREPARED IN THE OFFICE OF:
Kimley»Horn
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Raleigh, NC 27601
(919) 677-2000

Prepared for the Offices of:
North Carolina Department of Transportation
750 N. Greenfield Pkwy., Garner, NC 27529

SCALE 0 N/A

I-5715
Communications Cable and Conduit Routing Plan

Division 10 Mecklenburg Huntersville

PLAN DATE: March 2026 REVIEWED BY: MC Burke

PREPARED BY: SP Pennington REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE-MCKEARNEY
Signed by: Molly Burke-Mckearney 10/2/2026
SIGNATURE DATE
CADD Filename:

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10/2/2026 8:14:42 AM Molly.Burke

Docusign Envelope ID: F377CAAB-3B57-8CAC-831B-9507E156A696

PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-10

SPECIAL NOTE

I-5715 CONTRACTOR SHALL COORDINATE WITH I-77 MP TO DETERMINE THE FINAL DEVICE AND SUPPORT STRUCTURE LOCATIONS FOR ALL TOLL DEVICES, INCLUDING AVIs, MVDs, AND CCTV CAMERAS.

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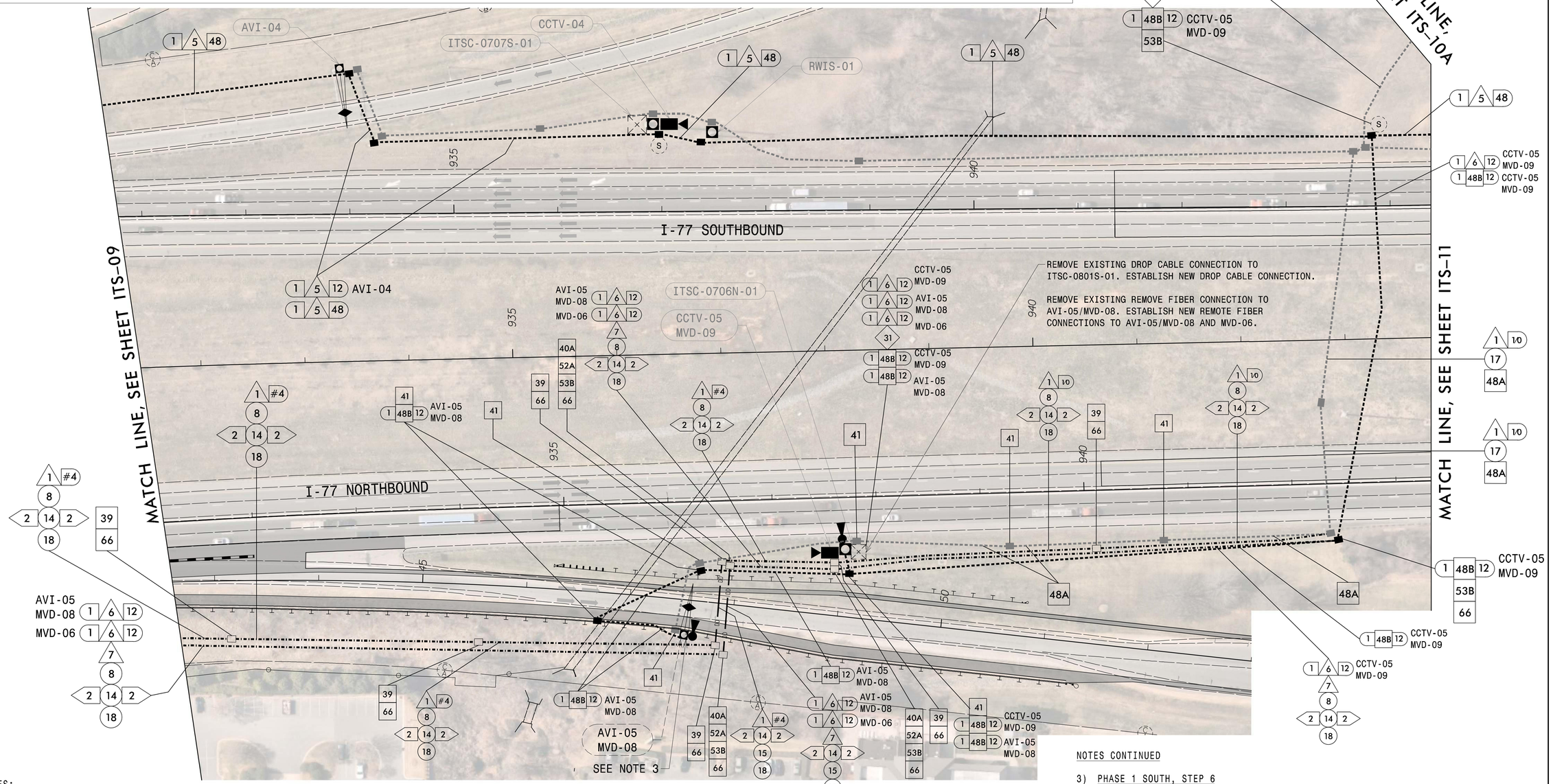

NOTES:

1) THE I-5715 CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING: FIBER-OPTIC CONDUIT AND CABLE INSTALLATION, SPLICING, AND TESTING, INCLUDING BOTH TRUNK-LINE FIBER AND DROP-CABLE CONNECTIONS; ELECTRICAL CONDUIT AND CONDUCTOR INSTALLATION; ELECTRICAL SERVICE MODIFICATION; ITS EQUIPMENT CABINET AND FIBER CONTROL BOX RELOCATION AND INSTALLATION; TRS EQUIPMENT CABINET AND BACKUP GENERATOR PAD INSTALLATION; TRS BACKUP GENERATOR RELOCATION; DESIGN AND INSTALLATION OF METAL SUPPORT STRUCTURES AND FOUNDATIONS; AND REMOVAL OF EXISTING FIBER-OPTIC CABLES, ELECTRICAL CONDUCTORS, AND METAL POLE SUPPORT STRUCTURES AND FOUNDATIONS.

2) I-77 MOBILITY PARTNERS IS RESPONSIBLE FOR THE FOLLOWING: RELOCATION OF EXISTING TOLLING DEVICES, INCLUDING AVI, MVD, AND CCTV CAMERAS; PROCUREMENT AND INSTALLATION OF NEW ITS DEVICES; PROCUREMENT AND PROGRAMMING OF CELL MODEMS FOR USE WITH TEMPORARY TOLLING DEVICES; AND CALLIBRATION, COMMISSIONING, AND ACCEPTANCE OF ALL TEMPORARY, RELOCATED, AND NEW TOLLING DEVICES.

3) PHASE 1 SOUTH, STEP 7

COORDINATE WITH I-77 MP ON THE REMOVAL OF AVI-05/MVD-08 BY I-77 MP. UPON I-77 MP'S REMOVAL OF AVI-05/MVD-08, REMOVE AND RETAIN EXISTING FIBER CONTROL BOX AND ALL COMPONENTS TO BE INSTALLED AT THE NEW SITE. REMOVE EXISTING METAL SUPPORT STRUCTURE AND FOUNDATION. REMOVE EXISTING JUNCTION BOXES, CONDUIT, FIBER-OPTIC CABLES, AND CONDUCTORS AS SHOWN ON PLANS. CUT AND ABANDON CONDUITS AT 30 INCHES BELOW GRADE, BACKFILL WITH APPROVED MATERIAL.

INSTALL JUNCTION BOXES, CONDUIT, FIBER-OPTIC CABLES, AND ELECTRICAL CONDUCTORS TO MAINTAIN CONNECTIVITY AND POWER TO EXISTING CCTV-05/MVD-09 DURING GRADING.

NOTES CONTINUED

3) PHASE 1 SOUTH, STEP 6

UPON CONFIRMATION OF FINAL GRADE, INSTALL CONDUIT, JUNCTION BOXES, FIBER-OPTIC CABLES, AND ELECTRICAL CONDUCTORS AS SHOWN ON PLANS TO ESTABLISH REMOVE FIBER CONNECTION TO NEW SITE OF AVI-05/MVD-08 AND MVD-06. SEE ITS-09 FOR NEW SITE OF AVI-05/MVD-08 AND MVD-06.

PLANS PREPARED IN THE OFFICE OF:
Kimley»Horn
NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

Prepared for the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transportation Mobility and Safety Division
Traffic Engineering Branch
750 N. Greenfield Pkwy., Garner, NC 27529

SCALE 0 N/A

I-5715
Communications Cable and Conduit Routing Plan

Division 10 Mecklenburg Huntersville

PLAN DATE:	March 2026	REVIEWED BY:	MC Burke
PREPARED BY:	SP Pennington	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE-MCKEARNEY
Signed by: Molly Burke-Mckearney
10/2/2026
SIGNATURE DATE
CADD Filename:

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Docusign Envelope ID: F377CAAB-3B57-8CAC-831B-9507E156A696

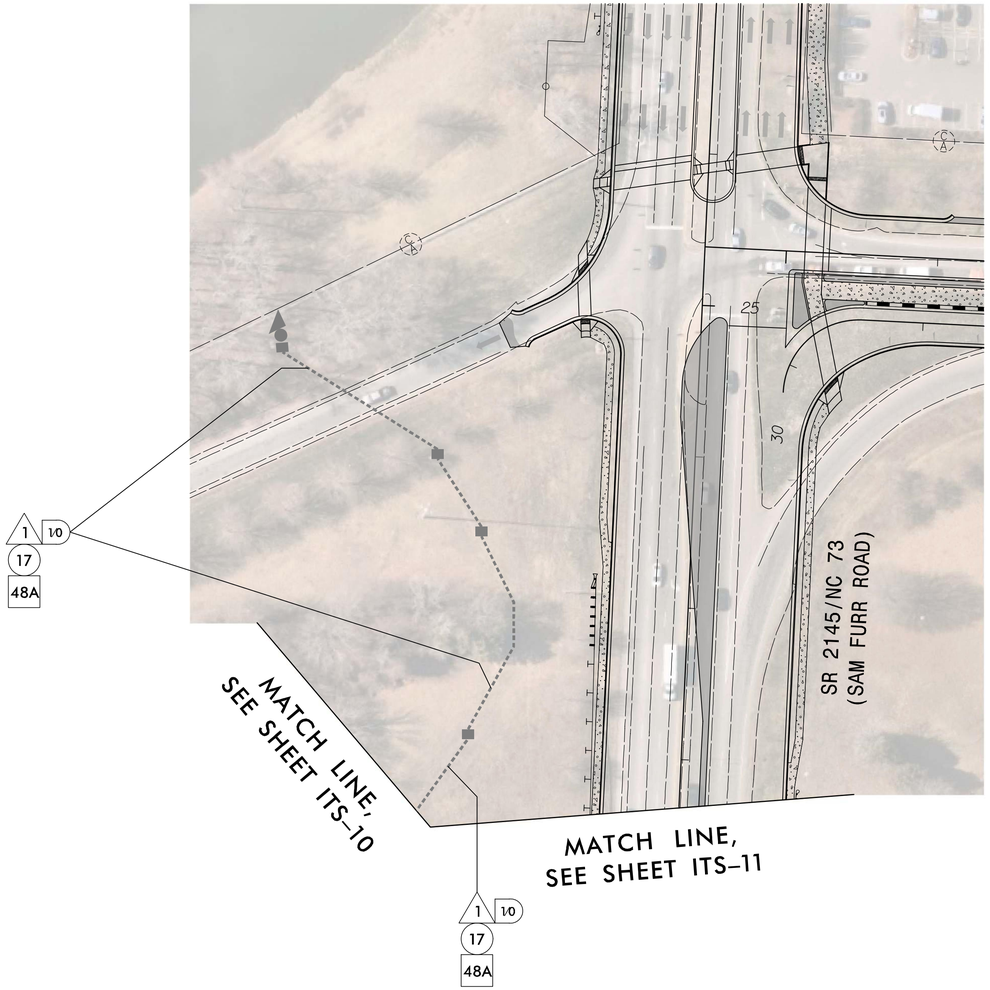
PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-10A

SPECIAL NOTE

I-5715 CONTRACTOR SHALL COORDINATE WITH I-77 MP TO DETERMINE THE FINAL DEVICE AND SUPPORT STRUCTURE LOCATIONS FOR ALL TOLL DEVICES, INCLUDING AVIs, MVDs, AND CCTV CAMERAS.

CONTRACTOR SHALL COORDINATE WITH I-77 MP REGARDING FINAL DEVICE LOCATIONS TO VERIFY THE REQUIRED ITS POLE HEIGHTS, MAST ARM ATTACHMENT HEIGHTS, AND MAST ARM LENGTHS PRIOR TO THE DESIGN AND INSTALLATION OF THE METAL POLE FOUNDATIONS AND STRUCTURES.

WHERE PLANS CALL FOR THE RELOCATION OF EXISTING FIBER CONTROL BOXES, ITS EQUIPMENT CABINETS, OR TRS BACKUP GENERATORS, THE CONTRACTOR SHALL RELOCATE AND RETERMINATE ALL FIBER-OPTIC COMMUNICATIONS CABLES, POWER OVER ETHERNET (POE) CABLES, AND COAXIAL CABLES AS NECESSARY TO MATCH EXISTING CONDITIONS. THE CONTRACTOR SHALL COORDINATE WITH I-77 MP TO OBTAIN SITE-SPECIFIC FIBER CONTROL BOX AND ITS EQUIPMENT CABINET LAYOUT SCHEMATICS, AS NEEDED, TO FACILITATE EQUIPMENT RELOCATION AND COMMUNICATIONS CABLE TERMINATIONS.



NOTES:

1) THE I-5715 CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING: FIBER-OPTIC CONDUIT AND CABLE INSTALLATION, SPLICING, AND TESTING, INCLUDING BOTH TRUNK-LINE FIBER AND DROP-CABLE CONNECTIONS; ELECTRICAL CONDUIT AND CONDUCTOR INSTALLATION; ELECTRICAL SERVICE MODIFICATION; ITS EQUIPMENT CABINET AND FIBER CONTROL BOX RELOCATION AND INSTALLATION; TRS EQUIPMENT CABINET AND BACKUP GENERATOR PAD INSTALLATION; TRS BACKUP GENERATOR RELOCATION; DESIGN AND INSTALLATION OF METAL SUPPORT STRUCTURES AND FOUNDATIONS; AND REMOVAL OF EXISTING FIBER-OPTIC CABLES, ELECTRICAL CONDUCTORS, AND METAL POLE SUPPORT STRUCTURES AND FOUNDATIONS.

2) I-77 MOBILITY PARTNERS IS RESPONSIBLE FOR THE FOLLOWING: RELOCATION OF EXISTING TOLLING DEVICES, INCLUDING AVI, MVD, AND CCTV CAMERAS; PROCUREMENT AND INSTALLATION OF NEW ITS DEVICES; PROCUREMENT AND PROGRAMMING OF CELL MODEMS FOR USE WITH TEMPORARY TOLLING DEVICES; AND CALLIBRATION, COMMISSIONING, AND ACCEPTANCE OF ALL TEMPORARY, RELOCATED, AND NEW TOLLING DEVICES.

3) PHASE 1 SOUTH, STEP 7

   INSTALL ELECTRICAL CONDUCTORS TO MAINTAIN POWER TO EXISTING CCTV-05/MVD-09 DURING GRADING. SEE ITS-10 FOR SITE OF CCTV-05/MVD-09.

PLANS PREPARED IN THE OFFICE OF:
Kimley»Horn
NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

Prepared for the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Transportation Mobility and Safety Division
750 N. Greenfield Pkwy., Garner, NC 27529

SCALE
0 N/A

I-5715
Communications Cable and Conduit Routing Plan

Division 10 Mecklenburg Huntersville

PLAN DATE: March 2026 REVIEWED BY: MC Burke
PREPARED BY: SP Pennington REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL
SEAL 058683
ENGINEER
MOLLY C. BURKE-MCKEARNEY

Signed by: Molly Burke-Mckearney
10/2/2026
SIGNATURE DATE

CADD Filename:

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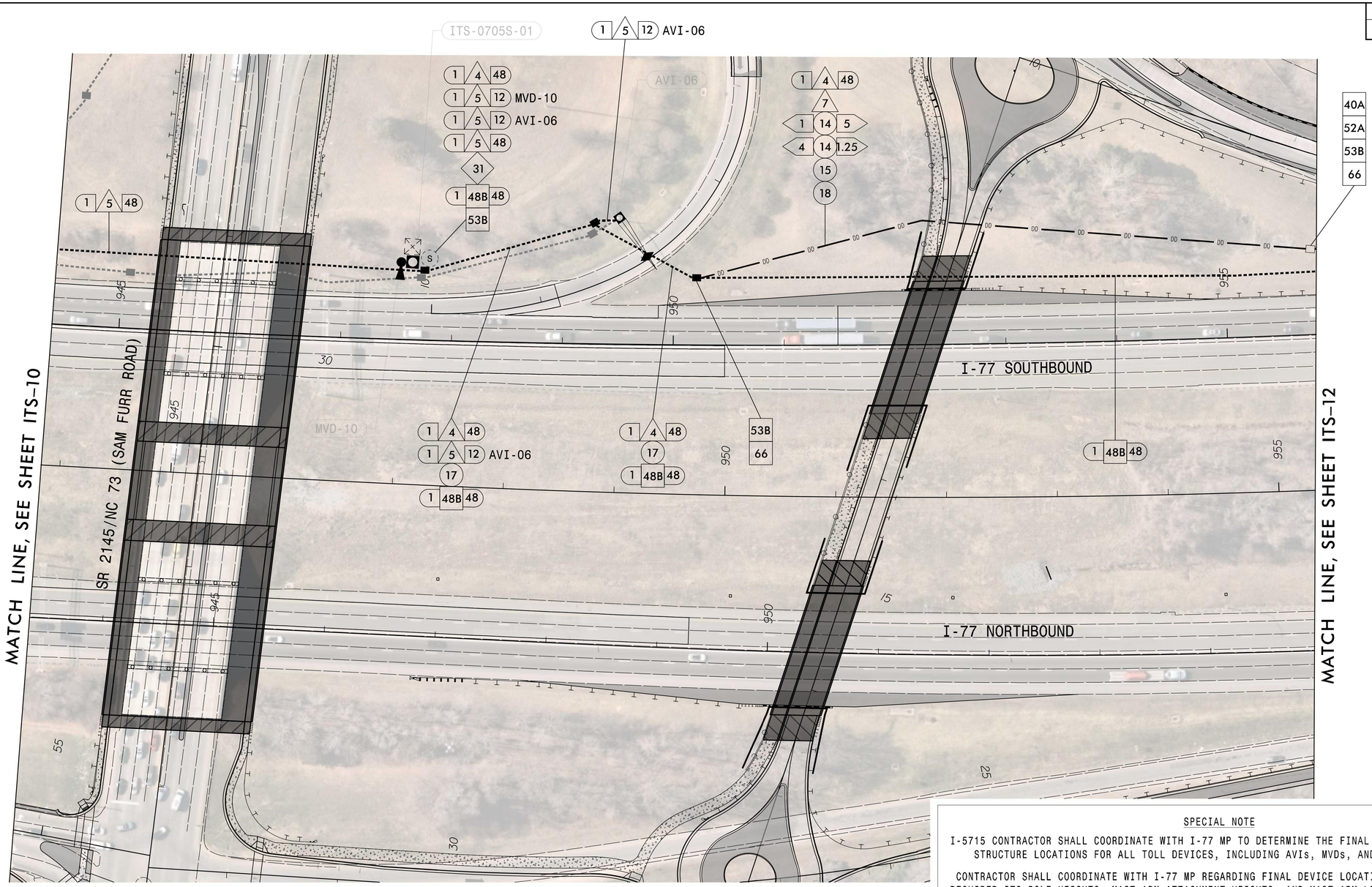
PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-11



MATCH LINE, SEE SHEET ITS-10

MATCH LINE, SEE SHEET ITS-12

NOTES:

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3) EARLY WORKS

   INSTALL JUNCTION BOXES, CONDUIT, FIBER-OPTIC CABLES, AND ELECTRICAL CONDUCTORS FOR RELOCATION OF TRUNK CABLES, DROP CABLES, AND REMOTE SITE CABLES TO BE IMPACTED BY CONSTRUCTION AS SHOWN ON PLANS. AFTER NEW TRUNK CABLES AND CONDUIT HAVE BEEN INSTALLED, PERFORM TRUNK LINE CUTOVER BETWEEN THE HOURS OF 10:00PM SATURDAY AND 6:00AM SUNDAY. COORDINATE WITH I-77 MP ON PRIORITY BUFFER TUBES FOR RESPLICING TO MINIMIZE IMPACTS TO I-77 MP SYSTEM DURING CUTOVER.

   FOR NEW DROP CABLES/REMOTE SITE CABLES, TERMINATE IN EXISTING ITS EQUIPMENT CABINETS/FIBER CONTROL BOXES TO MATCH EXISTING CONDITIONS. COORDINATE WITH I-77 MP TO COMPLETE CALLIBRATION, COMMISSIONING, AND ACCEPTANCE.

   FOLLOWING TRUNK LINK CUTOVER AND DEVICE ACCEPTRANCE BY I-77 MP, REMOVE EXISTING FIBER-OPTIC CABLES, ELECTRICAL CONDUCTORS, AND JUNCTION BOXES AS SHOWN ON THE PLANS. CUT AND ABANDON CUNDUITS AT 30 INCHES BELOW GRADE, AND BACKFILL WITH APPROVED MATERIAL.

SPECIAL NOTE

I-5715 CONTRACTOR SHALL COORDINATE WITH I-77 MP TO DETERMINE THE FINAL DEVICE AND SUPPORT STRUCTURE LOCATIONS FOR ALL TOLL DEVICES, INCLUDING AVIs, MVDs, AND CCTV CAMERAS.

CONTRACTOR SHALL COORDINATE WITH I-77 MP REGARDING FINAL DEVICE LOCATIONS TO VERIFY THE REQUIRED ITS POLE HEIGHTS, MAST ARM ATTACHMENT HEIGHTS, AND MAST ARM LENGTHS PRIOR TO THE DESIGN AND INSTALLATION OF THE METAL POLE FOUNDATIONS AND STRUCTURES.

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PLANS PREPARED IN THE OFFICE OF:
Kimley»Horn
NC License #F-0102
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Raleigh, NC 27601
(919) 677-2000

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

SCALE
0 N/A

I-5715
Communications Cable and Conduit Routing Plan

Division 10 Mecklenburg Huntersville

PLAN DATE:	March 2026	REVIEWED BY:	MC Burke
PREPARED BY:	SP Pennington	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL
SEAL 058683
ENGINEER
MOLLY C. BURKE-MCKEARNEY

Signed by: Molly Burke-Mckearney
10/2/2026
SIGNATURE DATE

CADD Filename:

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10/2/2026 8:16:06 AM Molly.Burke

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PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-12

SPECIAL NOTE

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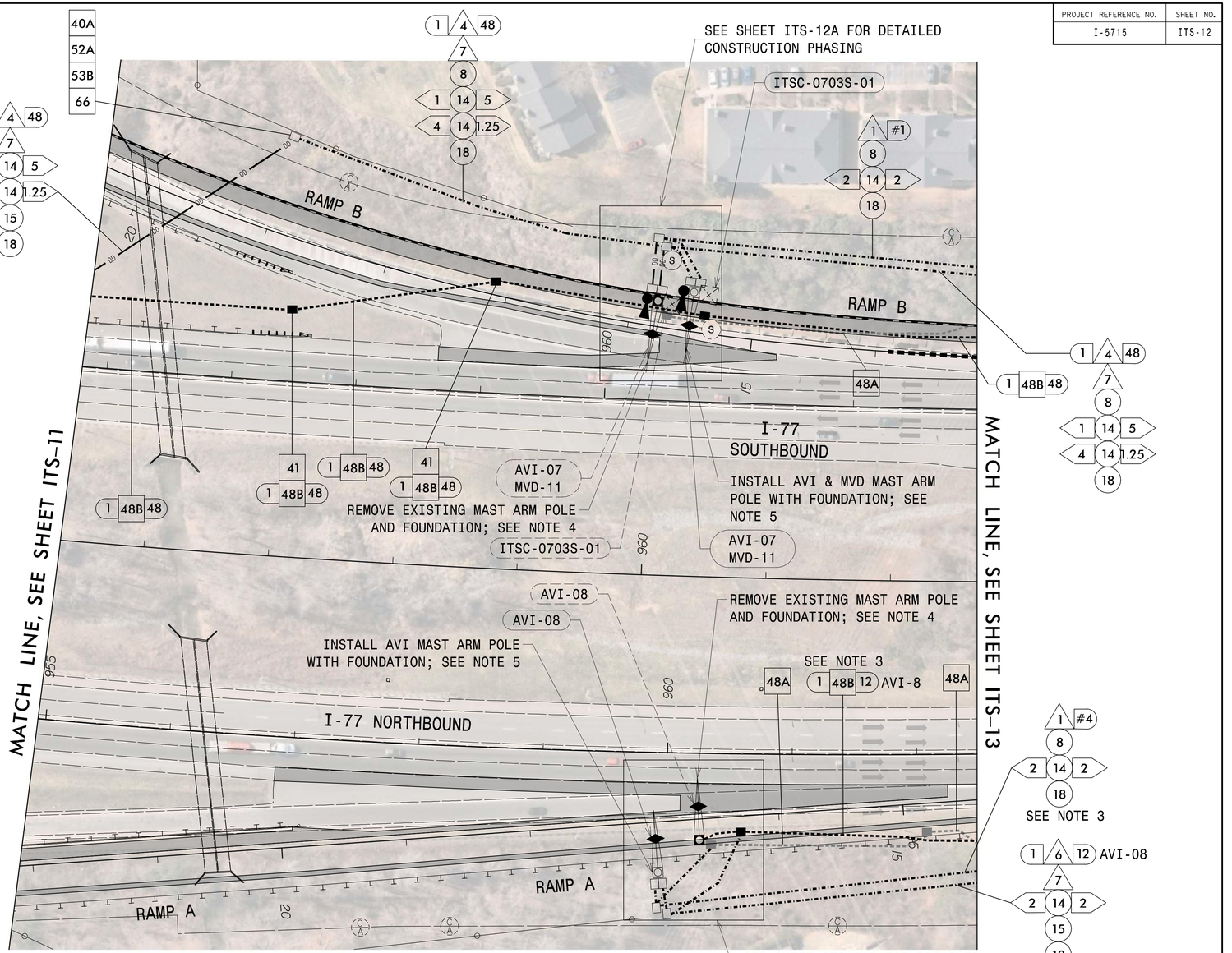

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3) EARLY WORKS

INSTALL JUNCTION BOXES, CONDUIT, FIBER-OPTIC CABLES, AND ELECTRICAL CONDUCTORS FOR RELOCATION OF TRUNK CABLES, DROP CABLES, AND REMOTE SITE CABLES TO BE IMPACTED BY CONSTRUCTION AS SHOWN ON PLANS. AFTER NEW TRUNK CABLES AND CONDUIT HAVE BEEN INSTALLED, PERFORM TRUNK LINE CUTOVER BETWEEN THE HOURS OF 10:00PM SATURDAY AND 6:00AM SUNDAY. COORDINATE WITH I-77 MP ON PRIORITY BUFFER TUBES FOR RESPLICING TO MINIMIZE IMPACTS TO I-77 MP SYSTEM DURING CUTOVER.

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FOLLOWING TRUNK LINK CUTOVER AND DEVICE ACCEPTRANCE BY I-77 MP, REMOVE EXISTING FIBER-OPTIC CABLES, ELECTRICAL CONDUCTORS, AND JUNCTION BOXES AS SHOWN ON THE PLANS. CUT AND ABANDON CUNDUITS AT 30 INCHES BELOW GRADE, AND BACKFILL WITH APPROVED MATERIAL.

4) PHASE 1 NORTH, STEP 2

COORDINATE WITH I-77 MP ON THE DEPLOYMENT OF A TEMPORARY PORTABLE MVD TO FUNCTION AS TEMPORARY MVD-11 DURING CONSTRUCTION. CELLULAR MODEM TO BE SUPPLIED BY I-77 MP. CONTACT THE I-77 MP FIELD SYSTEMS MANAGER, AT 817-992-6950, TO REQUEST THE CELL MODEM. ALLOW 8 WEEKS LEAD TIME BEFORE ANTICIPATED DEPLOYMENT.

COORDINATE WITH I-77 MP ON REMOVAL OF AVI-07/MVD-11 AND AVI-08 BY I-77 MP. UPON I-77 MP'S REMOVAL OF AVI-07/MVD-11 AND AVI-08, REMOVE AND RETAIN EXISTING ITS EQUIPMENT CABINET AND FIBER CONTROL BOX AND ALL COMPONENTS TO BE INSTALLED AT THE NEW SITES. REMOVE EXISTING METAL SUPPORT STRUCTURES AND FOUNDATIONS. REMOVE EXISTING JUNCTION BOXES, CONDUIT, FIBER-OPTIC CABLES, AND CONDUCTORS AS SHOWN ON PLANS. CUT AND ABANDON CONDUITS AT 30 INCHES BELOW GRADE, BACKFILL WITH APPROVED MATERIAL.

5) PHASE 2 NORTH, STEP 6

UPON CONFIRMATION OF FINAL GRADE, INSTALL CONDUIT, JUNCTION BOXES, FIBER-OPTIC CABLES, AND ELECTRICAL CONDUCTORS AS SHOWN ON PLANS. INSTALL AVI-07/MVD-11 AND AVI-08 METAL POLE FOUNDATIONS AND SUPPORT STRUCTURES AS SHOWN ON PLANS. COORDINATE WITH I-77 MP FOR THE RELOCATION OF AVI-07/MVD-11 AND AVI-08 BY I-77 MP. RELOCATE THE EXISTING ITS EQUIPMENT CABINET AND FIBER CONTROL BOX AND ALL COMPONTENTS TO THE NEW SITES. TERMINATE COMMUNICATIONS CABLES TO MATCH EXITING CONDITIONS. ROUTE COAXIAL AND POE CABLES FROM THE AVI AND MVD THROUGH THE EXISTING POLE RISERS/RACEWAYS TO THE RELOCATED ITS EQUIPMENT CABINET AND FIBER CONTROL BOX, AND TERMINATE TO MATCH EXISTING CONDITIONS. COORDINATE WITH I-77 MP TO COMPLETE CALLIBRATION, COMMISSIONING, AND ACCEPTANCE.

PLANS PREPARED IN THE OFFICE OF:
Kimley»Horn
NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

Prepared for the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

I-5715 Communications Cable and Conduit Routing Plan

Division 10 Mecklenburg Huntersville

PLAN DATE:	March 2026	REVIEWED BY:	MC Burke
PREPARED BY:	SP Pennington	REVIEWED BY:	

REVISIONS	INIT.	DATE

SCALE 0 N/A

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE-MCKENNEY

Signed by: Molly Burke-Mckenney 10/2/2026
SIGNATURE DATE

CADD Filename:

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Molly.Burke
8:16:45 AM
10/2/2026

Docusign Envelope ID: F377CAAB-3B57-8CAC-831B-9507E156A696

PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-12A

SPECIAL NOTE

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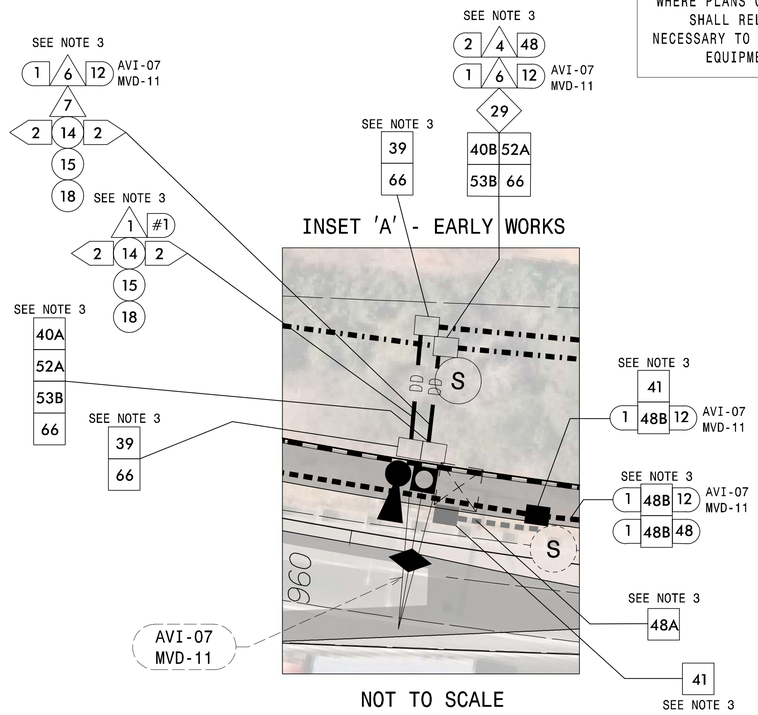

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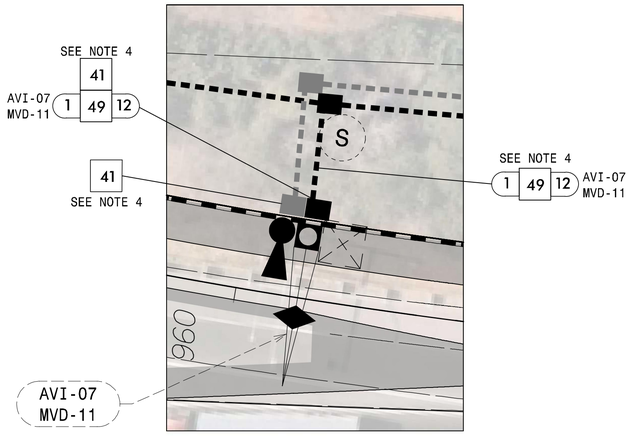

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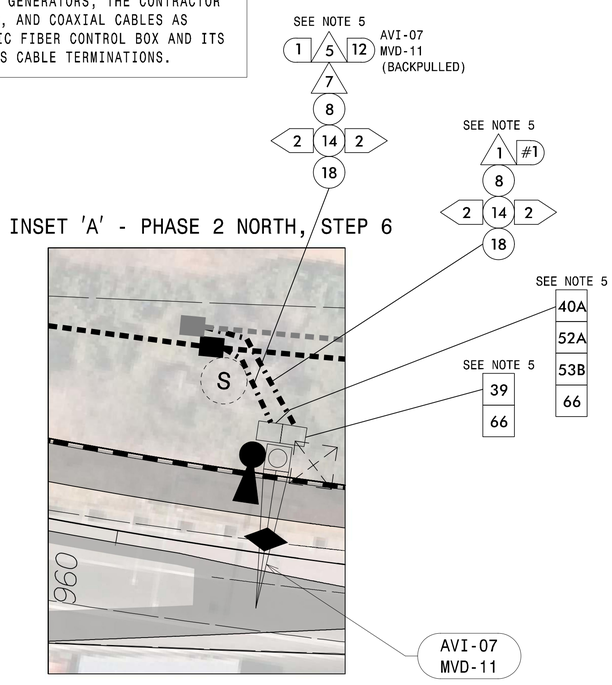

NOT TO SCALE

NOTES:

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4) PHASE 1 NORTH, STEP 2

COORDINATE WITH I-77 MP ON THE DEPLOYMENT OF A TEMPORARY PORTABLE MVD TO FUNCTION AS TEMPORARY MVD-11 DURING CONSTRUCTION. CELLULAR MODEM TO BE SUPPLIED BY I-77 MP. CONTACT THE I-77 MP FIELD SYSTEMS MANAGER, AT 817-992-6950, TO REQUEST THE CELL MODEM. ALLOW 8 WEEKS LEAD TIME BEFORE ANTICIPATED DEPLOYMENT.

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NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

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

I-5715
Communications Cable and Conduit Routing Plan

Division 10 Mecklenburg Huntersville

PLAN DATE:	March 2026	REVIEWED BY:	MC Burke
PREPARED BY:	SP Pennington	REVIEWED BY:	

REVISIONS	INIT.	DATE

SCALE 0 N/A

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 056683 ENGINEER MOLLY C. BURKE-MCKEARNEY

Signed by: Molly Burke-Mckearney 954E7B0C6C647E...
10/2/2026
SIGNATURE DATE

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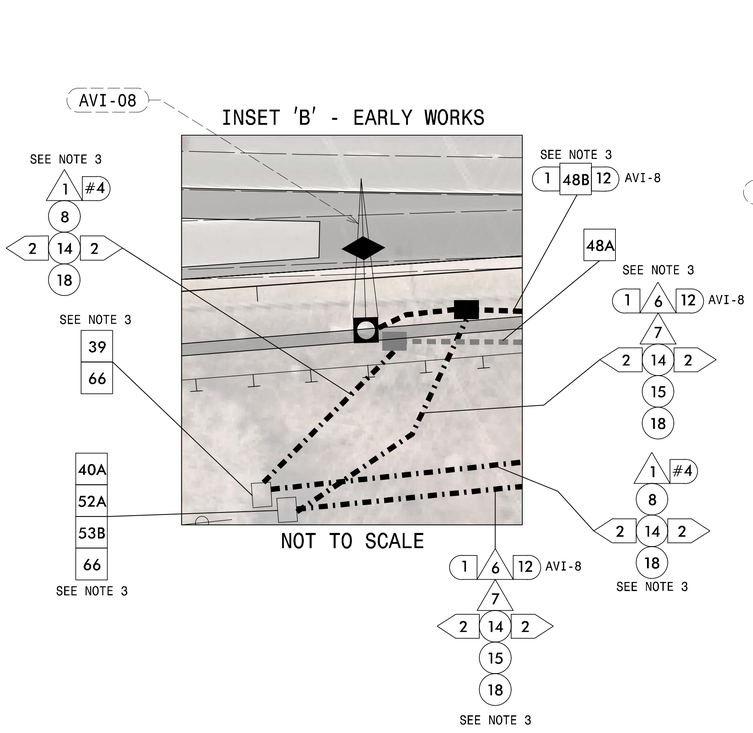
PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-12B

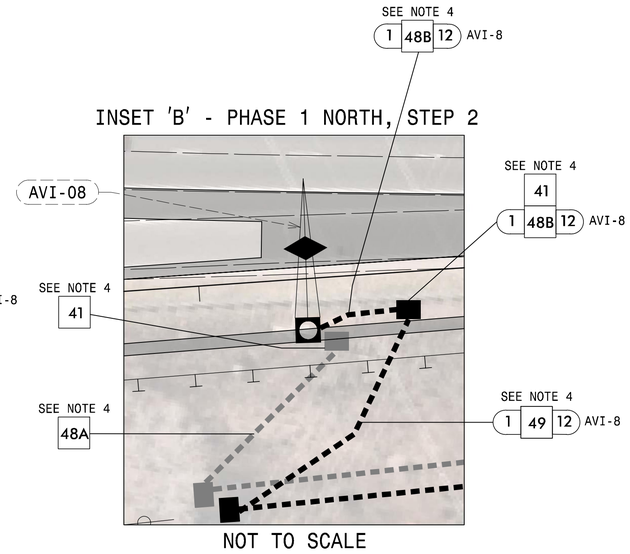
SPECIAL NOTE

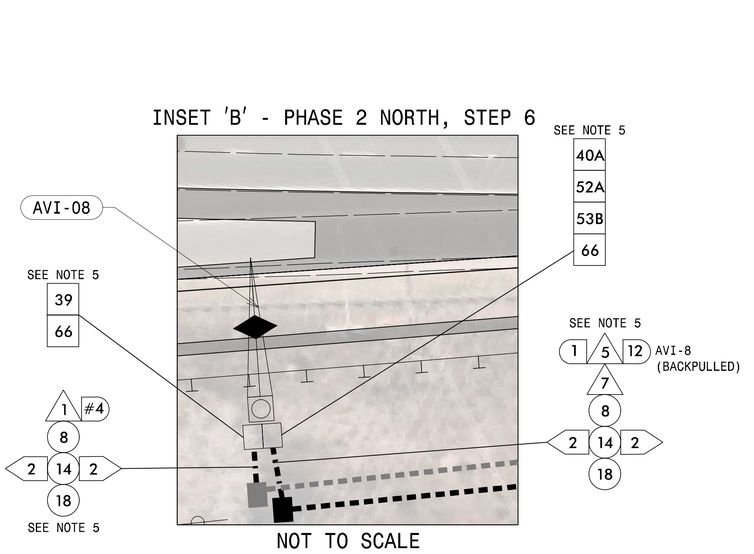
I-5715 CONTRACTOR SHALL COORDINATE WITH I-77 MP TO DETERMINE THE FINAL DEVICE AND SUPPORT STRUCTURE LOCATIONS FOR ALL TOLL DEVICES, INCLUDING AVIs, MVDs, AND CCTV CAMERAS.

CONTRACTOR SHALL COORDINATE WITH I-77 MP REGARDING FINAL DEVICE LOCATIONS TO VERIFY THE REQUIRED ITS POLE HEIGHTS, MAST ARM ATTACHMENT HEIGHTS, AND MAST ARM LENGTHS PRIOR TO THE DESIGN AND INSTALLATION OF THE METAL POLE FOUNDATIONS AND STRUCTURES.

WHERE PLANS CALL FOR THE RELOCATION OF EXISTING FIBER CONTROL BOXES, ITS EQUIPMENT CABINETS, OR TRS BACKUP GENERATORS, THE CONTRACTOR SHALL RELOCATE AND RETERMINATE ALL FIBER-OPTIC COMMUNICATIONS CABLES, POWER OVER ETHERNET (POE) CABLES, AND COAXIAL CABLES AS NECESSARY TO MATCH EXISTING CONDITIONS. THE CONTRACTOR SHALL COORDINATE WITH I-77 MP TO OBTAIN SITE-SPECIFIC FIBER CONTROL BOX AND ITS EQUIPMENT CABINET LAYOUT SCHEMATICS, AS NEEDED, TO FACILITATE EQUIPMENT RELOCATION AND COMMUNICATIONS CABLE TERMINATIONS.







NOTES:

1) THE I-5715 CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING: FIBER-OPTIC CONDUIT AND CABLE INSTALLATION, SPLICING, AND TESTING, INCLUDING BOTH TRUNK-LINE FIBER AND DROP-CABLE CONNECTIONS; ELECTRICAL CONDUIT AND CONDUCTOR INSTALLATION; ELECTRICAL SERVICE MODIFICATION; ITS EQUIPMENT CABINET AND FIBER CONTROL BOX RELOCATION AND INSTALLATION; TRS EQUIPMENT CABINET AND BACKUP GENERATOR PAD INSTALLATION; TRS BACKUP GENERATOR RELOCATION; DESIGN AND INSTALLATION OF METAL SUPPORT STRUCTURES AND FOUNDATIONS; AND REMOVAL OF EXISTING FIBER-OPTIC CABLES, ELECTRICAL CONDUCTORS, AND METAL POLE SUPPORT STRUCTURES AND FOUNDATIONS.

2) I-77 MOBILITY PARTNERS IS RESPONSIBLE FOR THE FOLLOWING: RELOCATION OF EXISTING TOLLING DEVICES, INCLUDING AVI, MVD, AND CCTV CAMERAS; PROCUREMENT AND INSTALLATION OF NEW ITS DEVICES; PROCUREMENT AND PROGRAMMING OF CELL MODEMS FOR USE WITH TEMPORARY TOLLING DEVICES; AND CALLIBRATION, COMMISSIONING, AND ACCEPTANCE OF ALL TEMPORARY, RELOCATED, AND NEW TOLLING DEVICES.

3) EARLY WORKS

INSTALL JUNCTION BOXES, CONDUIT, FIBER-OPTIC CABLES, AND ELECTRICAL CONDUCTORS FOR RELOCATION OF TRUNK CABLES, DROP CABLES, AND REMOTE SITE CABLES TO BE IMPACTED BY CONSTRUCTION AS SHOWN ON PLANS. AFTER NEW TRUNK CABLES AND CONDUIT HAVE BEEN INSTALLED, PERFORM TRUNK LINE CUTOVER BETWEEN THE HOURS OF 10:00PM SATURDAY AND 6:00AM SUNDAY. COORDINATE WITH I-77 MP ON PRIORITY BUFFER TUBES FOR RESPLICING TO MINIMIZE IMPACTS TO I-77 MP SYSTEM DURING CUTOVER.

FOR NEW DROP CABLES/REMOTE SITE CABLES, TERMINATE IN EXISTING ITS EQUIPMENT CABINETS/FIBER CONTROL BOXES TO MATCH EXISTING CONDITIONS. COORDINATE WITH I-77 MP TO COMPLETE CALLIBRATION, COMMISSIONING, AND ACCEPTANCE.

FOLLOWING TRUNK LINK CUTOVER AND DEVICE ACCEPTRANCE BY I-77 MP, REMOVE EXISTING FIBER-OPTIC CABLES, ELECTRICAL CONDUCTORS, AND JUNCTION BOXES AS SHOWN ON THE PLANS. CUT AND ABANDON CUNDUITS AT 30 INCHES BELOW GRADE, AND BACKFILL WITH APPROVED MATERIAL.

4) PHASE 1 NORTH, STEP 2

COORDINATE WITH I-77 MP ON THE DEPLOYMENT OF A TEMPORARY PORTABLE MVD TO FUNCTION AS TEMPORARY MVD-11 DURING CONSTRUCTION. CELLULAR MODEM TO BE SUPPLIED BY I-77 MP. CONTACT THE I-77 MP FIELD SYSTEMS MANAGER, AT 817-992-6950, TO REQUEST THE CELL MODEM. ALLOW 8 WEEKS LEAD TIME BEFORE ANTICIPATED DEPLOYMENT.

COORDINATE WITH I-77 MP ON REMOVAL OF AVI-07/MVD-11 AND AVI-08 BY I-77 MP. UPON I-77 MP'S REMOVAL OF AVI-07/MVD-11 AND AVI-08, REMOVE AND RETAIN EXISTING ITS EQUIPMENT CABINET AND FIBER CONTROL BOX AND ALL COMPONENTS TO BE INSTALLED AT THE NEW SITES. REMOVE EXISTING METAL SUPPORT STRUCTURES AND FOUNDATIONS. REMOVE EXISTING JUNCTION BOXES, CONDUIT, FIBER-OPTIC CABLES, AND CONDUCTORS AS SHOWN ON PLANS. CUT AND ABANDON CONDUITS AT 30 INCHES BELOW GRADE, BACKFILL WITH APPROVED MATERIAL.

5) PHASE 2 NORTH, STEP 6

UPON CONFIRMATION OF FINAL GRADE, INSTALL CONDUIT, JUNCTION BOXES, FIBER-OPTIC CABLES, AND ELECTRICAL CONDUCTORS AS SHOWN ON PLANS. INSTALL AVI-07/MVD-11 AND AVI-08 METAL POLE FOUNDATIONS AND SUPPORT STRUCTURES AS SHOWN ON PLANS. COORDINATE WITH I-77 MP FOR THE RELOCATION OF AVI-07/MVD-11 AND AVI-08 BY I-77 MP. RELOCATE THE EXISTING ITS EQUIPMENT CABINET AND FIBER CONTROL BOX AND ALL COMPONTENTS TO THE NEW SITES. TERMINATE COMMUNICATIONS CABLES TO MATCH EXITING CONDITIONS. ROUTE COAXIAL AND POE CABLES FROM THE AVI AND MVD THROUGH THE EXISTING POLE RISERS/RACEWAYS TO THE RELOCATED ITS EQUIPMENT CABINET AND FIBER CONTROL BOX, AND TERMINATE TO MATCH EXISTING CONDITIONS. COORDINATE WITH I-77 MP TO COMPLETE CALLIBRATION, COMMISSIONING, AND ACCEPTANCE.

PLANS PREPARED IN THE OFFICE OF:
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SCALE 0 N/A

I-5715
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Division 10 Mecklenburg Huntersville

PLAN DATE:	March 2026	REVIEWED BY:	MC Burke
PREPARED BY:	SP Pennington	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE-MCKENNEY

Signed by: Molly Burke-Mckenney 10/2/2026
SIGNATURE DATE

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PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-13

SPECIAL NOTE

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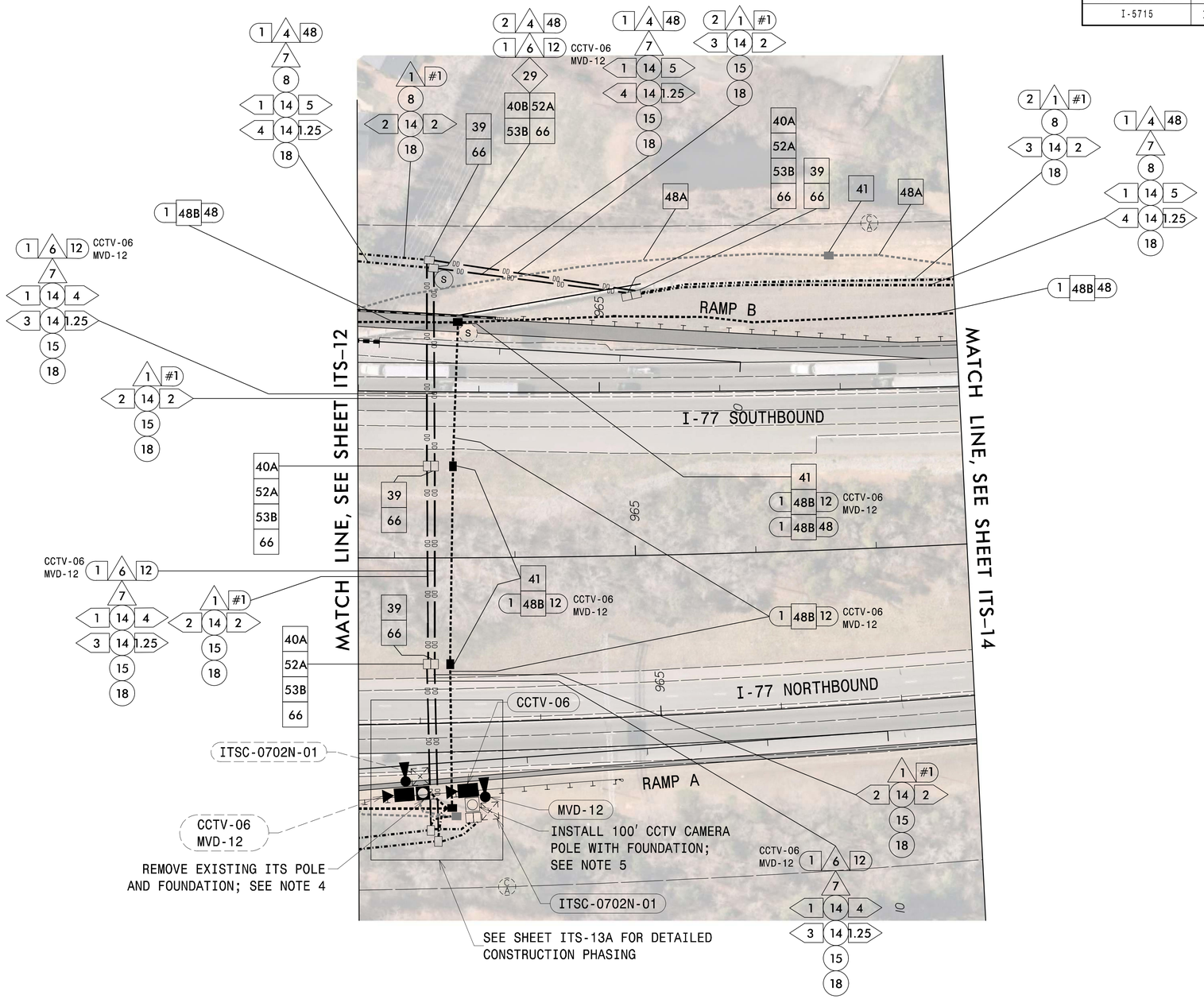

NOTES:

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2) I-77 MOBILITY PARTNERS IS RESPONSIBLE FOR THE FOLLOWING: RELOCATION OF EXISTING TOLLING DEVICES, INCLUDING AVI, MVD, AND CCTV CAMERAS; PROCUREMENT AND INSTALLATION OF NEW ITS DEVICES; PROCUREMENT AND PROGRAMMING OF CELL MODEMS FOR USE WITH TEMPORARY TOLLING DEVICES; AND CALLIBRATION, COMMISSIONING, AND ACCEPTANCE OF ALL TEMPORARY, RELOCATED, AND NEW TOLLING DEVICES.

3) EARLY WORKS

INSTALL JUNCTION BOXES, CONDUIT, FIBER-OPTIC CABLES, AND ELECTRICAL CONDUCTORS FOR RELOCATION OF TRUNK CABLES, DROP CABLES, AND REMOTE SITE CABLES TO BE IMPACTED BY CONSTRUCTION AS SHOWN ON PLANS. AFTER NEW TRUNK CABLES AND CONDUIT HAVE BEEN INSTALLED, PERFORM TRUNK LINE CUTOVER BETWEEN THE HOURS OF 10:00PM SATURDAY AND 6:00AM SUNDAY. COORDINATE WITH I-77 MP ON PRIORITY BUFFER TUBES FOR RESPLICING TO MINIMIZE IMPACTS TO I-77 MP SYSTEM DURING CUTOVER.

FOR NEW DROP CABLES/REMOTE SITE CABLES, TERMINATE IN EXISTING ITS EQUIPMENT CABINETS/FIBER CONTROL BOXES TO MATCH EXISTING CONDITIONS. COORDINATE WITH I-77 MP TO COMPLETE CALLIBRATION, COMMISSIONING, AND ACCEPTANCE.

FOLLOWING TRUNK LINK CUTOVER AND DEVICE ACCEPTRANCE BY I-77 MP, REMOVE EXISTING FIBER-OPTIC CABLES, ELECTRICAL CONDUCTORS, AND JUNCTION BOXES AS SHOWN ON THE PLANS. CUT AND ABANDON CUNDUITS AT 30 INCHES BELOW GRADE, AND BACKFILL WITH APPROVED MATERIAL.

4) PHASE 1 NORTH, STEP 2

COORDINATE WITH I-77 MP ON THE DEPLOYMENT OF A TEMPORARY PORTABLE CCTV CAMERA TO SERVE AS TEMPORARY CCTV-06 DURING CONSTRUCTION. CELLULAR MODEM TO BE SUPPLIED BY I-77 MP. CONTACT THE I-77 MP FIELD SYSTEMS MANAGER, AT 817-992-6950, TO REQUEST THE CELL MODEM. ALLOW 8 WEEKS LEAD TIME BEFORE ANTICIPATED DEPLOYMENT.

COORDINATE WITH I-77 MP ON REMOVAL OF CCTV-06/MVD-12 BY I-77 MP. UPON I-77 MP'S REMOVAL OF CCTV-06/MVD-12, REMOVE AND RETAIN EXISTING ITS EQUIPMENT CABINETAND ALL COMPONENTS TO BE INSTALLED AT THE NEW SITE. REMOVE EXISTING METAL SUPPORT STRUCTURE AND FOUNDATION. REMOVE EXISTING JUNCTION BOXES, CONDUIT, FIBER-OPTIC CABLES, AND CONDUCTORS AS SHOWN ON PLANS. CUT AND ABANDON CONDUITS AT 30 INCHES BELOW GRADE, BACKFILL WITH APPROVED MATERIAL.

5) PHASE 2 NORTH, STEP 6

UPON CONFIRMATION OF FINAL GRADE, INSTALL CONDUIT, JUNCTION BOXES, FIBER-OPTIC CABLES, AND ELECTRICAL CONDUCTORS AS SHOWN ON PLANS. INSTALL CCTV-07/MVD-12 METAL POLE FOUNDATION AND SUPPORT STRUCTURE AS SHOWN ON PLANS.

COORDINATE WITH I-77 MP FOR THE RELOCATION OF CCTV-07/MVD-12 BY I-77 MP. RELOCATE THE EXISTING ITS EQUIPMENT CABINET AND ALL COMPONTENTS TO THE NEW SITE. TERMINATE COMMUNICATIONS CABLES TO MATCH EXITING CONDITIONS. ROUTE COAXIAL AND POE CABLES FROM THE CCTV CAMERA AND MVD THROUGH THE EXISTING POLE RISER/RACEWAY TO THE RELOCATED ITS EQUIPMENT CABINET, AND TERMINATE TO MATCH EXISTING CONDITIONS. COORDINATE WITH I-77 MP TO COMPLETE CALLIBRATION, COMMISSIONING, AND ACCEPTANCE.

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Communications Cable and Conduit Routing Plan

Division 10 Mecklenburg Huntersville

PLAN DATE:	March 2026	REVIEWED BY:	MC Burke
PREPARED BY:	SP Pennington	REVIEWED BY:	

SCALE 0 N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL
SEAL 058683
ENGINEER
MOLLY C. BURKE-MCKEARNEY

Signed by: Molly Burke-McKearney 10/2/2026
SIGNATURE DATE

CADD Filename:

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PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-13A

SPECIAL NOTE

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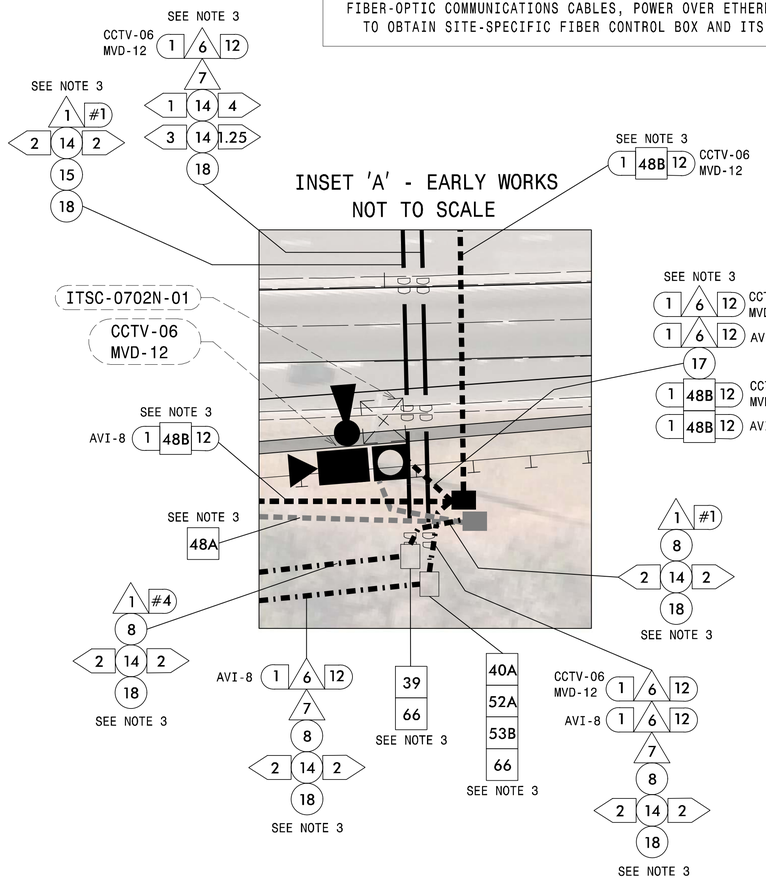

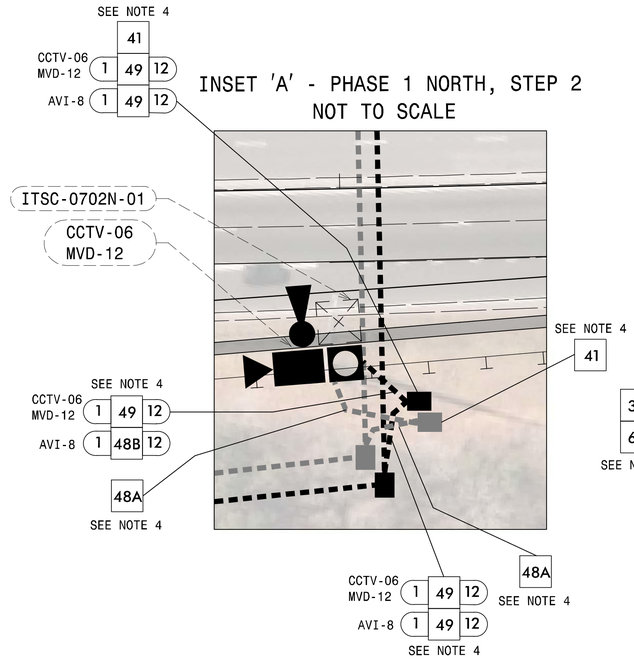

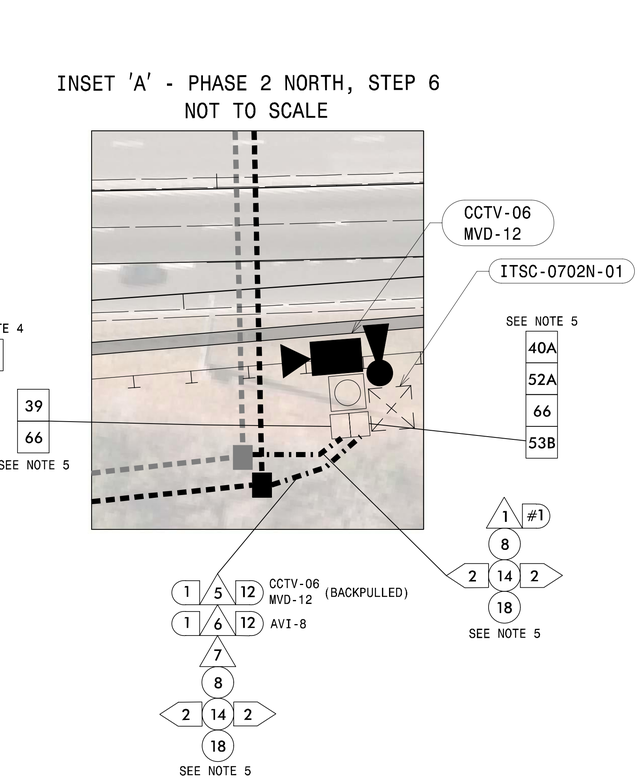

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3) EARLY WORKS

INSTALL JUNCTION BOXES, CONDUIT, FIBER-OPTIC CABLES, AND ELECTRICAL CONDUCTORS FOR RELOCATION OF TRUNK CABLES, DROP CABLES, AND REMOTE SITE CABLES TO BE IMPACTED BY CONSTRUCTION AS SHOWN ON PLANS. AFTER NEW TRUNK CABLES AND CONDUIT HAVE BEEN INSTALLED, PERFORM TRUNK LINE CUTOVER BETWEEN THE HOURS OF 10:00PM SATURDAY AND 6:00AM SUNDAY. COORDINATE WITH I-77 MP ON PRIORITY BUFFER TUBES FOR RESPLICING TO MINIMIZE IMPACTS TO I-77 MP SYSTEM DURING CUTOVER.

FOR NEW DROP CABLES/REMOTE SITE CABLES, TERMINATE IN EXISTING ITS EQUIPMENT CABINETS/FIBER CONTROL BOXES TO MATCH EXISTING CONDITIONS. COORDINATE WITH I-77 MP TO COMPLETE CALLIBRATION, COMMISSIONING, AND ACCEPTANCE.

FOLLOWING TRUNK LINK CUTOVER AND DEVICE ACCEPTRANCE BY I-77 MP, REMOVE EXISTING FIBER-OPTIC CABLES, ELECTRICAL CONDUCTORS, AND JUNCTION BOXES AS SHOWN ON THE PLANS. CUT AND ABANDON CUNDUITS AT 30 INCHES BELOW GRADE, AND BACKFILL WITH APPROVED MATERIAL.

4) PHASE 1 NORTH, STEP 2

COORDINATE WITH I-77 MP ON THE DEPLOYMENT OF A TEMPORARY PORTABLE CCTV CAMERA TO SERVE AS TEMPORARY CCTV-06 DURING CONSTRUCTION. CELLULAR MODEM TO BE SUPPLIED BY I-77 MP. CONTACT THE I-77 MP FIELD SYSTEMS MANAGER, AT 817-992-6950, TO REQUEST THE CELL MODEM. ALLOW 8 WEEKS LEAD TIME BEFORE ANTICIPATED DEPLOYMENT.

COORDINATE WITH I-77 MP ON REMOVAL OF CCTV-06/MVD-12 BY I-77 MP. UPON I-77 MP'S REMOVAL OF CCTV-06/MVD-12, REMOVE AND RETAIN EXISTING ITS EQUIPMENT CABINETAND ALL COMPONENTS TO BE INSTALLED AT THE NEW SITE. REMOVE EXISTING METAL SUPPORT STRUCTURE AND FOUNDATION. REMOVE EXISTING JUNCTION BOXES, CONDUIT, FIBER-OPTIC CABLES, AND CONDUCTORS AS SHOWN ON PLANS. CUT AND ABANDON CONDUITS AT 30 INCHES BELOW GRADE, BACKFILL WITH APPROVED MATERIAL.

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I-5715 Communications Cable and Conduit Routing Plan

Division 10 Mecklenburg Huntersville

PLAN DATE: March 2026 REVIEWED BY: MC Burke

PREPARED BY: SP Pennington REVIEWED BY:

SCALE 0 N/A

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE-MCKEARNEY

Signed by: Molly Burke-McKearney 10/2/2026
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10/2/2026 8:17:09 AM Molly.Burke K:\CHL_PRJ\MOT\036264 - I-5715\Signals\56A - ITS\ITS-13A.dgn

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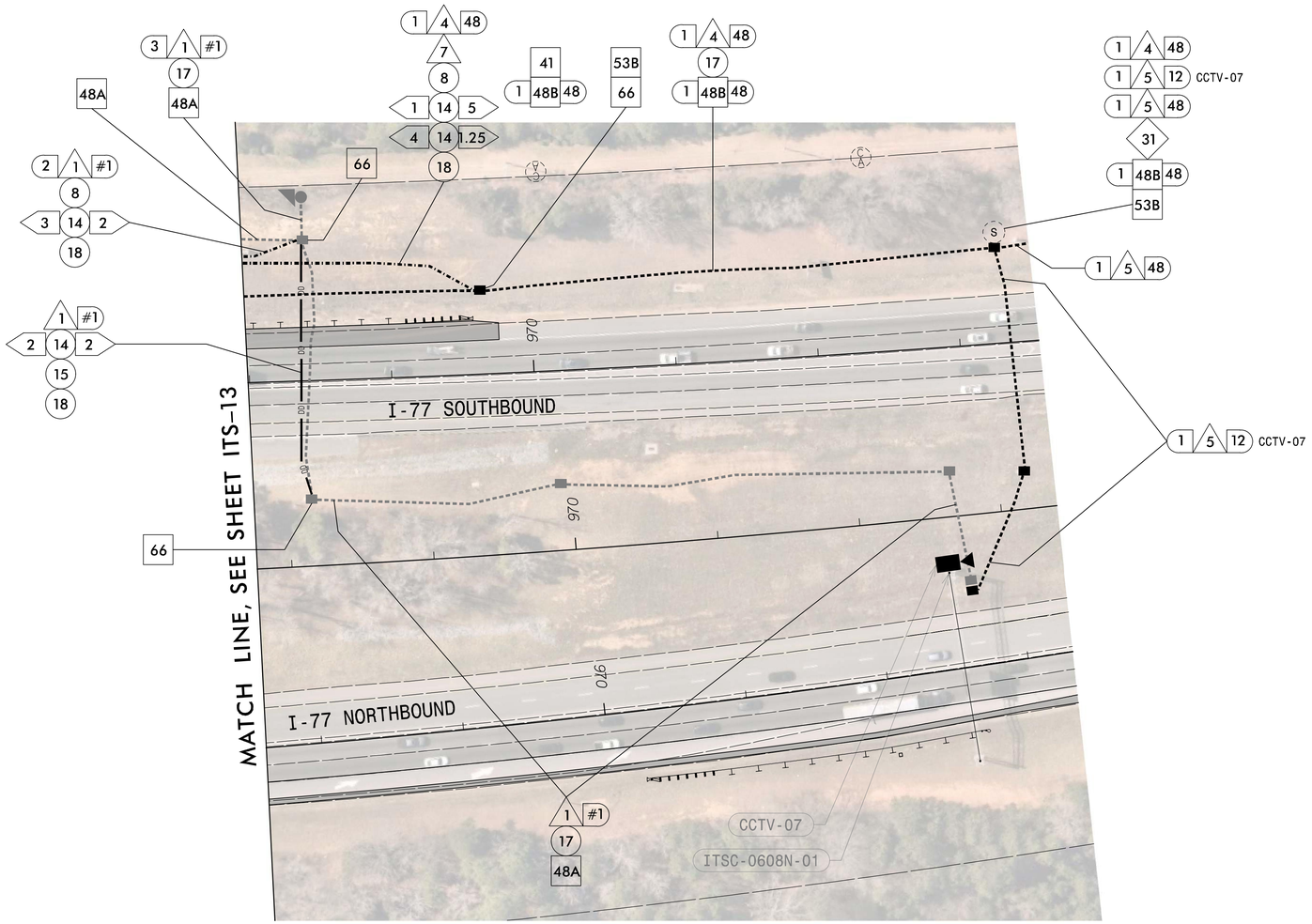
PROJECT REFERENCE NO.	SHEET NO.
I-5715	ITS-14



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COORDINATE WITH I-77 MP ON THE DEPLOYMENT OF A TEMPORARY PORTABLE CCTV CAMERA TO MAINTAIN COVERAGE OF THE EXISTING TRS CURRETNLY COVERED BY CCTV-07 (EXISTING TRS APPROXIMATELY 800' NORTH OF CCTV-07). CELLULAR MODEM TO BE SUPPLIED BY I-77 MP. CONTACT THE I-77 MP FIELD SYSTEMS MANAGER, AT 817-992-6950, TO REQUEST THE CELL MODEM. ALLOW 8 WEEKS LEAD TIME BEFORE ANTICIPATED DEPLOPYMENT.

AFTER TEMPORARY PORTABLE CCTV CAMERA IS DEPLOYED AND NEW TRUNK CABLES AND CONDUIT HAVE BEEN INSTALLED, PERFORM TRUNK LINE CUTOVER BETWEEN THE HOURS OF 10:00PM SATURDAY AND 6:00AM SUNDAY. COORDINATE WITH I-77 MP ON PRIORITY BUFFER TUBES FOR RESPLICING TO MINIMIZE IMPACTS TO I-77 MP SYSTEM DURING CUTOVER.

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FOLLOWING TRUNK LINK CUTOVER AND DEVICE ACCEPTRANCE BY I-77 MP, REMOVE EXISTING FIBER-OPTIC CABLES, ELECTRICAL CONDUCTORS, AND JUNCTION BOXES AS SHOWN ON THE PLANS. CUT AND ABANDON CUNDUITS AT 30 INCHES BELOW GRADE, AND BACKFILL WITH APPROVED MATERIAL.

SPECIAL NOTE

I-5715 CONTRACTOR SHALL COORDINATE WITH I-77 MP TO DETERMINE THE FINAL DEVICE AND SUPPORT STRUCTURE LOCATIONS FOR ALL TOLL DEVICES, INCLUDING AVIs, MVDs, AND CCTV CAMERAS.

CONTRACTOR SHALL COORDINATE WITH I-77 MP REGARDING FINAL DEVICE LOCATIONS TO VERIFY THE REQUIRED ITS POLE HEIGHTS, MAST ARM ATTACHMENT HEIGHTS, AND MAST ARM LENGTHS PRIOR TO THE DESIGN AND INSTALLATION OF THE METAL POLE FOUNDATIONS AND STRUCTURES.

WHERE PLANS CALL FOR THE RELOCATION OF EXISTING FIBER CONTROL BOXES, ITS EQUIPMENT CABINETS, OR TRS BACKUP GENERATORS, THE CONTRACTOR SHALL RELOCATE AND RETERMINATE ALL FIBER-OPTIC COMMUNICATIONS CABLES, POWER OVER ETHERNET (POE) CABLES, AND COAXIAL CABLES AS NECESSARY TO MATCH EXISTING CONDITIONS. THE CONTRACTOR SHALL COORDINATE WITH I-77 MP TO OBTAIN SITE-SPECIFIC FIBER CONTROL BOX AND ITS EQUIPMENT CABINET LAYOUT SCHEMATICS, AS NEEDED, TO FACILITATE EQUIPMENT RELOCATION AND COMMUNICATIONS CABLE TERMINATIONS.

PLANS PREPARED IN THE OFFICE OF:
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NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

Prepared for the Offices of:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

SCALE 0 N/A

I-5715 Communications Cable and Conduit Routing Plan

Division 10 Mecklenburg Huntersville

PLAN DATE:	March 2026	REVIEWED BY:	MC Burke
PREPARED BY:	SP Pennington	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 058683 ENGINEER MOLLY C. BURKE-MCKENNEY
Signed by: Molly Burke-Mckenney
10/2/2026
SIGNATURE DATE
CADD Filename:

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10/2/2026 8:17:16 AM Molly.Burke

Docusign Envelope ID: 2348AE38-B7E6-8117-821A-E77995ABFDD4

5/14/99

PREPARED BY:
Kimley»Horn
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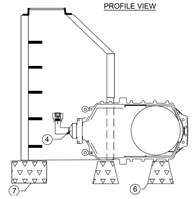
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
I-5715	UC-3H
DESIGNED BY: MAS	
DRAWN BY: SCA	
CHECKED BY: SJJ	
APPROVED BY: MAS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	

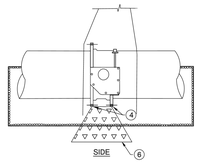
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027670 MATTHEW A. SHOEMITH
10/2/2026
UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

PROFILE VIEW



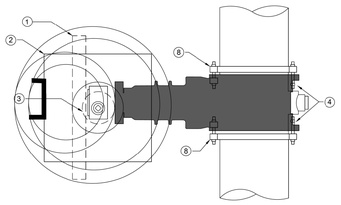
SIDE VIEW



NO. DESCRIPTION
1. FRAME AND COVER ASSEMBLY. SEE STANDARD DETAIL.
2. N/A - REMOVED
3. VALVE BOX ASSEMBLY. SEE CLT WATER STANDARD DETAIL.
4. GATE VALVE.
5. N/A - REMOVED
6. CONCRETE BEARING BLOCK FOR 10-INCH AND LARGER GATE VALVES.
7. CONE BEARING BLOCKS.
8. RESTRAINED MJ ADAPTER WITH STAINLESS STEEL STIFFENER AND
9. ACCESSORY KIT.

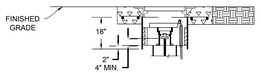
NOTES:
A. CONNECT VALVE TO LINE WITH RESTRAINED MJ ADAPTER WITH STAINLESS STEEL STIFFENER AND ACCESSORY KIT. SEE STANDARD DETAIL HD1 FOR TRANSITION DETAIL.
B. MJ ADAPTER KIT SHALL INCLUDE BOLTS AND NUTS, GRADE 3 OR HIGHER FITTING TO ATTACH TO VALVES.
C. CHARLOTTE WATER ALLOWS THE INSTALLATION OF DIFFERENT PIPE MATERIALS ON EITHER SIDE OF THE GATE VALVE. INSTALL TRANSITIONS PER STANDARD DETAIL HD1
D. IF VALVE OPERATING NUT IS MORE THAN 2 FEET BELOW FINISHED GRADE, PROVIDE EXTENSION STEM WITH STANDARD 2-INCH SQUARE OPERATION NUT IN TOP SECTION OF VALVE BOX. SEE STANDARD DETAIL.
E. REFER TO STANDARD DETAIL FOR MANHOLE COVER DETAIL.

PLAN VIEW

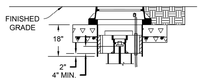


ELEVATIONS

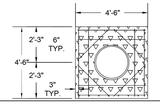
METHOD A



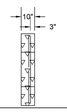
METHOD B



PLAN: PRECAST CONCRETE PAD
REFER TO STANDARD DETAIL

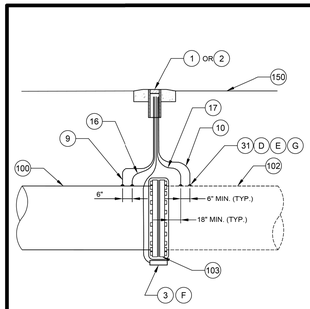


SECTION

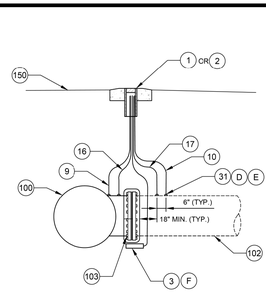


DRAWING REFERENCE TABLE	
DWG	DWG NAME
5.2	CONCRETE PIPE BONDING
5.3	HORIZONTAL THERMITE WELD
5.5	STEEL BONDING PLATE FOR SPECIALLY LINED METALLIC MAIN
6.1	INSULATING FLANGE
8.1	STANDARD VALVE BOX
8.2	TEST POST ASSEMBLY
10.1	REFERENCE ELECTRODE AND COUPON PLACEMENT

IN-LINE INSULATOR



TEE INSULATOR



WIRING SCHEDULE					
DESCRIPTION	TEST POST TERMINAL	AWG WIRE SIZE	TYPE OF INSULATION	COLOR OF INSULATION	TEST BOX 7 TERMINAL
NEW MAIN	3	#8	HMWPE	BLUE	2
	6	#10	THWN OR XLPE	BLUE	3
CONNECTING MAIN	5	#8	HMWPE	WHITE	5
	10	#10	THWN OR XLPE	WHITE	7
PERMANENT REFERENCE ELECTRODE	7	#14	HMWPE OR RHH-RHW	YELLOW	6

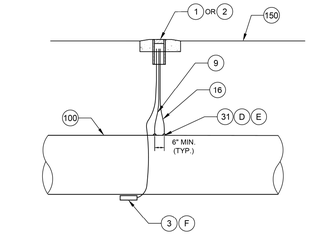
NO. DESCRIPTION:
1. TEST BOX.
2. TEST POST.
3. COPPER/COPPER SULFATE REFERENCE ELECTRODE.
9. AWG NO. 10 BLUE CABLE.
10. AWG NO. 10 WHITE CABLE.
16. AWG NO. 8 BLUE CABLE.
17. AWG NO. 8 WHITE CABLE.
31. THERMITE WELD.
100. NEW MAIN.
102. CONNECTING MAIN.
103. COATED INSULATING FLANGE.
150. FINISHED GRADE.

NOTES:
A. TEST STATIONS LOCATED ALONG PAVED ROADWAYS SHALL GENERALLY BE LOCATED 3' OUTSIDE OF THE EDGE OF PAVEMENT IN A NON-PAVED AREA. ROUTE ALL TEST WIRES AT A MINIMUM DEPTH OF 24" TO THE FINAL TEST STATION LOCATION. TEST STATION LOCATIONS SHALL BE FIELD ADJUSTED.
B. ROUTE WIRES IN 1 INCH PVC CONDUIT TO TEST BOX. INSTALL CABLE WARNING TAPE 18" ABOVE PVC CONDUIT.
C. MAINTAIN SUFFICIENT SLACK IN THE TEST WIRES SO THAT THE WIRES CAN EXTEND A MINIMUM OF 18" FROM THE TEST BOX.
D. THERMITE WELDS TO PCCP OR CBWCP SHALL BE MADE AT STEEL BONDING PLATES, SEE STANDARD DETAIL 5.2.
E. THERMITE WELDS TO SPECIALLY LINED STEEL AND DUCTILE IRON MAIN SHALL BE MADE AT STEEL BONDING PLATES, SEE STANDARD DETAIL 5.5.
F. FOR ADDITIONAL REFERENCE ELECTRODE INSTALLATION INFORMATION, SEE STANDARD DETAIL 10.1.
G. THERMITE WELD TO BE ATTACHED OUTSIDE OF FLANGE COATING AREA.

CHARLOTTE WATER
CHARLOTTE WATER STANDARD DETAILS
CORROSION CONTROL

CORROSION CONTROL TYPE A1 TEST STATION (INSULATED FLANGE)

NO SCALE | VERSION 1.0 | DATE 04/2024 | DETAIL 18.1.1



DRAWING REFERENCE TABLE	
DWG	DWG NAME
5.2	CONCRETE PIPE BONDING
5.3	HORIZONTAL THERMITE WELD
5.5	STEEL BONDING PLATE FOR SPECIALLY LINED METALLIC MAIN
8.1	STANDARD VALVE BOX
8.2	TEST POST ASSEMBLY
10.1	REFERENCE ELECTRODE AND COUPON PLACEMENT

WIRING SCHEDULE					
DESCRIPTION	TEST POST TERMINAL	AWG WIRE SIZE	TYPE OF INSULATION	COLOR OF INSULATION	TEST BOX 7 TERMINAL
NEW MAIN	3	#8	HMWPE	BLUE	2
	6	#10	THWN OR XLPE	BLUE	3
PERMANENT REFERENCE ELECTRODE	7	#14	HMWPE OR RHH-RHW	YELLOW	6

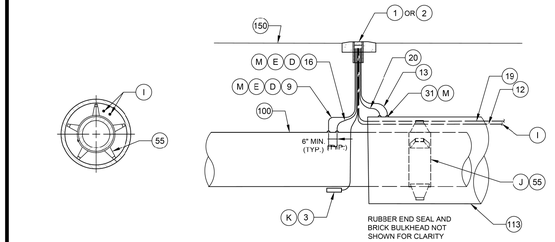
NO. DESCRIPTION:
1. TEST STATION.
2. TEST POST.
3. COPPER/COPPER SULFATE REFERENCE ELECTRODE.
9. AWG NO. 10 BLUE CABLE.
16. AWG NO. 8 BLUE CABLE.
31. THERMITE WELD.
100. NEW MAIN.
150. FINISHED GRADE.

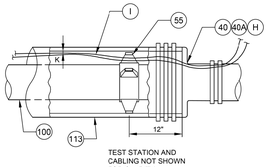
NOTES:
A. TEST STATIONS LOCATED ALONG PAVED ROADWAYS SHALL GENERALLY BE LOCATED 3' OUTSIDE OF THE EDGE OF PAVEMENT IN A NON-PAVED AREA. ROUTE ALL TEST WIRES AT A MINIMUM DEPTH OF 24" TO THE FINAL TEST STATION LOCATION. TEST STATION LOCATIONS SHALL BE FIELD ADJUSTED.
B. ROUTE WIRES IN 1 INCH PVC CONDUIT TO TEST BOX. INSTALL CABLE WARNING TAPE 18" ABOVE PVC CONDUIT.
C. MAINTAIN SUFFICIENT SLACK IN THE TEST WIRES SO THAT THE WIRES CAN EXTEND A MINIMUM OF 18" FROM THE TEST BOX.
D. THERMITE WELD TO PCCP AND CBWCP SHALL BE MADE AT STEEL BONDING PLATES, SEE STANDARD DETAIL 5.2.
E. THERMITE WELDS TO SPECIALLY LINED STEEL AND DUCTILE IRON MAIN SHALL BE MADE AT STEEL BONDING PLATES, SEE STANDARD DETAIL 5.5.
F. FOR ADDITIONAL REFERENCE ELECTRODE INSTALLATION INFORMATION, SEE STANDARD DETAIL 10.1.

CHARLOTTE WATER
CHARLOTTE WATER STANDARD DETAILS
CORROSION CONTROL

TYPE B1 TEST STATION (CORROSION MONITORING)

NO SCALE | VERSION 1.0 | DATE 04/2024 | DETAIL 18.2.1





WIRING SCHEDULE					
DESCRIPTION	TEST POST TERMINAL	AWG WIRE SIZE	TYPE OF INSULATION	COLOR OF INSULATION	TEST BOX 7 TERMINAL
NEW MAIN	3	#8	HMWPE	BLUE	2
	6	#10	THWN OR XLPE	BLUE	3
CASING	5	#8	HMWPE	GREEN	7
	10	#10	THWN OR XLPE	GREEN	7
PERMANENT REFERENCE ELECTRODE	7	#14	HMWPE OR RHH-RHW	YELLOW	6
ADJACENT CASING TEST STATION	4	#8	HMWPE	RED	5
	11	#10	THWN OR XLPE	RED	5

NO. DESCRIPTION:
1. TEST BOX.
2. TEST POST.
3. COPPER/COPPER SULFATE REFERENCE ELECTRODE.
9. AWG NO. 10 BLUE CABLE.
12. AWG NO. 10 RED CABLE.
13. AWG NO. 10 GREEN CABLE.
16. AWG NO. 8 BLUE CABLE.
19. AWG NO. 8 RED CABLE.
20. AWG NO. 8 GREEN CABLE.
31. THERMITE WELD.
40. RUBBER END SEAL.
40A. BRICK BULKHEAD.
55. CASING ISOLATION SPACER, CONCENTRIC.
100. NEW MAIN.
113. CASING.
150. FINISHED GRADE.

NOTES:
A. TEST STATICNS LOCATED ALONG PAVED ROADWAYS SHALL GENERALLY BE LOCATED 3' OUTSIDE OF THE EDGE OF PAVEMENT IN A NON-PAVED AREA. ROUTE ALL TEST WIRES AT A MINIMUM DEPTH OF 24" TO THE FINAL TEST STATION LOCATION. TEST STATION LOCATIONS SHALL BE FIELD ADJUSTED.
B. ROUTE WIRES IN 1 INCH PVC CONDUIT TO TEST BOX. INSTALL CABLE WARNING TAPE 18" ABOVE PVC CONDUIT.
C. MAINTAIN SUFFICIENT SLACK IN THE TEST WIRES SO THAT THE WIRES CAN EXTEND A MINIMUM OF 18" FROM THE TEST BOX.
D. THERMITE WELDS TO PCCP OR CBWCP SHALL BE MADE AT STEEL BONDING PLATES, SEE STANDARD DETAIL 5.2.
E. THERMITE WELDS TO SPECIALLY LINED STEEL AND DUCTILE IRON MAIN SHALL BE MADE AT STEEL BONDING PLATES, SEE STANDARD DETAIL 5.5.
F. INSTALL CASING SPACERS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. HOWEVER, UNDER NO CIRCUMSTANCES SHALL A SECTION OF MAIN BE SUPPORTED WITH LESS THAN THREE INSULATED CASING SPACERS.
G. PRIOR TO BACKFILL, TEST TO VERIFY THAT ISOLATION BETWEEN PIPING AND CASING IS EFFECTIVE. IF ISOLATION IS NOT EFFECTIVE, REPAIR AS NECESSARY AND RETEST. THIS PROCESS SHALL CONTINUE UNTIL ISOLATION IS VERIFIED AS EFFECTIVE.
H. INSTALL CASING END SEALS AT EACH END OF CASING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AFTER BRICK BULKHEADS ARE INSTALLED.
I. ROUTE WIRES THROUGH CASING TO ADJACENT TEST STATION.
J. 1 INCH MINIMUM CLEARANCE BETWEEN MAXIMUM MAIN O.D. AND CASING I.D.
K. FOR ADDITIONAL REFERENCE ELECTRODE INSTALLATION INFORMATION, SEE STANDARD DETAIL 10.1.
L. TEST STATION TO BE INSTALLED AT EACH END OF CASING.
M. THERMITE WELD TO BE ATTACHED OUTSIDE OF CASING RUBBER END SEAL/COATING AREA.

CHARLOTTE WATER
CHARLOTTE WATER STANDARD DETAILS
CORROSION CONTROL

TYPE B5 TEST STATION (CASING)

NO SCALE | VERSION 1.0 | DATE 04/2024 | DETAIL 18.2.5

50 25 0 50 100
PLANS

SYSTEM FILE NAME: C:\Users\matthew.shoemith\Kimley-Horn and Associates, Inc\Documents - NCDOT Utilities Engineering Section\Standard Details\Utility Construction\UC-3H.dgn

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5/14/99

PREPARED BY:
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© 2020
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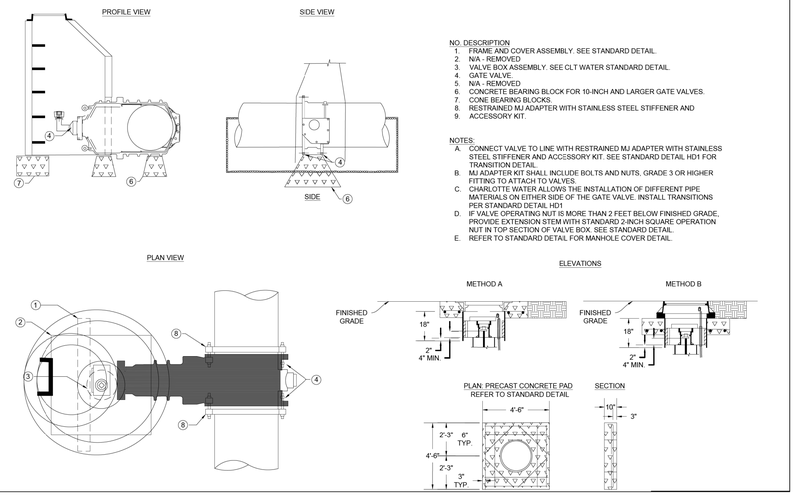
CHARLOTTE, NC 28202

PROJECT REFERENCE NO.	SHEET NO.
U-5765	UC-3K
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027670 MATTHEW A. SHOESMITH
Digitally signed by Matthew Shoesmith
10/2/2026

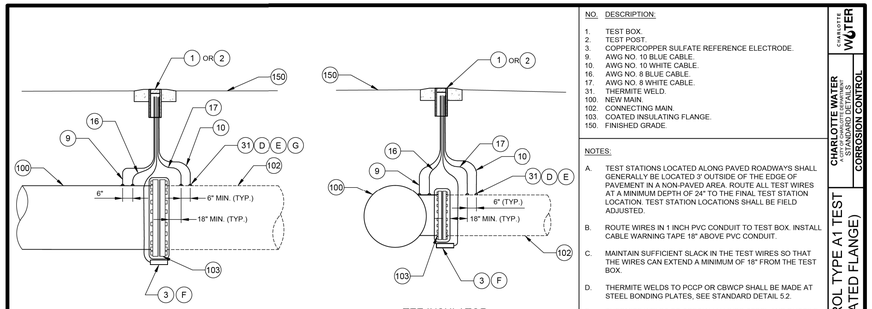
UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



NO. DESCRIPTION
1. FRAME AND COVER ASSEMBLY. SEE STANDARD DETAIL.
2. N/A - REMOVED
3. VALVE BOX ASSEMBLY. SEE CLT WATER STANDARD DETAIL.
4. GATE VALVE.
5. N/A - REMOVED
6. CONCRETE BEARING BLOCK FOR 10-INCH AND LARGER GATE VALVES.
7. CONE BEARING BLOCKS.
8. RESTRAINED MJ ADAPTER WITH STAINLESS STEEL STIFFENER AND ACCESSORY KIT.

NOTES:
A. CONNECT VALVE TO LINE WITH RESTRAINED MJ ADAPTER WITH STAINLESS STEEL STIFFENER AND ACCESSORY KIT. SEE STANDARD DETAIL HD1 FOR TRANSITION DETAIL.
B. MJ ADAPTER KIT SHALL INCLUDE BOLTS AND NUTS. GRADE 3 OR HIGHER FITTING TO ATTACH TO VALVES.
C. CHARLOTTE WATER ALLOWS THE INSTALLATION OF DIFFERENT PIPE MATERIALS ON EITHER SIDE OF THE GATE VALVE. INSTALL TRANSITIONS PER STANDARD DETAIL HD1
D. IF VALVE OPERATING NUT IS MORE THAN 2 FEET BELOW FINISHED GRADE, PROVIDE EXTENSION STEM WITH STANDARD 2-INCH SQUARE OPERATION NUT IN TOP SECTION OF VALVE BOX. SEE STANDARD DETAIL.
E. REFER TO STANDARD DETAIL FOR MANHOLE COVER DETAIL.



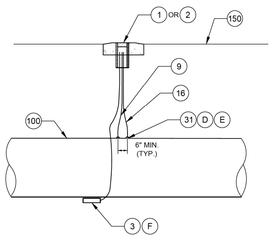
DRAWING REFERENCE TABLE	
DWG	DWG NAME
5.2	CONCRETE PIPE BONDING
5.3	HORIZONTAL THERMITE WELD
5.5	STEEL BONDING PLATE FOR SPECIALLY LINED METALLIC MAIN
6.1	INSULATING FLANGE
8.1	STANDARD VALVE BOX
8.2	TEST POST ASSEMBLY
10.1	REFERENCE ELECTRODE AND COUPON PLACEMENT

WIRING SCHEDULE					
DESCRIPTION	TEST POST TERMINAL	AWG WIRE SIZE	TYPE OF INSULATION	COLOR OF INSULATION	TEST BOX 7 TERMINAL
NEW MAIN	3	#8	HMWPE	BLUE	2
	6	#10	THWN OR XLPE	BLUE	3
CONNECTING MAIN	5	#8	HMWPE	WHITE	5
	10	#10	THWN OR XLPE	WHITE	7
PERMANENT REFERENCE ELECTRODE	7	#14	HMWPE OR RHH-RHW	YELLOW	6

NO. DESCRIPTION:
1. TEST BOX.
2. TEST POST.
3. COPPER/COPPER SULFATE REFERENCE ELECTRODE.
9. AWG NO. 10 BLUE CABLE.
10. AWG NO. 10 WHITE CABLE.
16. AWG NO. 8 BLUE CABLE.
17. AWG NO. 8 WHITE CABLE.
31. THERMITE WELD.
100. NEW MAIN.
102. CONNECTING MAIN.
103. COATED INSULATING FLANGE.
150. FINISHED GRADE.

NOTES:
A. TEST STATIONS LOCATED ALONG PAVED ROADWAYS SHALL GENERALLY BE LOCATED 3' OUTSIDE OF THE EDGE OF PAVEMENT IN A NON-PAVED AREA. ROUTE ALL TEST WIRES AT A MINIMUM DEPTH OF 24" TO THE FINAL TEST STATION LOCATION. TEST STATION LOCATIONS SHALL BE FIELD ADJUSTED.
B. ROUTE WIRES IN 1 INCH PVC CONDUIT TO TEST BOX. INSTALL CABLE WARNING TAPE 18" ABOVE PVC CONDUIT.
C. MAINTAIN SUFFICIENT SLACK IN THE TEST WIRES SO THAT THE WIRES CAN EXTEND A MINIMUM OF 18" FROM THE TEST BOX.
D. THERMITE WELDS TO PCCP OR CBWCP SHALL BE MADE AT STEEL BONDING PLATES, SEE STANDARD DETAIL 5.2.
E. THERMITE WELDS TO SPECIALLY LINED STEEL AND DUCTILE IRON MAIN SHALL BE MADE AT STEEL BONDING PLATES, SEE STANDARD DETAIL 5.5.
F. FOR ADDITIONAL REFERENCE ELECTRODE INSTALLATION INFORMATION, SEE STANDARD DETAIL 10.1.
G. THERMITE WELD TO BE ATTACHED OUTSIDE OF FLANGE COATING AREA.

CHARLOTTE WATER
CHARLOTTE WATER STANDARD DETAILS
CORROSION CONTROL
CORROSION CONTROL TYPE A1 TEST STATION (INSULATED FLANGE)
NO SCALE
VERSION 1.0
DATE 04/2024
DETAIL 18.1.1



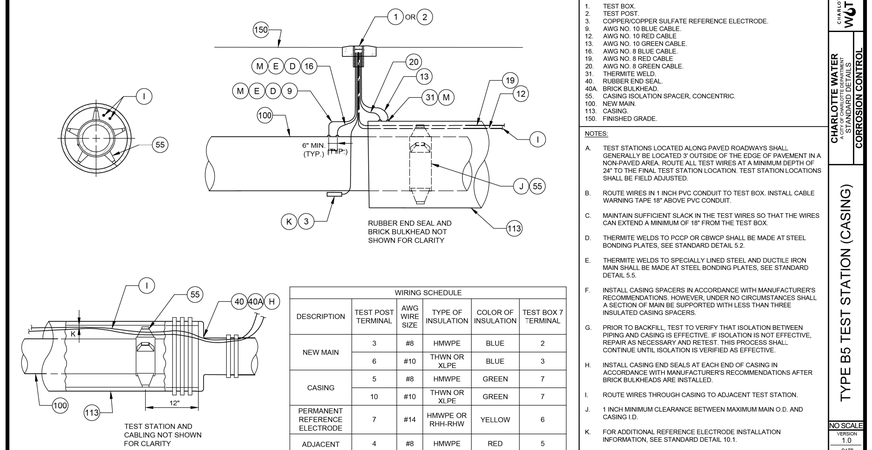
NO. DESCRIPTION:
1. TEST STATION.
2. TEST POST.
3. COPPER/COPPER SULFATE REFERENCE ELECTRODE.
9. AWG NO. 10 BLUE CABLE.
16. AWG NO. 8 BLUE CABLE.
31. THERMITE WELD.
100. NEW MAIN.
150. FINISHED GRADE.

NOTES:
A. TEST STATIONS LOCATED ALONG PAVED ROADWAYS SHALL GENERALLY BE LOCATED 3' OUTSIDE OF THE EDGE OF PAVEMENT IN A NON-PAVED AREA. ROUTE ALL TEST WIRES AT A MINIMUM DEPTH OF 24" TO THE FINAL TEST STATION LOCATION. TEST STATION LOCATIONS SHALL BE FIELD ADJUSTED.
B. ROUTE WIRES IN 1 INCH PVC CONDUIT TO TEST BOX. INSTALL CABLE WARNING TAPE 18" ABOVE PVC CONDUIT.
C. MAINTAIN SUFFICIENT SLACK IN THE TEST WIRES SO THAT THE WIRES CAN EXTEND A MINIMUM OF 18" FROM THE TEST BOX.
D. THERMITE WELDS TO PCCP OR CBWCP SHALL BE MADE AT STEEL BONDING PLATES, SEE STANDARD DETAIL 5.2.
E. THERMITE WELDS TO SPECIALLY LINED STEEL AND DUCTILE IRON MAIN SHALL BE MADE AT STEEL BONDING PLATES, SEE STANDARD DETAIL 5.5.
F. FOR ADDITIONAL REFERENCE ELECTRODE INSTALLATION INFORMATION, SEE STANDARD DETAIL 10.1.

CHARLOTTE WATER
CHARLOTTE WATER STANDARD DETAILS
CORROSION CONTROL
TYPE B1 TEST STATION (CORROSION MONITORING)
NO SCALE
VERSION 1.0
DATE 04/2024
DETAIL 18.2.1

DRAWING REFERENCE TABLE	
DWG	DWG NAME
5.2	CONCRETE PIPE BONDING
5.3	HORIZONTAL THERMITE WELD
5.5	STEEL BONDING PLATE FOR SPECIALLY LINED METALLIC MAIN
8.1	STANDARD VALVE BOX
8.2	TEST POST ASSEMBLY
10.1	REFERENCE ELECTRODE AND COUPON PLACEMENT

WIRING SCHEDULE					
DESCRIPTION	TEST POST TERMINAL	AWG WIRE SIZE	TYPE OF INSULATION	COLOR OF INSULATION	TEST BOX 7 TERMINAL
NEW MAIN	3	#8	HMWPE	BLUE	2
	6	#10	THWN OR XLPE	BLUE	3
PERMANENT REFERENCE ELECTRODE	7	#14	HMWPE OR RHH-RHW	YELLOW	6



NO. DESCRIPTION:
1. TEST BOX.
2. TEST POST.
3. COPPER/COPPER SULFATE REFERENCE ELECTRODE.
9. AWG NO. 10 BLUE CABLE.
12. AWG NO. 10 RED CABLE.
13. AWG NO. 10 GREEN CABLE.
16. AWG NO. 8 BLUE CABLE.
19. AWG NO. 8 RED CABLE.
20. AWG NO. 8 GREEN CABLE.
31. THERMITE WELD.
40. RUBBER END SEAL.
40A. BRICK BULKHEAD.
55. CASING ISOLATION SPACER, CONCENTRIC.
100. NEW MAIN.
113. CASING.
150. FINISHED GRADE.

NOTES:
A. TEST STATIONS LOCATED ALONG PAVED ROADWAYS SHALL GENERALLY BE LOCATED 3' OUTSIDE OF THE EDGE OF PAVEMENT IN A NON-PAVED AREA. ROUTE ALL TEST WIRES AT A MINIMUM DEPTH OF 24" TO THE FINAL TEST STATION LOCATION. TEST STATION LOCATIONS SHALL BE FIELD ADJUSTED.
B. ROUTE WIRES IN 1 INCH PVC CONDUIT TO TEST BOX. INSTALL CABLE WARNING TAPE 18" ABOVE PVC CONDUIT.
C. MAINTAIN SUFFICIENT SLACK IN THE TEST WIRES SO THAT THE WIRES CAN EXTEND A MINIMUM OF 18" FROM THE TEST BOX.
D. THERMITE WELDS TO PCCP OR CBWCP SHALL BE MADE AT STEEL BONDING PLATES, SEE STANDARD DETAIL 5.2.
E. THERMITE WELDS TO SPECIALLY LINED STEEL AND DUCTILE IRON MAIN SHALL BE MADE AT STEEL BONDING PLATES, SEE STANDARD DETAIL 5.5.
F. INSTALL CASING SPACERS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. HOWEVER, UNDER NO CIRCUMSTANCES SHALL A SECTION OF MAIN BE SUPPORTED WITH LESS THAN THREE INSULATED CASING SPACERS.
G. PRIOR TO BACKFILL, TEST TO VERIFY THAT ISOLATION BETWEEN PIPING AND CASING IS EFFECTIVE. IF ISOLATION IS NOT EFFECTIVE, REPAIR AS NECESSARY AND RETEST. THIS PROCESS SHALL CONTINUE UNTIL ISOLATION IS VERIFIED AS EFFECTIVE.
H. INSTALL CASING END SEALS AT EACH END OF CASING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AFTER BRICK BULKHEADS ARE INSTALLED.
I. ROUTE WIRES THROUGH CASING TO ADJACENT TEST STATION.
J. 1 INCH MINIMUM CLEARANCE BETWEEN MAXIMUM MAIN O.D. AND CASING I.D.
K. FOR ADDITIONAL REFERENCE ELECTRODE INSTALLATION INFORMATION, SEE STANDARD DETAIL 10.1.
L. TEST STATION TO BE INSTALLED AT EACH END OF CASING.
M. THERMITE WELD TO BE ATTACHED OUTSIDE OF CASING RUBBER END SEAL/COATING AREA.

WIRING SCHEDULE					
DESCRIPTION	TEST POST TERMINAL	AWG WIRE SIZE	TYPE OF INSULATION	COLOR OF INSULATION	TEST BOX 7 TERMINAL
NEW MAIN	3	#8	HMWPE	BLUE	2
	6	#10	THWN OR XLPE	BLUE	3
CASING	5	#8	HMWPE	GREEN	7
	10	#10	THWN OR XLPE	GREEN	7
PERMANENT REFERENCE ELECTRODE	7	#14	HMWPE OR RHH-RHW	YELLOW	6
ADJACENT CASING TEST STATION	4	#8	HMWPE	RED	5
	11	#10	THWN OR XLPE	RED	5

CHARLOTTE WATER
CHARLOTTE WATER STANDARD DETAILS
CORROSION CONTROL
TYPE B5 TEST STATION (CASING)
NO SCALE
VERSION 1.0
DATE 04/2024
DETAIL 18.2.5

50 25 0 50 100

$$ SYSTEM $$ DIV $$ GROUP $$ FILE NAME $$

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PROJECT REFERENCE NO.	SHEET NO.
U-5765	UC-4
DESIGNED BY: SJJ	
DRAWN BY: SJJ	
CHECKED BY: MAS	
APPROVED BY: MAS	
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Matthew Shoemith
10/2/2026

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

NAD 83/2011

MATCHLINE
SEE SHEET 14 OF PROJECT R5721B
FOR PROJECT CONTINUATION

Designer Note: Proposed drainage ties into redlines under TIP R-5721B. Represented on plans as shaded and grey.

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2
STA 10+63.41 24" X 8" RJ DI TEE TO FH
STA 10+55.02 24" RJ DI GATE VALVE
12" RJ DI GATE VALVE
STA 10+43.94 ISOLATE NEW 24" DI WM FROM NEW 8" DI WM AND INSTALL TYPE A1 TEST STATION, SEE CORROSION DETAIL 18.1.1
STA 10+33.90 24" RJ DI GATE VALVE
HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2
12" LINE STOP
STA 10+00.00 24" RJ DI CAP
THRUST COLLAR PER CLTW DETAIL 10.4.1
STA 10+09.06 24"X8" RJ DI TEE TO FH
12" RJ DI GATE VALVE
STA 10+00.00 12" RJ DI CAP
STA 10+20.30 12"X8" RJ DI TEE TO FH
656 LF OF 24" RJ DI WATER LINE 1
ABANDON 1433 LF 12" UTILITY PIPE
STA 10+43.94 CONNECT TO EXISTING SYSTEM WITH 24" X 12" RJ DI TEE
12" RJ DI CAP
12" RJ DI GATE VALVE
ISOLATE NEW 12" DI WM FROM EXISTING 12" DI WM AND INSTALL TYPE A1 TEST STATION, SEE CORROSION DETAIL 18.1.1
12"x 12" RJ DI CUT IN TEE
GUARDRAIL POSTS TO BE MINIMUM 3' FROM MANHOLE
641 LF OF 12" RJ DI WATER LINE 2
ADJUST MANHOLE F&C
ADJUST MANHOLE F&C
HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2
8" RJ DI INSERTION VALVE
THRUST COLLAR PER CLTW DETAIL 10.4.1
CONNECT TO EXISTING 8" WM WITH 8" MJ DI LONG BODY SOLID SLEVE
41 LF OF RJ DI PIPE TO BE REPLACED IN LINE
86 LF OF 8" RJ DI WATER LINE
8" 45° RJ DI BEND
8" RJ DI GATE VALVE
8" 45° RJ DI BEND
HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.5.5
STA 13+49.96 24" X 8" RJ DI TEE
ROTATED PER CLTW DETAIL 10.5.5
STA 12+00.21 24" 45° RJ DI BEND
STA 13+65.71 24" X 8" RJ DI TEE
REMOVE FIRE HYDRANT
STA 12+24.62 24" 45° RJ DI BEND
STA 13+95.56 12" RJ DI GATE VALVE
STA 14+07.32 12"x 8" RJ DI TEE
8" RJ DI GATE VALVE
8" 22.5° RJ DI BEND
98 LF OF 8" RJ DI WATER LINE
5/8" WATER METER
11 LF OF 5/8" WATER SERVICE LINE
8" 22.5° RJ DI BEND
8" 11.25° RJ DI BEND
CONNECT TO EXISTING 8" WM WITH 8" MJ DI LONG BODY SOLID SLEVE
17 LF OF RJ DI PIPE TO BE REPLACED IN LINE
THRUST COLLAR PER CLTW DETAIL 10.4.1
STA 14+86.46 24" 45° RJ DI BEND
STA 14+58.10 24" 45° RJ DI BEND
141 LF OF 12" RJ DI WATER LINE 5
126 LF OF 24" STEEL CASING
126 LF INSTALLED VIA JACK AND BORE
10' X 40' BORE PIT
CONTRACTOR TO COORDINATE WITH NCDOT FOR ACTIVE SHORING
STA: 13+65.71 ISOLATE NEW 24" DI WM FROM NEW 8" DI WM AND INSTALL TYPE A1 TEST STATION, SEE CORROSION DETAIL 18.1.1
STA 17+72.69 INSTALL TYPE B5 TEST STATION, SEE CORROSION DETAIL 18.2.5
10' X 10' RECEIVING PIT
200 LF OF 24" DR-14 RJ PVC
60 LF OF 36" STEEL 0.625" CASING
60 LF INSTALLED VIA JACK AND BORE
10' X 40' BORE PIT
HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2
STA 15+11.09 24" X 8" RJ DI TEE TO FH
STA 15+20.24 24" RJ DI GATE VALVE
WL 1 STA 15+29.10
WL 5 STA 11+40.30
24"X12" RJ DI TEE
STA: 15+41.31 ISOLATE NEW 24" DI WM FROM NEW 12" DI WM AND INSTALL TYPE A1 TEST STATION, SEE CORROSION DETAIL 18.1.1
BLOW OFF ASSEMBLY SEE DETAIL 1
HIGH VELOCITY FIRE HYDRANT SEE CLTW DETAIL 10.5.5
STA 15+58.43 24" X 12" RJ DI TEE ROTATED PER CLTW DETAIL 10.5.5
STA 15+50.05 24" RJ DI GATE VALVE
STA 15+41.31 24" X 12" RJ DI TEE ROTATED PER DETAIL 10.2.2
10' X 10' RECEIVING PIT
STA 11+35.54 12" RJ DI GATE VALVE
STA 17+12.69 INSTALL TYPE B5 TEST STATION, SEE CORROSION DETAIL 18.2.5
STA 17+55.65 12"X8" RJ DI TEE TO FH
HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2
STA 10+06.69 12" RJ DI GATE VALVE
STA 15+27.64 12" RJ DI GATE VALVE
WL 2 STA 15+12.50
WL 5 STA 10+00.00
12"x 12" RJ DI TEE
STA 14+98.01 12" RJ DI GATE VALVE
ADJUST MANHOLE F&C
10' X 10' RECEIVING PIT
200 LF OF 12" DR-14 RJ PVC
65 LF OF 24" STEEL 0.500" CASING
65 LF INSTALLED VIA JACK AND BORE

MATCHLINE
SEE SHEET UC-5

50 25 0 50 100

SYSTIME $$$$

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PROJECT REFERENCE NO.	SHEET NO.
U-5765	UC-5
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10/2/2026

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

MATCHLINE SEE SHEET UC-4

MATCHLINE SEE SHEET UC-6

EXISTING 8" PRIVATE WATERLINE

8" 45° RJ DI BEND

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2

22 LF OF 8" RJ DI WATER LINE

8" RJ DI GATE VALVE

RECONNECT 8"X4" METER

8" 45° RJ DI BEND

THRUST COLLAR PER CLTW DETAIL 10.4.1

STA 28+61.88
24" X 8" RJ DI TEE TO FH

STA 28+51.20
24" RJ DI GATE VALVE

STA 28+81.32
24" RJ DI GATE VALVE

WL 1 STA 28+42.67
WL 6 STA 10+00.00
24"X12" RJ DI TEE

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2

STA 28+32.55
24" X 12" RJ DI TEE
ROTATED PER CLTW DETAIL 10.2.2

STA 23+00
INSTALL TYPE B5 TEST STATION, SEE CORROSION DETAIL 18.2.5

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2

1201 LF OF 24"RJ DI WATER LINE 1

STA 26+63.37
24"X8" RJ DI TEE TO FH

ABANDON 1200 LF 12" UTILITY PIPE

BLOW OFF ASSEMBLY SEE DETAIL 3

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2

STA 28+88.67
24" X 8" RJ DI TEE TO FH

HIGH VELOCITY FIRE HYDRANT SEE CLTW DETAIL 10.5.5

STA 28+15.44
24" RJ DI TEE
ROTATED PER CLTW DETAIL 10.5.5

STA 19+31.39
24"X8" RJ DI TEE TO FH

STA 28+23.55
24" RJ DI GATE VALVE

ISOLATE NEW 24" DI WM FROM NEW 12" DI WM AND INSTALL TYPE A1 TEST STATION SEE CORROSION DETAIL 18.1.1

STA 28+42.67
ISOLATE NEW 24" DI WM FROM NEW 12" DI WM AND

5/8" WATER METERS (3)
6 LF OF 5/8" WATER SERVICE LINE (3)

1.5" WATER METER
6 LF OF 1.5" WATER SERVICE LINE

163 LF OF 12" RJ DI WATER LINE
143 LF OF 24" STEEL CASING
143 LF INSTALLED VIA JACK AND BORE

STA 10+08.40
12" RJ DI GATE VALVE

STA 24+99.65
12" 22.5° RJ DI BEND

STA 24+45.48
12" 22.5° RJ DI BEND

REMOVE FIRE HYDRANT

WL 2 STA 28+40.23
WL 6 STA 11+62.73
12"X12" RJ DI TEE

STA 28+32.29
12" RJ DI GATE VALVE

STA 28+68.14
12"X8" RJ DI TEE TO FH

STA 28+90.56
12"X8" RJ DI TEE

STA 29+05.16
12" RJ DI GATE VALVE

STA 21+34.87
12" 22.5° RJ DI BEND

1212 LF OF 12" RJ DI WATER LINE 2

STA 21+99.84
12" 11.25° RJ DI BEND

STA 22+28.27
12" 22.5° RJ DI BEND

STA 23+12.22
12" 11.25° RJ DI BEND

STA 24+10.97
12"X8" RJ DI TEE TO FH

STA 24+36.28
12" RJ DI GATE VALVE

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2

RECONNECT EXISTING 1" WATER METER
11 LF OF 1" WATER SERVICE LINE

RECONNECT EXISTING 5/8" WATER METER
12 LF OF 5/8" WATER SERVICE LINE

Conv 1" WATER METER
6 LF OF 1" WATER SERVICE LINE

STA 28+02.54
12" 22.5° RJ DI BEND

STA 28+22.80
12" 22.5° RJ DI BEND

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2

STA 28+77.03
12" RJ DI GATE VALVE

8" 45° RJ DI BEND

8" RJ DI GATE VALVE

31 LF OF 8" RJ DI WATER LINE

8" 45° RJ DI BEND

CONNECT TO EXISTIN 8" WM WITH 8" MJ DI LONG BODY SOLID SLEEVE

REMOVE FIRE HYDRANT

ADJUST MANHOLE F&C (2)

REMOVE FIRE HYDRANT

ADJUST MANHOLE F&C

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2

STA 29+67.25
12"X8" RJ DI TEE TO FH

STA 28+57.57
24"X8" RJ DI TEE

STA 29+66.21
24" 11.25° RJ DI BEND

10' X 10' RECEIVING PIT

STA 29+95.55
24" 11.25° RJ DI BEND

10' X 40' BORE PIT

TH-15
TH-11
TH-12
TH-72
TH-13
TH-14

ABANDONED

NC 73 (SAM FURR RD SR 2145)

GLENFURNESS DR

CSP COMMUNITY OWNER, LLC
DB 24145 PG 366

FAIRWAY-BIRKDALE, LLC
DB 30032 PG 765

CHARLOTTE-LONG DB 35532 PG 46 MB 22 PG 929

ANTOINETTE MARIE SAGRIL DB 24367 PG 959

CHRISTINE A. CHANDLESS DB 35559 PG 785 MB 22 PG 929

KALEIGH A. HAYES DB 36031 PG 258 MB 22 PG 929

JOHN J. BOSLER DB 33629 PG 952 MB 22 PG 929

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CARL J. PILLO & SEAN PILLO DB 26505 PG 348

VICTOR J. HOUSTON DB 33245 PG 629 MB 22 PG 929

NAEL BUROAWI & LISA DELL'AQUILA DB 34689PG

10' BELL SOUTH EASEMENT DB 8782

50 25 0 50 100

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PROJECT REFERENCE NO.	SHEET NO.
U-5765	UC-6
DESIGNED BY: SJJ	
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10/2/2026

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

NAD 83/2011

MATCHLINE SEE SHEET UC-5

MATCHLINE SEE SHEET UC-7

1' SPECIAL BASE DITCH W/CLASS 'B' RIP RAP EST. 60 TONS RIP RAP EST. 170 SY. GEOTEXTILE SEE DETAIL A

RECONNECT EXISTING 6" WATER METER 8 LF OF 6" WATER SERVICE LINE

RECONNECT EXISTING 1.5" WATER METER 12 LF OF 1.5" WATER SERVICE LINE

ABANDON 1362 LF 12" UTILITY PIPE

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2

STA 31+27.06 24"X8" RJ DI TEE TO FH

200 LF OF 24" DR-14 RJ PVC

154 LF OF 36" STEEL 0.625" CASING 154 LF INSTALLED VIA OPEN CUT

STA 31+99.29 12" 11.25° RJ DI BEND

STA 32+70.69 12" 11.25° RJ DI BEND

STA 33+44.42 12" 11.25° RJ DI BEND

STA 34+03.60 12" 11.25° RJ DI BEND

154 LF OF 24" STEEL 0.500" CASING 154 LF INSTALLED VIA OPEN CUT

200 LF OF 12" DR-14 RJ PVC

RECONNECT 6" WATER METER 13 LF OF 6" WATER SERVICE LINE

RECONNECT 4" WATER METER 14 LF OF 4" WATER SERVICE LINE

TH 6 N 621674.71 E 1438648.53 42° STL (SEE TH FORM)

TH 7 N 621848.0530 E 1438839.6260 Elv. 706.77' 36° STL

TH 8 N 621839.5910 E 1438887.6620 Elv. 715.43' 42° STL (SEE TH FORM)

TH 5 N 621687.46 E 1438604.51 Elv. 715.70' 36° STL (SEE TH FORM)

4" WATER METER 16 LF OF 4" WATER SERVICE LINE

6" WATER METER 14 LF OF 6" WATER SERVICE LINE

RELOCATE 6" BACKFLOW PREVENTOR

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2

STA 34+24.64 24" 22.5° RJ DI BEND

STA 34+44.62 24" 22.5° RJ DI BEND

1" WATER METER 15 LF OF 1" WATER SERVICE LINE

813 LF OF 24" RJ DI WATER LINE 1

STA 36+00 INSTALL TYPE B1 TEST STATION SEE CORROSION DETAIL 18.2.1

STA 36+82.08 24" 11.25° RJ BEND

STA 37+10.89 24" 11.25° RJ BEND

STA 37+59.64 24" 11.25° RJ DI BEND

STA 37+80.73 24" 11.25° RJ DI BEND

1366 LF OF 12" RJ DI WATER LINE 2

STA 35+98.42 12"X8" RJ DI TEE TO FH

RECONNECT EXISTING 1.5" WATER METER 16 LF OF 1.5" WATER SERVICE LINE

6" WATER METER 18 LF OF 6" WATER SERVICE LINE

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2

STA 38+41.29 24"X8" RJ DI TEE TO FH

12" LINE STOP

THRUST COLLAR PER CLTW DETAIL 10.4.1

CONNECT TO EXISTING 12" WM WITH 12" MJ DI LONG BODY SOLID SLEEVE

50 LF OF RJ DI PIPE TO BE REPLACED IN LINE

STA 38+92.10 24" 45° RJ DI BEND

STA 38+72.49 24" 45° RJ DI BEND

73 LF OF 12" RJ DI WATER LINE

12" 45° RJ DI BEND

12" RJ DI GATE VALVE

12" 90° RJ DI BEND

STA 40+13.15 24"X 12" RJ DI TEE

STA 40+02.46 24" RJ DI GATE VALVE

STA 40+07.24 24" 45° RJ DI BEND

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.5.5

STA 40+23.69 24" 45° RJ DI BEND

FILL WITH FLOWABLE FILL

STA 11+43.32 INSTALL TYPE B1 TEST STATION SEE CORROSION DETAIL 18.2.1

36" RJ DI GV MANHOLE

36" RJ DI GATE VALVE

STA 14+16.79

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2

STA 14+06.44 36" X 12" RJ DI TEE ROTATED PER DETAIL 10.2.2

STA 38+82.26 12" RJ DI GATE VALVE

STA 38+67.13 12" RJ DI GATE VALVE

STA 38+73.97 12"x12" RJ DI TEE

12" RJ DI GATE VALVE

165 LF OF 12" RJ DI WATER LINE

2" WATER METER 10 LF OF 2" WATER SERVICE LINE

FILL WITH 12" 45° RJ DI BEND

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2

12"X6" RJ DI TEE TO FH

12" 45° RJ DI BEND

CONNECT TO EXISTING 12" WM WITH 12" MJ DI LONG BODY SOLID SLEVE

53 LF OF RJ DI PIPE TO BE REPLACED IN LINE

THRUST COLLAR PER CLTW DETAIL 10.4.1

12" RJ DI GATE VALVE

CONNECTION TO EXISTING 12" WATERLINE WITH 12"X12" RJ DI CUT IN TEE

ISOLATE NEW 12" DI WM FROM NEW 12" DI WM AND INSTALL TYPE A1 TEST STATION SEE CORROSION DETAIL 18.1.1

THRUST COLLAR PER CLTW DETAIL 10.4.1

12" LINE STOP

STA 10+17.03 36"x12" RJ DI TEE

STA 10+00.00 36" RJ DI CAP

STA 11+00 INSTALL TYPE B1 TEST STATION SEE CORROSION DETAIL 18.2.1

12" 45° RJ DI BEND

STA 40+19.96 24" X 8" RJ DI TEE TO FH

STA 40+31.49 24" RJ DI GATE VALVE

STA 40+38.46 24" X 8" RJ DI TEE TO FH

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2

STA 40+85.15 ISOLATE NEW 12" DI WM FROM NEW 12" DI WM AND INSTALL TYPE A1 TEST STATION SEE CORROSION DETAIL 18.1.1

WL 1 STA 40+46.69 WL 7 STA 10+00.00 24"X 24" RJ DI TEE

STA 44+24.29 12" 11.25° RJ DI BEND

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2

STA 40+85.15 12" RJ DI GATE VALVE

364 LF OF 12" RJ DI WATER LINE 1

STA 40+69.63 24" X 12" RJ DI REDUCER

STA 43+12.41 12"X8" RJ DI TEE TO FH

REMOVE FIRE HYDRANT

STA 10+05.18 24" GATE VALVE

10' X 10' RECEIVING PIT 2:1 SLOPE FROM EXISTING EOP

STA 43+56.28 12" 22.5° RJ DI BEND

181 LF OF 24" WATER LINE 153 LF OF 36" STEEL CASING 153 LF INSTALLED VIA JACK AND BORE

10' X 40' BORE PIT

STA 11+49.32 INSTALL TYPE B1 TEST STATION SEE CORROSION DETAIL 18.2.1

STA 40+58.99 12" 11.25° RJ DI BEND

STA 40+86.52 12" 11.25° RJ DI BEND

STA 43+80.79 12" 22.5° RJ DI BEND

36" RJ DI GV MANHOLE

STA 14+47.53 36" RJ DI GATE VALVE

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.3

613 LF OF 36" RJ DI WATER LINE

STA 43+59.49 12" 22.5° RJ DI BEND

STA 13+49.14 36" 45° RJ DI BEND

STA 13+34.31 36" 45° RJ DI BEND

STA 14+39.09 36" X 12" RJ DI TEE ROTATED PER DETAIL 10.2.2

WL 3 STA 14+29.06 END WL 7 STA 11+81.10 36"x24" RJ DI TEE

RECONNECT EXISTING 2" WATER METER 52 LF OF 2" WATER SERVICE LINE

STA 11+55.29 36" 5.625° RJ DI BEND

DDRTC BIRKDALE VILLAGE, LLC DB 21859 PG 546

FIRST CHARTER REAL ESTATE HOLDINGS DB 16899 PG 2

FAIRWAY-BIRKDALE II, LLC DB 31723 PG 227

BOBBY LEE KNOX GROUP DB 36482 PG 848

DON & ANNE STEVE JOHN FREED DB 33621PG 152 MB 32 PG 773

NC 73 (SAM FURR RD SR 2145)

50 25 0 50 100

Docusign Envelope ID: 7EDC820E-61B2-8CB8-82E1-119E8DF4A229

5/14/99

PREPARED BY:
Kimley»Horn © 2020
200 SOUTH TRYON STREET, SUITE 200
CHARLOTTE, NC 28202

PROJECT REFERENCE NO.	SHEET NO.
U-5765	UC-7
DESIGNED BY: SJJ	
DRAWN BY: SJJ	
CHECKED BY: MAS	
APPROVED BY: MAS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027670 MATTHEW A. SHOEMYTH
10/2/2026

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

NAD 83/2011

MATCHLINE SEE SHEET UC-6

MATCHLINE SEE SHEET UC-8

8" LINE STOP
THRUST COLLAR PER CLTW DETAIL 10.4.1
CONNECT TO EXISTING 8" WM WITH 8" MJ DI LONG BODY SOLID SLEVE
32 LF OF RJ PIPE TO BE REPLACED IN LINE
8" 45° RJ BENDS (2)
STA 51+62.71 ISOLATE NEW 36" DI WM FROM NEW 12" DI WM AND INSTALL TYPE A1 TEST STATION SEE CORROSION DETAIL 18.1.1
8" 11.25° RJ BEND REMOVE
278 LF OF 8" RJ DI WATER LINE
2" WATER METER
24 LF OF 2" WATER SERVICE LINE
RELOCATE 2" BACKFLOW PREVENTOR
STA 51+51.08 12" RJ DI GATE VALVE
HIGH VELOCITY FIRE HYDRANT SEE CLTW DETAIL 10.5.5
36" RJ DI GV MANHOLE
BLOW OFF ASSEMBLY SEE DETAIL 4
STA 52+19.20 36" X 12" RJ DI TEE ROTATED PER CLTW DETAIL 10.2.3
STA 52+72.20 36" 22.5° RJ DI BEND
STA 53+04.06 36" 22.5° RJ DI BEND
STA 53+09.05 INSTALL TYPE B1 TEST STATION SEE CORROSION DETAIL 18.2.1
80 LF OF 54" STEEL CASING 80 LF INSTALLED VIA OPEN CUT
HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.3
STA 54+34.25 36"X8" RJ DI TEE TO FH
97 LF OF 54" STEEL CASING 97 LF INSTALLED VIA OPEN CUT
STA 58+54.75 36" 22.5° RJ DI BEND
STA 58+22.60 36" 22.5° RJ DI BEND
HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.3
STA 57+90.82 36"X8" RJ DI TEE TO FH
PROP 175 LF OF 15" SANITARY SEWER @ 1.32%
1" WATER METERS (2)
18 LF OF 1" WATER SERVICE LINE (2)
8" RJ DI GATE VALVE
STA 50+78.77 12" X 8" RJ DI TEE
STA 50+72.12 12" RJ DI GATE VALVE
ABANDON 1429 LF 12" UTILITY PIPE
729 LF OF 12" RJ DI WATER LINE 1
STA 47+59.36 12" 11.25° RJ DI BEND
HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2
STA 45+53.05 12"X8" RJ DI TEE TO FH
STA 26+81.21 INSTALL TYPE B1 TEST STATION SEE CORROSION DETAIL 18.2.1
STA 50+99.06 12" 90° RJ DI BEND
STA 49+91.14 12" 11.25° RJ DI BEND
171 LF OF 36" RJ DI WATER LINE
152 LF OF 54" STEEL CASING
152 LF INSTALLED VIA OPEN CUT
STA 52+11.04 36" RJ DI GATE VALVE
STA 52+01.76 36" X 12" RJ DI TEE ROTATED PER CLTW DETAIL 10.5.6
STA 51+81.64 36" 45° RJ DI BEND
STA 51+71.39 36" 45° RJ DI BEND
WL 1 STA 51+62.71
END WL 3 STA 26+86.53
36"X12" RJ DI TEE
734 LF OF 36" RJ DI WATER LINE 1
5' DIA UTILITY MANHOLE SSMH-3 TYPE A-3 RIM: 696.96 INV IN: 685.78 INV OUT: 685.58
5' DIA UTILITY MANHOLE SSMH-4 TYPE A-3 RIM: 701.52 INV IN: 686.21 INV OUT: 686.01
PROP 173 LF OF 18" SANITARY SEWER @ 7.63%
160 LF OF 36" STEEL CASING
160 LF TO BE INSTALLED VIA OPEN CUT
10'X40' INSTALLATION PIT
1.5" WATER METER
9 LF OF 1.5" WATER SERVICE LINE
STA 58+05.93 12"X8" RJ DI TEE TO FH
TO BE SEQUENCED WITH AND INSTALLED WITH BOX CULVERT
ABANDON 153 LF OF 8" UTILITY PIPE
8" 45° RJ DI BEND
STA 48+97.59 12"X8" RJ DI TEE
8" 45° RJ DI BEND
STA 50+60.08 12"X8" RJ DI TEE TO FH
HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2
1470 LF OF 12" RJ DI WATER LINE 2
STA 19+00 INSTALL TYPE B1 TEST STATION SEE CORROSION DETAIL 18.2.1
NC 73 (SAM FURR RD SR 2145)
STA 25+21.41 INSTALL TYPE B1 TEST STATION SEE CORROSION DETAIL 18.2.1
STA 53+89.05 INSTALL TYPE B1 TEST STATION SEE CORROSION DETAIL 18.2.1
STA 44+46.09 12"X6" RJ DI TEE TO FH
RECONNECT FIRE HYDRANT ASSEMBLY
874 LF OF 36" RJ DI WATER LINE 3
43 LF OF 8" RJ DI WATER LINE
8" 45° RJ DI BEND
THRUST COLLAR PER CLTW DETAIL 10.4.1
STA 24+43.78 36" 5.625° RJ DI BEND
STA 24+66.34 36" 5.625° RJ DI BEND
STA 25+05.18 36" 45° RJ DI BEND
STA 25+25.32 36" 45° RJ DI BEND
STA 53+25.96 12" 45° RJ DI BEND
PROP 433 LF OF 18" SANITARY SEWER @ 0.99%
STA 52+71.87 12" 45° RJ DI BEND
20 LF OF 24" STEEL CASING
20 LF INSTALLED VIA OPEN CUT
STA 51+95.88 12" 45° RJ DI BEND
5' DIA UTILITY MANHOLE SSMH-1 TYPE A-3 RIM: 696.77 INV IN: 683.63 INV OUT: 683.43
5' DIA UTILITY MANHOLE SSMH-2 TYPE A-3 RIM: 696.21 INV IN: 684.26 INV OUT: 684.06
HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.2.2
TOE PROTECTION SEE DETAIL H

DDRTC BIRKDALE VILLAGE, LLC DB 15386 PG 588 MB 39 PG 546
INTERVILLE OFFICE, LLC DB 38050 PG 1 MB 39 PG 546
BIRKDALE REAL ESTATE INVESTORS, LLC DB 37864 PG 657 MB 17PG 581
C. RAY KENNEDY & CYNTHIA M. KENNEDY DB 07367 PG 514 MB 25 PG 422
LAKE NORMAN REAL ESTATE INVESTORS, LLC DB 37334 PG 655 MB 27 PG 70 MB 27 PG 734 MB 32 PG 83 MB 32 PG 773

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PROJECT REFERENCE NO.	SHEET NO.
U-5765	UC-8
DESIGNED BY: SJJ	
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027670 MATTHEW A. SHOEMITH 10/2/2026

UTILITY CONSTRUCTION PLANS ONLY

NAD 83/2011

UTILITY CONSTRUCTION

MATCHLINE SEE SHEET 9

MATCHLINE SEE SHEET UC-7

MATCHLINE SEE SHEET 10

PNG WILL SUBMIT THEIR OWN ENVIORNMENTAL PERMIT

BEGIN TIP I-5715

STA 14+25.61
8" 11.25° RJ DI BEND

STA 13+69.68
8" 11.25° RJ DI BEND

427 LF OF 8" RJ DI WATER LINE 8 REMOVE

CLASS 'B' RIP RAP
STA 11+98.83
8" 11.25° RJ DI BEND

129 LF OF 54" STEEL CASING
129 LF INSTALLED VIA JACK AND BORE

15' X 15' RECEIVING PIT
CONTRACTOR TO COORDINATE WITH NCDOT FOR ACTIVE SHORING

STA 61+83.55
INSTALL TYPE B5 TEST STATION
SEE CORROSION DETAIL 18.2.5

STA 10+22.42
8" 22.5° RJ DI BEND

STA 10+12.08
8" 45° RJ DI BEND

STA 10+07.56
8" RJ DI GATE VALVE

STA 60+50.74
ISOLATE NEW 36" DI WM FROM NEW 8" DI WM AND
INSTALL TYPE A1 TEST STATION
SEE CORROSION DETAIL 18.1.1

15' X 40' BORE PIT
2:1 SLOPE FROM EXISTING EOP

STA 62+04.45
36" 45° RJ DI BEND

STA 62+14.85
36" RJ DI GATE VALVE

36" RJ DI GV MANHOLE

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG
SEE CLTW DETAIL 10.2.3

WL 8 STA 10+00.00
WL 8 STA 60+50.74
36" X 8" RJ DI TEE

STA 62+23.14
36" X 8" RJ DI TEE TO FH

STA 62+29.40
36" 45° RJ DI BEND

STA 62+08.17
36" X 8" RJ DI TEE TO FH

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG
SEE CLTW DETAIL 10.2.3

STA 60+55.23
INSTALL TYPE B5 TEST STATION
SEE CORROSION DETAIL 18.2.5

ABANDON 270 LF OF 12" UTILITY PIPE

ISOLATE NEW 36" DI WM FROM NEW 8" DI WM AND
INSTALL TYPE A1 TEST STATION
SEE CORROSION DETAIL 18.1.1

STA 62+39.18
WL 1A STA 10+00.00
WL 1 STA 62+38.18
36" X 12" RJ DI TEE

STA 62+57.88
36" 45° RJ DI BEND

STA 62+73.68
36" 45° RJ DI BEND

STA 60+92.66
12" RJ DI GATE VALVE

STA 60+84.99
12" 45° RJ DI BEND

STA 60+30.93
12" 45° RJ DI BEND

STA 61+01.00
12" X 8" RJ DI TEE

STA 61+07.75
12" RJ DI GATE VALVE

STA 62+15.97
12" 45° RJ DI BEND

8" RJ DI GATE VALVE

11 LF OF 2" WATER SERVICE LINE
2" WATER METER

TOE PROTECT SEE DETAIL

8" 45° RJ DI BEND
8" 45° RJ DI BEND

83 LF OF 8" RJ DI WATER LINE

CONNECT TO EXISTING 8" WATERLINE WITH 8" MJ DI LONG BODY SOLID SLEEVE
56 LF OF RJ DI PIPE TO BE REPLACED IN LINE

THRUST COLLAR PER CLTW DETAIL 10.4.1

8" LINE STOP

EXISTING 8" TO REMAIN IN SERVICE

100 LF OF 24" STEEL CASING
100 LF TO BE INSTALLED VIA OPEN CUT

REMOVE 48LF±15" RCP

CONCRETE DITCH BEHIND RETAINING WALL
SEE DETAIL F

RELOCATE 1.5" BACKFLOW PREVENTOR

1" WATER METER
17 LF OF 1" WATER SERVICE LINE

1.5" WATER METERS
17 LF OF 1" WATER SERVICE LINE

1.5" WATER METERS
17 LF OF 1" WATER SERVICE LINE

534 LF OF 12" RJ DI WATER LINE 1A

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG
SEE CLTW DETAIL 10.2.2

STA 12+85.06
12"X8" RJ DI TEE TO FH

STA 10+53.97
12" 22.5° RJ DI BEND

STA 10+40.27
12" 22.5° RJ DI BEND

STA 10+09.82
12" RJ DI GATE VALVE

902 LF OF 36" RJ DI WATER LINE 1

ABANDON 1169 LF OF 8" UTILITY PIPE

STA 65+40.35
12"X8" RJ DI TEE TO FH

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG
SEE CLTW DETAIL 10.2.2

STA 62+55.33
12" 11.25° RJ BEND

STA 63+26.60
12" 11.25° RJ DI BEND

1" WATER METER
11 LF OF 1" WATER SERVICE LINE

1" WATER METER
12 LF OF 1" WATER SERVICE LINE

1" WATER METER
14 LF OF 1" WATER SERVICE LINE

ABANDON 695 LF OF 10" UTILITY PIPE

RECONNECT EXISTING 1" WATER METER
11 LF OF 1" WATER SERVICE LINE

RECONNECT EXISTING 1" WATER METER
5 LF OF 1" WATER SERVICE LINE

RECONNECT EXISTING 1" WATER METER
18 LF OF 1" WATER SERVICE LINE

RECONNECT EXISTING 6" WATER METER
22 LF OF 6" WATER SERVICE LINE

STA 66+00
INSTALL TYPE B1 TEST STATION
SEE CORROSION DETAIL 18.2.1

HIGH VELOCITY FIRE HYDRANT WITH 8 LF OF HYDRANT LEG
SEE CLTW DETAIL 10.2.2

STA 14+94.89
12"X8" RJ DI TEE TO FH

STA 15+10.51
12" RJ DI GATE VALVE

STA 15+19.60
12"X 8" RJ DI TEE

STA 15+27.76
12" RJ DI GATE VALVE

STA 15+34.07
12" RJ DI CAP

TH-33

PROJECT EXTENTS
CONNECT TO I-5715

REMOVE FIRE HYDRANT

12" RJ DI GATE VALVE

8"X 8" RJ DI CUT IN TEE

853 LF OF 12" RJ DI WATER LINE 2

STA 67+98.58
36" RJ DI CAP

STA 67+36.66
12" 45° RJ DI BEND

PROJECT EXTENTS
CONNECT TO I-5715

STA 67+01.00
12" 45° RJ DI BEND

STA 67+07.27
12" 45° RJ DI BEND

STA 67+24.50
12" 45° RJ DI BEND

STA 67+41.97
12" RJ DI CAP

IVT NORTHCROSS CENTER HUNTERSVILLE LLC & INVEN TRUST PROPERTIES CORP
DB 31267 PG 260
MB 25 PG 89

IVT NORTHCROSS CENTER HUNTERSVILLE LLC & INVEN TRUST PROPERTIES CORP
DB 31267 PG 260
MB 24 PG 958

RSS MSBRAM2014-C19 RIALTO CAPITAL ADVISORS
DB 38375 PG 591
MB 28 PG 261

NORTHCROSS MASTER ASSOCIATION INC
DB 10751PG 194
MB 28 PG 261

SREE-LAKE NORMAN LLC
DB 08853 PG 212
MB 28 PG 261

MDC COAST KEYS
DB 3807 PG

BRANCH BANKING & TRUST CO
DB 07228 PG 098
MB 25 PG 436

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PROJECT REFERENCE NO.	SHEET NO.
U-5765	UC-9
DESIGNED BY: SJJ	
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027670 MATTHEW A. SHOEMITH
10/2/2026

NAD 83/2011

UTILITY CONSTRUCTION

8" LINE STOP
THRUST COLLAR PER CLTW DETAIL 10.4.1
PROJECT EXTENTS
CONNECT TO EXISTING 8" WATER LINE
STA 22+33.16
8" 45° RJ DI BEND
STA 22+24.34
8" 45° RJ DI BEND
ABANDON 692 LF OF 8" UTILITY PIPE
FIRE HYDRANT ASSEMBLY WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.3.5
STA 21+01.43
8"X6" RJ DI TEE TO FH
STA 20+40.43
8" 22.5° RJ DI BEND
STA 19+94.92
8" 11.25° RJ DI BEND
STA 19+49.87
8" 11.25° RJ DI BEND
STA 19+16.46
8" 22.5° RJ DI BEND
STA 18+96.44
8" 11.25° RJ DI BEND
STA 18+73.74
8" 11.25° RJ DI BEND
STA 18+40.20
8" 22.5° RJ DI BEND
STA 18+04.37
8" 22.5° RJ DI BEND
RETAIN CB
STA 17+13.32
8"X6" RJ DI TEE TO FH
FIRE HYDRANT ASSEMBLY WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.3.5
STA 17+05.63
8" RJ DI GATE VALVE
STA 16+87.40
8" 45° RJ DI BEND
TH-37
6" WATER METER
47 LF OF 6" WATER SERVICE LINE
REMOVE FIRE HDYRANT
REMOVE STORM DRAIN SYSTEM
REMOVE FIRE HDYRANT
FIRE HYDRANT ASSEMBLY WITH 8 LF OF HYDRANT LEG SEE CLTW DETAIL 10.3.5
8"X6" RJ DI TEE TO FH
83 LF OF 8" RJ DI WATER LINE
6" WATER METER
10 LF OF 6" WATER SERVICE LINE
2" WATER METER
12 LF OF 2" WATER SERVICE LINE
8" RJ DI GATE VALVE
STA 16+04.11
8"X8" RJ DI TEE
STA 15+97.73
8" RJ DI GATE VALVE
STA 16+11.96
8" RJ DI GATE VALVE
821 LF OF 8" RJ DI WATER LINE 8
MATCHLINE SEE SHEET UC-8

NORTHING	EASTING	ELEVATION
[illegible]	1441729.52	699.15
[illegible]	1441735.47	691.25
[illegible]	1441731.65	691.23
[illegible]	1441731.45	691.23
[illegible]	[illegible]50	691.68
[illegible]	[illegible]36	695.19

50 25 0 50 100

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PROJECT REFERENCE NO.	SHEET NO.
U-5765	UC-10
DESIGNED BY: SJJ	
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027670 MATTHEW A. SHORESMITH
10/2/2026

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

5/14/26

NAD 83/2011

MATCHLINE SEE SHEET UC-8

EXISTING 8" TO REMAIN IN SERVICE

STA 10+10.04
6" RJ DI GATE VALVE

THRUST COLLAR PER CLTW DETAIL 10.4.1

CONNECT TO EXISTING 8" WM WITH 8" MJ DI LONG BODY SOLID SLEVE

STA 10+07.12
8" RJ DI GATE VALVE

WL9 STA 10+18.32
WL10 STA 10+00.00
8"X6" RJ DI TEE

STA 10+29.02
8" RJ DI GATE VALVE

STA 10+88.70
8" 45° RJ DI BEND

380 LF OF 8" RJ DI WATER LINE 9

STA 11+70.16
8" 45° RJ DI BEND

STA 12+84.28
8" 45° RJ DI BEND

TH-34

CONNECT TO EXISTING 8" WM WITH 8" MJ DI LONG BODY SOLID SLEVE
32 LF OF RJ DI PIPE TO BE REPLACED IN LINE

THRUST COLLAR PER CLTW DETAIL 10.4.1

8" LINE STOP

STA 10+90.03
6" 90° RJ DI BEND

STA 10+99.51
6" 22.5° RJ DI BEND

STA 11+36.26
6" 11.25° RJ DI BEND

STA 12+16.84
6" 11.25° RJ DI BEND

18" RCP-IV

ABANDON 216 LF OF 8" UTILITY PIPE

870 LF OF 6" RJ DI WATER LINE 10

1.5" WATER METER
8 LF OF 1.5" WATER SERVICE LINE

2" WATER METER
8 LF OF 2" WATER SERVICE LINE

STA 12+62.66
6" 22.5° RJ DI BEND

STA 13+05.52
6" 22.5° RJ DI BEND

6" WATER METER
4 LF OF 6" WATER SERVICE LINE

STA 14+03.57
6" 22.5° RJ DI BEND

STA 14+33.61
6" 22.5° RJ DI BEND

STA 13+47.21
8" 45° RJ DI BEND

STA 16+02.01
6" 45° RJ DI BEND

STA 16+12.76
6" 45° RJ DI BEND

FIRE HYDRANT ASSEMBLY
WITH 8 LF OF HYDRANT LEG
SEE CLTW DETAIL 10.3.5

STA 15+66.90
6"X6" RJ DI TEE TO FH

RECONNECT EXISTING 1" WATER METER
6 LF OF 1" WATER SERVICE LINE

RECONNECT EXISTING 6" WATER METER
8 LF OF 6" WATER SERVICE LINE

RECONNECT EXISTING 3" WATER METER
6 LF OF 3" WATER SERVICE LINE

RECONNECT EXISTING 3" WATER METER
16 LF OF 3" WATER SERVICE LINE

RECONNECT EXISTING 6" WATER METER
15 LF OF 6" WATER SERVICE LINE

RECONNECT EXISTING 1.5" WATER METER
17 LF OF 1.5" WATER SERVICE LINE

STA 18+31.62
6" RJ DI GATE VALVE

STA 18+55.66
6" 90° RJ DI BEND

STA 18+81.70
6" X 8" RJ DI REDUCER

STA 18+99.76
8" RJ DI GATE VALVE

STA 19+14.42
8"X8" RJ DI CUT IN TEE

THRUST COLLAR PER CLTW DETAIL 10.4.1

8" RJ DI INSERTION VALVE

TH-35

TH-36

REMOVE STORM DRAIN SYSTEM

ABANDON STORM DRAIN SYSTEM

REMOVE 24" STORM DRAIN SYSTEM

REMOVE 15" RCP-IV

REMOVE 18" RCP-IV

REMOVE 30" RCP-IV

REMOVE 36" RCP-IV

REMOVE 42" RCP-IV

REMOVE 48" RCP-IV

REMOVE 54" RCP-IV

REMOVE 60" RCP-IV

REMOVE 72" RCP-IV

REMOVE 84" RCP-IV

REMOVE 96" RCP-IV

REMOVE 108" RCP-IV

REMOVE 120" RCP-IV

REMOVE 132" RCP-IV

REMOVE 144" RCP-IV

REMOVE 156" RCP-IV

REMOVE 168" RCP-IV

REMOVE 180" RCP-IV

REMOVE 192" RCP-IV

REMOVE 204" RCP-IV

REMOVE

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PROJECT REFERENCE NO.	SHEET NO.
I-5715	UC-13
DESIGNED BY: MAS	
DRAWN BY: SCA	
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027670 MATTHEW A. SHOEMITH
10/2/2026
UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

NC GRID NAD 83 NA 2011

JS MIT

EXISTING R/W

HUNTERSVILLE OFFICE OWNERS LP
DB 15805 PG 279

IVT NORTHCROSS CENTER HUNTERSVILLE, LLC & INVEN TRUST PROPERTIES CORP
DB 31267 PG 260
MB 25 PG 352

IVT NORTHCROSS CENTER HUNTERSVILLE, LLC & INVEN TRUST PROPERTIES CORP
DB 31267 PG 260
MB 25 PG 89

RIGHT OF WAY PURCHASED UNDER U-5765

COLE CK PORTFOLIO IV LLC
DB 23237 PG 203
MB 25 PG 1

ACCESS EASEMENT PER PB PG 89

ABANDON 250 LF OF 8" UTILITY PIPE

ABANDON 580 LF OF 10" UTILITY PIPE

MATCHLINE U-5765

MATCHLINE -Y2- STA 24+00 (SHEET UC-11)

STA 10+00.00
12" CAP
CONTINUED FROM U-5765

TEST HOLE #33
ELEV: 706.39
AT&T 2" PLASTIC GASLINE

TEST HOLE #6
ELEV: 704.72
CLTW 8" DIP

STA 10+00.00
36" CAP

STA 10+19.73
12" GATE VALVE

STA 13+83.37
CONNECT TO EXISTING
12" DI WATER MAIN WITH
12" MJ LONG BODY SOLID SLEEVE

STA 13+85.66
12" GATE VALVE

STA 13+78.60
12" 45° RJ BEND

STA 13+64.53
12" 45° RJ BEND

STA 10+31
INSTALL TYPE A1 TEST STATION
SEE CORROSION DETAIL 18.1.1

ISLOATE NEW 36" DI WM FROM
NEW 12" DI WM

3" WATER METER
31 LF OF 3" WATER SERVICE LINE

6" WATER METER
32 LF OF 6" WATER SERVICE LINE

2" WATER METER
32 LF OF 2" WATER SERVICE LINE

323 LF OF 12"
RJ DI WATER LINE

406 LF OF 36"
RJ DI WATER LINE

502 LF OF 12"
RJ DI WATER LINE

TEST HOLE #8
ELEV: 710.84
PKD 4.5" HDPE

TEST HOLE #7
ELEV: 705.50
AT&T 16" X 16" 6-4" CONDUITS

STA 11+94.20
12" 11.25° RJ BEND

STA 11+33.19
12" 11.25° RJ BEND

STA 13+34.96
12" 45° RJ BEND

STA 13+39.02
12" GATE VALVE

STA 13+26.88
12" 45° RJ BEND

TEST HOLE #10
ELEV: 715.60
16" X 16" CONDUITS

STA 13+47.79
36"X12" REDUCER

WL1 STA 13+60.92
WL7 STA 13+31.48
36" TEE

STA 10+17.15
36" X12" REDUCER

STA 10+25.55
12" GATE VALVE

STA 10+17
INSTALL TYPE A1 TEST STATION
SEE CORROSION DETAIL 18.1.1

ISLOATE NEW 36" DI WM FROM
NEW 12" DI WM

TEST HOLE #9
ELEV: 715.60
16" X 16" 6-4" CONDUITS

BRANCH BANKING & TRUST CO
MB 25 PG 436
DB 07286 PG 098

RIGHT OF WAY PURCHASED UNDER U-5765

MDC COASTAL I8 LLC
MB 28 PG 75
DB 38071PG 440

INVESTICORE PROP CO I6 LLC
DB 37619 PG 676
MB 28 PG 420

SREE-LAKE NORMAN LLC
MB 28 PG 261
DB 08853 PG 212

NORTHCROSS MASTER ASSOCIATION INC
DB 10751PG 194
MB 28 PG 261

CALDWELL STATION CREEK RIBBIT ART

50 25 0 50 100
PLANS

Docusign Envelope ID: 2348AE38-B7E6-8117-821A-E77995ABFDD4

REVISIONS

PREPARED BY:
Kimley»Horn
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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
I-5715	UC-18
DESIGNED BY: MAS	
DRAWN BY: SCA	
CHECKED BY: SJJ	
APPROVED BY: MAS	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 027670 ENGINEER MATTHEW A. SHOESMITH
Docusigned by: Matthew Shoesmith
10/2/2026

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

NC GRID
NAD 83 NA 2011

BM-31
ELEV = 758.28
N 619032 E 1442885
BY STATION 37+34.00
184' RIGHT
#5 REBAR SET W/ RED CAP

RAVLAMI PROPERTIES LLC
DB 33251 PG 0745
MB 29 PG 434

MANAH LIMITED PARTNERSHIP
DB 36386 PG 0923
MB 29 PG 434

HUGHES PLUMBING SUPPLY LTD
DB 19737 PG 21
MB 28 PG 103

CAMI PROPERTIES LLC
DB 37272 PG 834

RH BETZ ACQUISITIONS LLC
DB 36336 PG 684
MB 028 PG 979

BM-30
ELEV = 745.20
N 620173 E 1442878
BY STATION 25+71.00
126' LEFT
TIE SPIKE SET IN 18" OAK

HIGH VELOCITY FIRE HYDRANT

STA 11+50
INSTALL TYPE B1 TEST STATION
SEE CORROSION DETAIL 18.2.1

STA 10+00.00
36" CAP WITH 4" BLOW OFF VALVE
SEE CLTW DETAIL 10.5.5
CONTRACTOR TO SET CENTERLINE OF CAP AT: 754.25'

BLOW OFF ASSEMBLY
SEE DETAIL 1 ON SHEET UC-3C

REMOVE AND REPLACE
250 LF OF FENCE

STA 11+88.33
36" 45° RJ BEND

STA 12+08.59
36" 45° RJ BEND

1400 LF OF 36" RJ DI WATER LINE

STA 11+78.25
36" X 12" RJ TEE
ROTATED PER CLTW DETAIL 10.2.3

STA 11+71.91
36" GATE VALVE
WITH 36" GATE VALVE MANHOLE

STA 11+34.46
36" 45° RJ BEND

STA 11+55.21
36" 45° RJ BEND

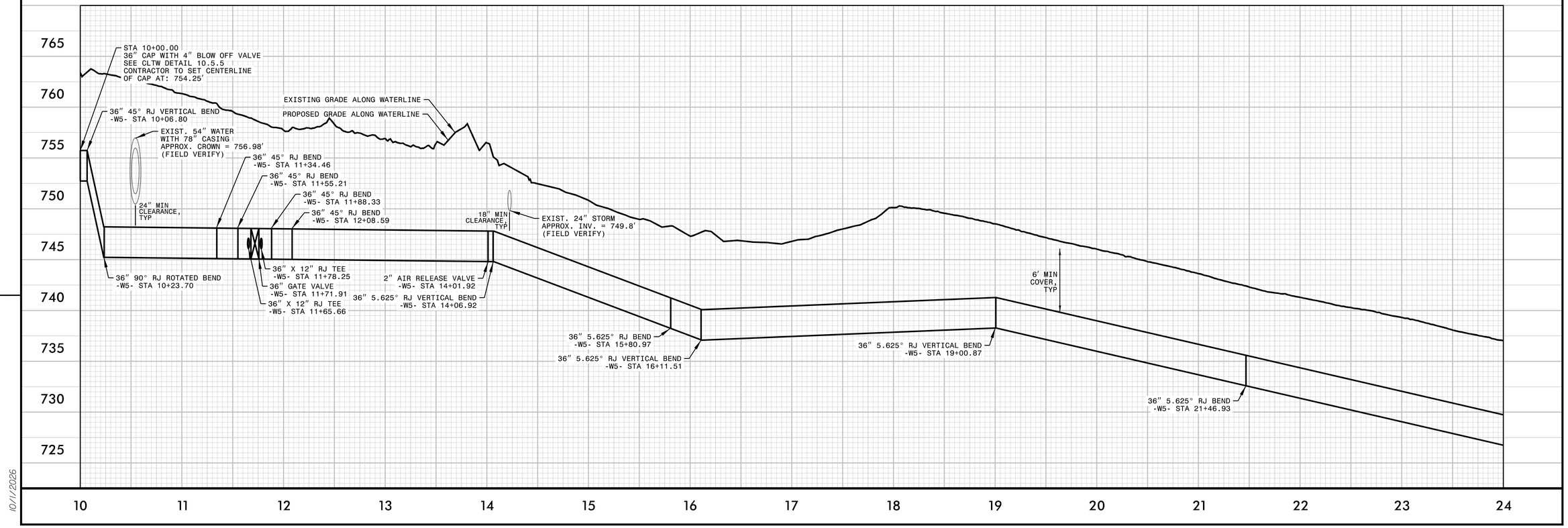
STA 10+23.70
36" 90° RJ BEND

STA 11+65.66
36" X 12" RJ TEE
ROTATED PER CLTW DETAIL 10.5.6

STA 15+80.97
36" 5.625° RJ BEND

STA 21+46.93
36" 5.625° RJ BEND

MATCHLINE -WL5- STA 24+00 (SHEET UC-19)



10/1/2026

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REVISIONS

CULVERT #7 1BARRELS			
	North	East	Elevation
CUL1	620710.33	1443048.62	705.12
CUL2	620704.17	1443050.72	705.29
HW1	620707.29	1443049.26	713.19
CE1	620707.58	1443049.25	711.12
UL3	620746.26	1442870.44	703.84
UL4	620738.91	1442872.65	703.85
V2	620742.56	1442871.76	711.85
	620742.43	1442871.94	709.95

PREPARED BY:
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PROJECT REFERENCE NO.	SHEET NO.
I-5715	UC-19
DESIGNED BY: MAS	
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APPROVED BY: MAS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	10/2/2026 UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027670 MATTHEW A. SHOESMITH
Matthew Shoesmith
Docusigned by: 10/2/2026

NC GRID NAD 83 NA 2011

UTILITY CONSTRUCTION

MATCHLINE -WL5- STA 24+00 (SHEET UC-18)

MATCHLINE -WL5- STA 38+00 (SHEET UC-20)

HSIA BOA CHEN DB 9443 PG 518 MB 28 PG 914

HUNTERSVILLE HOTEL PROPERTY LLC DB 37971PG 800 MB 29 PG 317

NORTHCROSS MASTER ASSOCIATION INC DB 10751PG 194 MB 28 PG 261

CARDINAL PROPERTY HOLDINGS LLC DB 3668 PG 553 MB 028 PG 979

INSTALL TYPE B5 TEST STATION SEE CORROSION DETAIL 18.2.5

SEE SHEET UC-13 FOR CONTINUATION

WL6 STA 10+00.00
WL5 STA 33+68.36
36″ TEE

15′ X 40′ BORE PIT

STA 33+57.47
36″ X 12″ RJ TEE
ROTATED PER CLTW DETAIL 10.2.3

BLOW OFF ASSEMBLY
SEE DETAIL 1 ON SHEET UC-3C

STA 33+51.18
36″ RJ DI GATE VALVE WITH 36″ RJ DI GATE VALVE MANHOLE

HIGH VELOCITY FIRE HYDRANT

STA 33+44.89
36″ X 12″ RJ TEE
ROTATED PER CLTW DETAIL 10.5.6

88 LF OF 54″ ENCASEMENT PIPE
88 LF INSTALLED VIA JACK AND BORE

1400 LF OF 36″ DI RJ WATER LINE

STA 32+37.33
36″ 11.25° RJ BEND

STA 32+62.42
36″ 45° RJ BEND

SEGRA 96 FIBER (DATUR) TO BE REMOVED

STA 28+88.88
36″ 11.25° RJ BEND

STA 28+47.20
36″ 11.25° RJ BEND

STA 26+76.14
36″ 11.25° RJ BEND

REMOVE AND REPLACE 430 LF OF FENCE

EXISTING DRAINAGE DITCH TO BE REMOVED AND REPLACED IN KIND

STA 34+69
INSTALL TYPE B5 TEST STATION
SEE CORROSION DETAIL 18.2.5

WL7 STA 13+51.28
WL5 STA 34+75.29

15′ X 15′ RECEIVING PIT

STA 35+29.64
36″ 45° RJ BEND

STA 35+51.83
36″ 45° RJ BEND

HIGH VELOCITY FIRE HYDRANT

BLOW OFF ASSEMBLY
SEE DETAIL 1 ON SHEET UC-3C

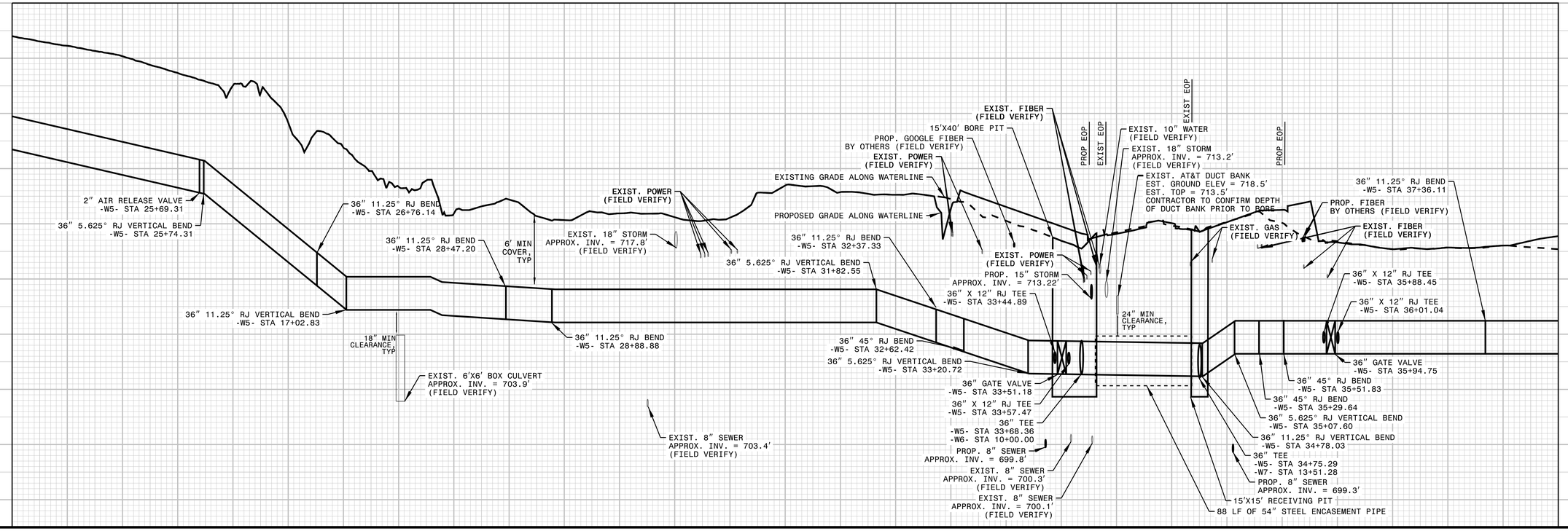
STA 37+36.11
36″ 11.25° RJ BEND

STA 36+01.04
36″ X 12″ RJ TEE
ROTATED PER CLTW DETAIL 10.2.3

STA 35+94.75
36″ RJ DI GATE VALVE WITH 36″ RJ DI GATE VALVE MANHOLE

STA 35+88.45
36″ X 12″ RJ TEE
ROTATED PER CLTW DETAIL 10.5.6

BM-26
ELEV = 725.60
N 621578 E 1442977
BL STATION 15+30.00



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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
I-5715	UC-20
DESIGNED BY: MAS	
DRAWN BY: SCA	
CHECKED BY: SJJ	
APPROVED BY: MAS	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027670 MATTHEW A. SHOESMITH
Matthew Shoesmith
10/2/2026
UTILITY CONSTRUCTION PLANS ONLY

NC GRID
NAD 83 NA 2011

UTILITY CONSTRUCTION

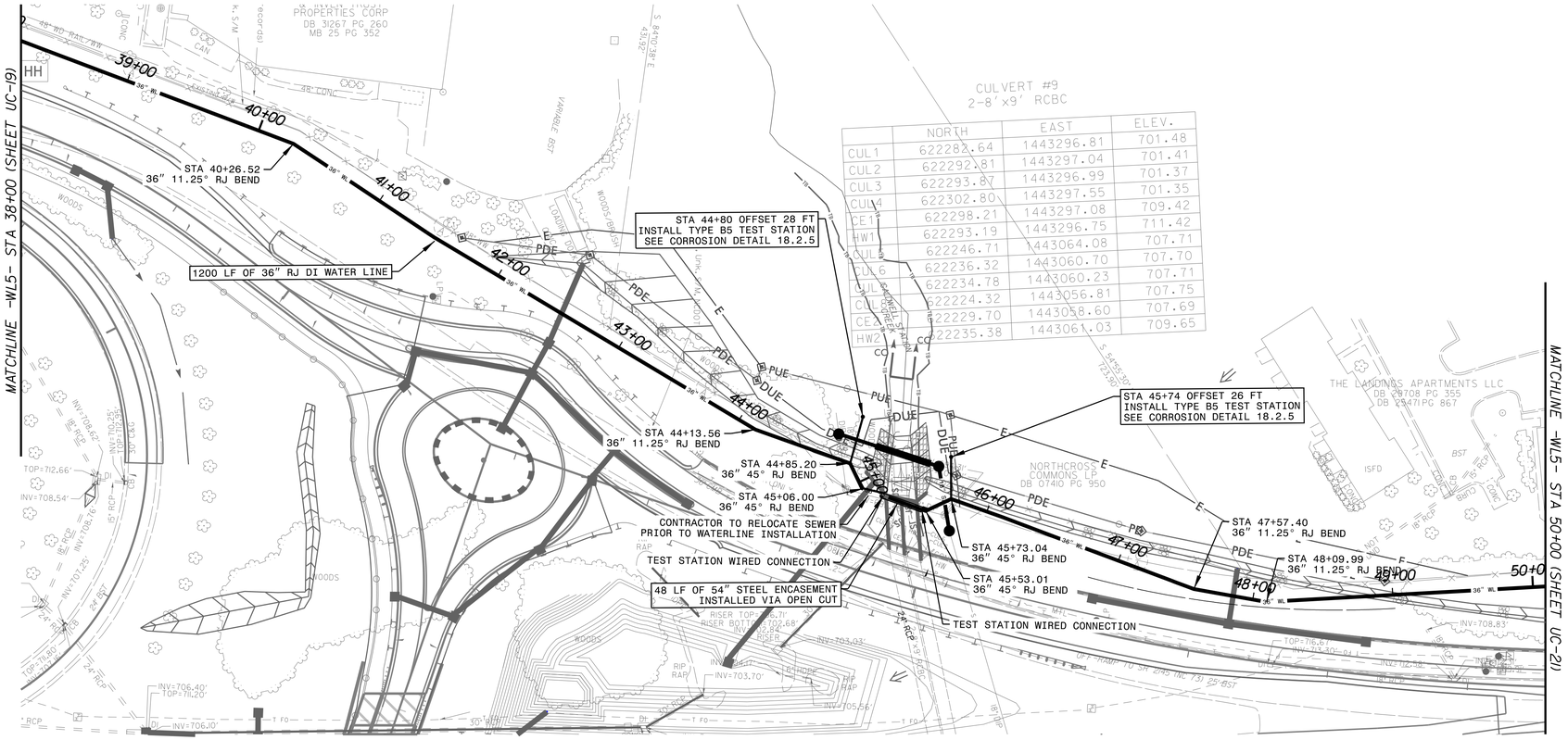
REVISIONS

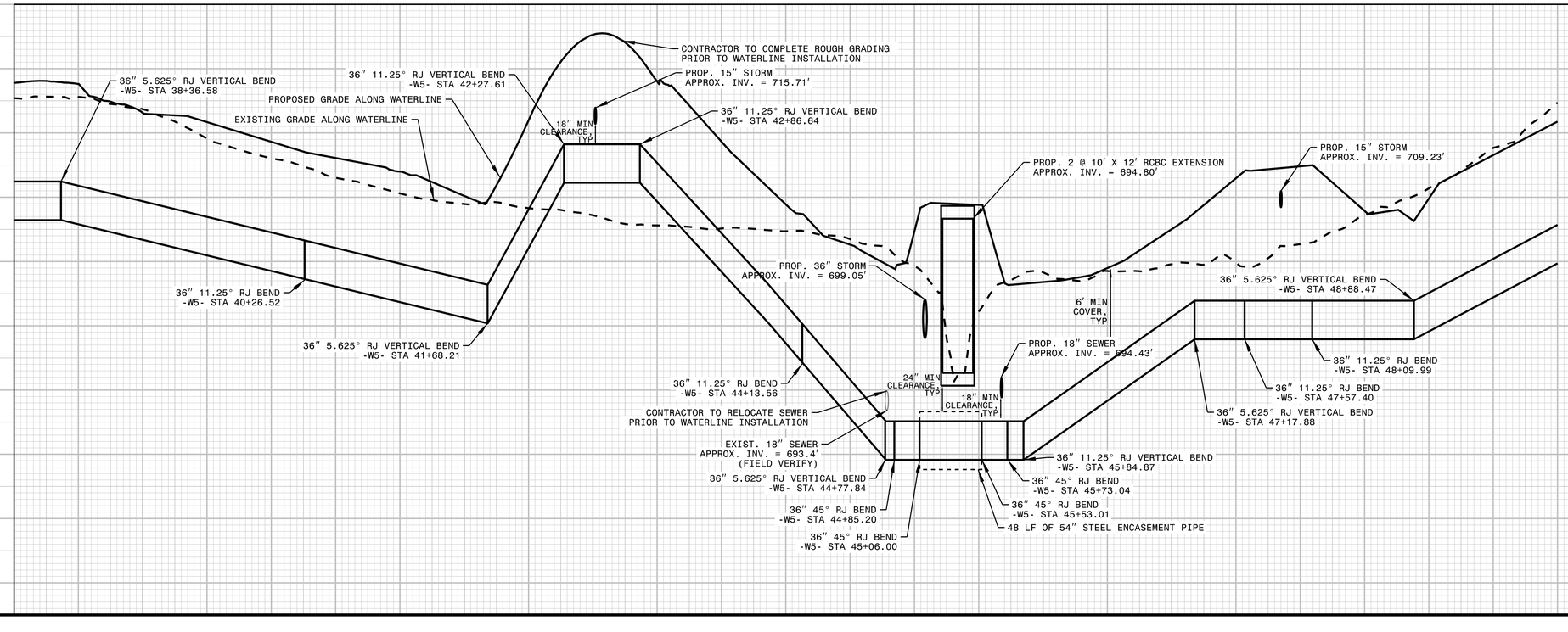
MATCHLINE -WL5- STA 38+00 (SHEET UC-19)

MATCHLINE -WL5- STA 50+00 (SHEET UC-21)

CULVERT #9
2-8'x9' RCBC

	NORTH	EAST	ELEV.
CUL1	622282.64	1443296.81	701.48
CUL2	622292.81	1443297.04	701.41
CUL3	622293.87	1443296.99	701.37
CUL4	622302.80	1443297.55	701.35
CE1	622298.21	1443297.08	709.42
HW1	622293.19	1443296.75	711.42
CUL5	622246.71	1443064.08	707.71
CUL6	622236.32	1443060.70	707.70
CUL7	622234.78	1443060.23	707.71
CUL8	622224.32	1443056.81	707.75
CE2	622229.70	1443058.60	707.69
HW2	622235.38	1443061.03	709.65





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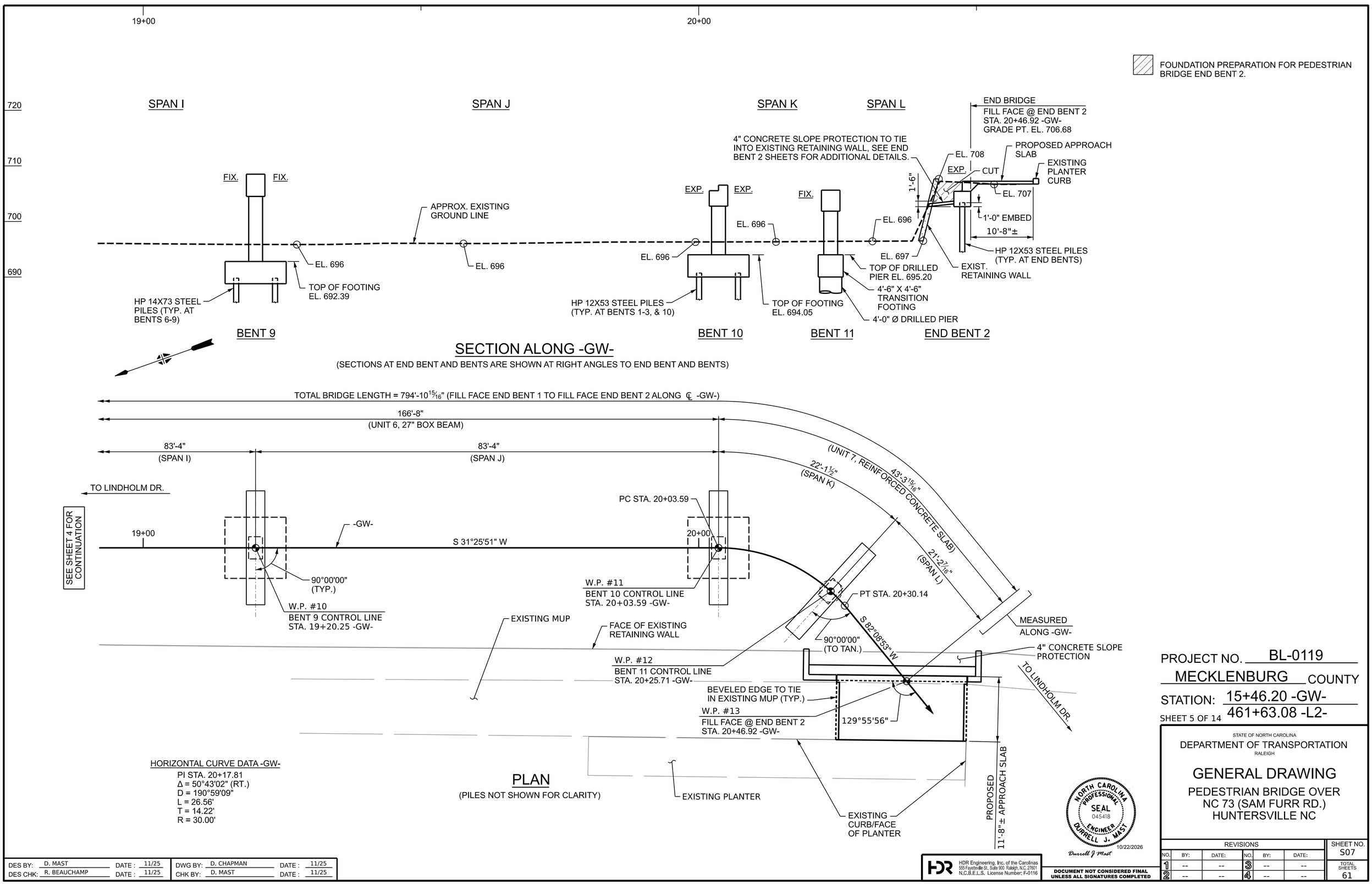

FOUNDATION PREPARATION FOR PEDESTRIAN BRIDGE END BENT 2.

SECTION ALONG -GW-

(SECTIONS AT END BENT AND BENTS ARE SHOWN AT RIGHT ANGLES TO END BENT AND BENTS)

PLAN

(PILES NOT SHOWN FOR CLARITY)

HORIZONTAL CURVE DATA -GW-

PI STA. 20+17.81
Δ = 50°43'02" (RT.)
D = 190°59'09"
L = 26.56'
T = 14.22'
R = 30.00'

DES BY:	D. MAST	DATE :	11/25
DES CHK:	R. BEAUCHAMP	DATE :	11/25
DWG BY:	D. CHAPMAN	DATE :	11/25
CHK BY:	D. MAST	DATE :	11/25

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

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NORTH CAROLINA PROFESSIONAL SEAL 045418 ENGINEER DURRELL J. MAST
Durrell J Mast 10/22/2026

PROJECT NO. BL-0119
MECKLENBURG COUNTY
STATION: 15+46.20 -GW-
461+63.08 -L2-
SHEET 5 OF 14

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

PEDESTRIAN BRIDGE OVER
NC 73 (SAM FURR RD.)
HUNTERSVILLE NC

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S07
1	--	--	3	--	--	TOTAL SHEETS
2	--	--	4	--	--	61

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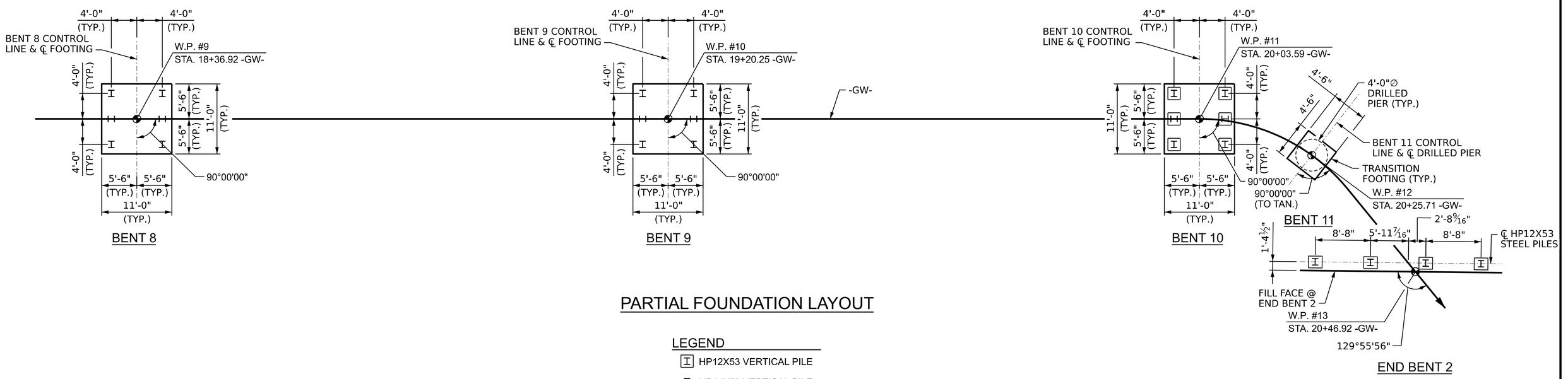

PARTIAL FOUNDATION LAYOUT

LEGEND

- I HP12X53 VERTICAL PILE
- I HP14X73 VERTICAL PILE

NOTES

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

FOR DRILLED PIERS, SEE DRILLED PIERS SPECIAL PROVISION AND SECTION 411 OF THE STANDARD SPECIFICATIONS.

FILL HOLES FOR PILE EXCAVATION AT BENTS 2 AND 3 WITH CONCRETE.

SLURRY CONSTRUCTION IS REQUIRED FOR DRILLED PIERS AT BENTS 4, 5, AND 11.

POLYMER SLURRY IS REQUIRED FOR DRILLED PIERS AT BENTS 4, 5, AND 11.

DO NOT USE MULTIPLE TEMPORARY STEEL CASINGS IN A TELESCOPED ARRANGEMENT TO STABILIZE DRILLED PIER EXCAVATIONS AT BENTS 4, 5, AND 11.

DO NOT DEWATER DRILLED PIER EXCAVATIONS AT BENTS 4, 5, AND 11. CLEAN THE BOTTOM OF EXCAVATIONS WITH A SUBMERSIBLE PUMP, OR AN AIRLIFT. WET PLACEMENT OF CONCRETE IS REQUIRED.

IN LIEU OF POLYMER SLURRY CONSTRUCTION, A COMBINATION OF A PERMANENT CASING AND TEMPORARY CASING MAY BE USED TO FINISH THE BENT EXCAVATION. SUBMIT THE INSTALLATION APPROACH TO WESTERN REGION OPERATIONS GROUP PRIOR TO SCHEDULING THE PRE-DRILL.

PROJECT NO. BL-0119

MECKLENBURG COUNTY

STATION: 15+46.20 -GW-

SHEET 7 OF 14

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING FOUNDATION LAYOUT

NORTH CAROLINA PROFESSIONAL SEAL 045418 ENGINEER DURRELL J. MAST

Durrell J Mast 10/22/2026

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S09
1	--	--	3	--	--	TOTAL SHEETS
2	--	--	4	--	--	61

DES BY:	D. MAST	DATE :	01/26
DES CHK:	R. BEAUCHAMP	DATE :	01/26
DWG BY:	D. CHAPMAN	DATE :	01/26
CHK BY:	D. MAST	DATE :	01/26

Docusign Envelope ID: 60A81897-B06E-8F75-832F-5E6119A02564

SUMMARY OF PILE INFORMATION/INSTALLATION

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Number of Piles per Line	Factored Resistance per Pile KIPS	Pile Cut-Off (Top of Pile) Elevation FT	Estimated Pile Length per Pile FT	Scour Critical Elevation FT	Driven Piles			Predrilling for Piles **			Drilled-In Piles		
						Minimum Pile Tip (Tip No Higher Than) Elevation FT	Required Driving Resistance (RDR)* per pile KIPS	Pile Redrives Quantity EACH	Predrilling Length per Pile LIN FT	Predrilling Elevation (Elevation Not To Predrill Below) FT	Maximum Predrilling Diameter INCHES	Pile Excavation (Bottom of Hole) Elevation FT	Pile Excavation Not In Soil per Pile LIN FT	Pile Excavation In Soil per Pile LIN FT
End Bent 1 (Piles 1-4)	4	90	See Substructure Plans	15			150							
Bent 1 (Piles 1-4)	4	120		15			200							
Bent 2 (Piles 1-6)	6	193		15			322					692.00	2	8
Bent 3 (Piles 1-6)	6	193		15			322					689.00	5	5
Bent 6 (Piles 1-6)	6	250		30			417							
Bent 7 (Piles 1-6)	6	250		30			417							
Bent 8 (Piles 1-6)	6	250		30			417							
Bent 9 (Piles 1-6)	6	250		30			417							
Bent 10 (Piles 1-6)	6	193		20			322							
End Bent 2 (Piles 1-4)	4	86		30			143							
TOTAL QUANTITY:													42	78

$$^{*}RDR = \frac{Factored\ Resistance + Factored\ Drag\ Load + Factored\ Dead\ Load}{Dynamic\ Resistance\ Factor} + Nominal\ Drag\ Load\ Resistance + Nominal\ Resistance\ from\ Scourable\ Material$$

**** Predrilling for Piles is required for end bents/bents with a predrilling length and at the Contractor's option for end bents/bents with predrilling information but no predrilling length.**

PILE DESIGN INFORMATION

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Factored Axial Load per Pile KIPS	Factored Drag Load per Pile KIPS	Factored Dead Load * per Pile KIPS	Dynamic Resistance Factor	Nominal Drag Resistance per Pile KIPS	Nominal Scour Resistance per Pile KIPS
End Bent 1 (Piles 1-4)	90			0.60		
Bent 1 (Piles 1-6)	120			0.60		
Bent 2 (Piles 1-6)	193			0.60		
Bent 3 (Piles 1-6)	193			0.60		
Bent 6 (Piles 1-6)	250			0.60		
Bent 7 (Piles 1-6)	250			0.60		
Bent 8 (Piles 1-6)	250			0.60		
Bent 9 (Piles 1-6)	250			0.60		
Bent 10 (Piles 1-6)	193			0.60		
End Bent 2 (Piles 1-4)	86			0.60		

*** Factored Dead Load is factored weight of pile above the ground line.**

PROJECT NO. U-5765/BL-0119

MECKLENBURG COUNTY

STATION: 15+46.20 -GW-, 461+63.08 -L2-

PEDESTRIAN BRIDGE

NOTES:

1. The Pile Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (Daniel P. Gallo, #052028) on 05-13-2026.
2. Total Pile Driving Equipment Setup quantity (not shown in Pile Foundation Tables) equals the number of driven piles, i.e., the number of piles with a Required Driving Resistance.
3. The Engineer may adjust the quantity for DPT Testing and Pipe Pile Plates when necessary.

NORTH CAROLINA PROFESSIONAL SEAL 045418 ENGINEER DURRELL J. MAST

Durrell J Mast 5/22/2026

SIGNATURE DATE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PILE FOUNDATION TABLES

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REVISIONS

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1			3		
2			4		

SHEET NO. S10

TOTAL SHEETS 61

Docusign Envelope ID: 60A81897-B06E-8F75-832F-5E6119A02564

SUMMARY OF DRILLED PIER INFORMATION/INSTALLATION

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pier(s) #(-#) (e.g., "Bent 1, Piers 1-3")	Number of Piers per Line	Factored Resistance per Pier KIPS	Required Drilled Pier Tip Elevation FT	Required Tip Resistance per Pier KSF	Scour Critical Elevation FT	Minimum Drilled Pier Penetration Into Rock/Weathered Rock per Pier LIN FT	Drilled Pier Length* per Pier LIN FT	Drilled Pier Length Not In Soil* per Pier LIN FT	Drilled Pier Length In Soil* per Pier LIN FT	Permanent Steel Casing Required? YES	Permanent Steel Casing Tip Elevation (Elevation Not To Extend Casing Below) FT	Permanent Steel Casing Length** per Pier LIN FT
Bent 4 (Pier 1)	1	1185	637.00	10		23.00		11.5	52.5	NO		
Bent 5 (Pier 1)	1	1185	650.00	150		7.00		5.0	44.0	NO		
Bent 11 (Pier 1)	1	260	666.00	10		8.00		8.0	21.0	NO		
TOTAL QUANTITY:								24.5	117.5			

* Drilled Pier Length, Drilled Pier Length Not in Soil and Drilled Pier Length in Soil represent estimated drilled pier quantities and are measured and paid for as either "____ Dia. Drilled Piers" or "____ Dia. Drilled Piers Not in Soil" and "____ Dia. Drilled Piers in Soil" in accordance with Article 411-7 of the NCDOT Standard Specifications. For bents with a not in soil pay item, drilled piers through air or water will be paid at the contract unit price for "__Dia. Drilled Piers in Soil."

** Permanent Steel Casing Length equals the difference between the ground line or top of drilled pier elevation, whichever is higher, and the permanent casing tip elevation and is measured and paid for as "Permanent Steel Casing for ____ Dia. Drilled Pier" in accordance with Article 411-7 of the NCDOT Standard Specifications.

SUMMARY OF DRILLED PIER TESTING

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pier(s) #(-#) (e.g., "Bent 1, Piers 1-3")	Standard Penetration Test (SPT) EACH	Crosshole Sonic Logging (CSL) EACH	Thermal Profile Logging (TPL) EACH	Shaft Inspection Device (SID) EACH
Bent 4 (Pier 1)		1	1	1
Bent 5 (Pier 1)		1	1	1
Bent 11 (Pier 1)				
TOTAL QUANTITY:		2	2	2

NOTES:

1. The Drilled Pier Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (Daniel P. Gallo, #052028) on 05-13-2026.
2. The Engineer may adjust the quantity for Permanent Steel Casing, SPTs, TPLs, CSL Testing, and SID Inspections.

PROJECT NO. U-5765/BL-0119

MECKLENBURG COUNTY

STATION: 15+46.20 -GW-, 461+63.08 -L2-

PEDESTRIAN BRIDGE

NORTH CAROLINA PROFESSIONAL SEAL 045418 ENGINEER DURRELL J. MAST

Durrell J Mast 05/22/2026

SIGNATURE DATE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DRILLED PIER FOUNDATION TABLES

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1			3			
2			4			

SHEET NO. S11

TOTAL SHEETS 61

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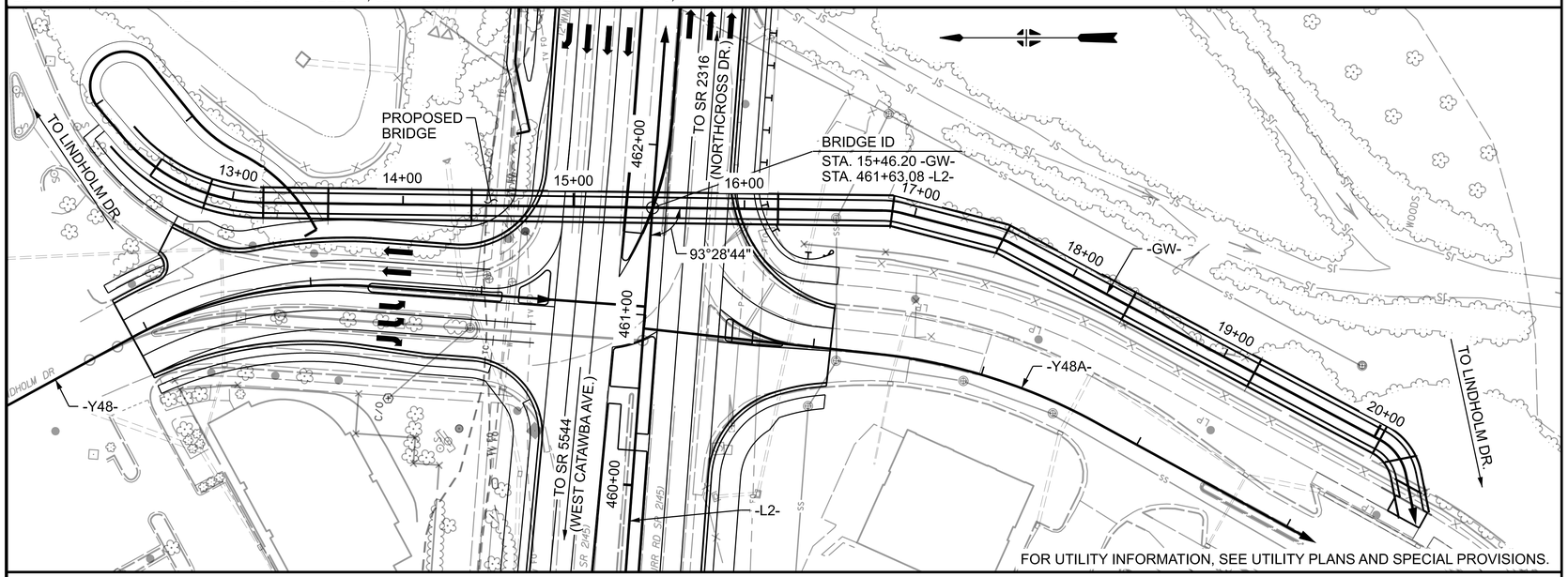
BENCHMARK: BM#17 - TIE SPIKE SET IN 14" BEECH, 326.14 LT OF STA. 461+33.65 -L2- EL. 715.75, DATUM NAVD 88



LOCATION SKETCH

NOTES

ASSUMED LIVE LOAD = 90 PSF PEDESTRIAN LOADING OR H10 DESIGN VEHICLE.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD GUIDE SPECIFICATIONS FOR PEDESTRIAN BRIDGES AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

ELEVATIONS ARE IN FEET.

FOR MAINTENANCE AND PROTECTION OF TRAFFIC BENEATH PROPOSED STRUCTURE, SEE SPECIAL PROVISIONS.

THE INFORMATION REGARDING THE EXISTING RETAINING WALL INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE OWNER FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING RETAINING WALL INFORMATION SHOWN ON PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

FOR CONCRETE WEARING SURFACE, SEE SPECIAL PROVISIONS.

THESE PLANS SHALL BE USED IN CONJUNCTION AND COORDINATE WITH THE PREFABRICATED BRIDGE MANUFACTURER'S PLANS. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WITH CONSTRUCTION.

FOR PREFABRICATED FULL-THROUGH ARCH TRUSS PEDESTRIAN BRIDGE, SEE SPECIAL PROVISIONS.

FOR TOWN OF HUNTERSVILLE "H" LOGO WITH BACKLIGHTING, SEE SPECIAL PROVISIONS.

FOR THERMAL INTEGRITY PROFILER, SEE GEO-TECHNICAL SPECIAL PROVISIONS.

FOR ILLUMINATED PEDESTRIAN RAILING SYSTEM, SEE ROADWAY SPECIAL PROVISIONS.

FOR FOUNDATION PREPARATION FOR PEDESTRIAN BRIDGE END BENT 2, SEE GEO-TECHNICAL SPECIAL PROVISIONS.

PROJECT NO. BL-0119

MECKLENBURG COUNTY

STATION: 15+46.20 -GW-

SHEET 13 OF 14

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
LOCATION SKETCH

NORTH CAROLINA PROFESSIONAL SEAL 045418 ENGINEER DURRELL J. MAST

Durrell J Mast 10/22/2026

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S15
1	--	--	3	--	--	TOTAL SHEETS
2	--	--	4	--	--	61

DES BY:	D. MAST	DATE : 11/25	DWG BY:	D. CHAPMAN	DATE : 11/25
DES CHK:	R. BEAUCHAMP	DATE : 11/25	CHK BY:	D. MAST	DATE : 11/25

Docusign Envelope ID: 449D69C5-64C8-85BE-82F7-D8C62E21DF7F

TOTAL BILL OF MATERIAL

	RIP RAP CLASS "A" (8" THICK)	GEOTEXTILE FOR DRAINAGE	FOUNDATION EXCAVATION FOR BENT AT STATION 15+46.20 -GW-	PILE EXCAVATION IN SOIL	PILE EXCAVATION NOT IN SOIL	4'-0" DIA. DRILLED PIERS IN SOIL	4'-0" DIA. DRILLED PIERS NOT IN SOIL	5'-6" DIA. DRILLED PIERS IN SOIL	5'-6" DIA. DRILLED PIERS NOT IN SOIL	SID INSPECTIONS	CSL TESTING	UNCLASSIFIED STRUCTURE EXCAVATION AT STATION 15+46.20 -GW-	REINFORCED CONCRETE DECK SLAB	REINFORCED CONCRETE WEARING SURFACE	CLASS A CONCRETE	BRIDGE APPROACH SLAB AT STATION 15+46.20 -GW-	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL
	TONS	SQ.YDS.	LUMP SUM	LIN.FT.	LIN.FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EA.	EA.	LUMP SUM	SQ. FT.	SQ. FT.	CU.YDS.	LUMP SUM	LBS.	LBS.
SUPERSTRUCTURE													2608	7069				
END BENT NO. 1	39	130.00										LUMP SUM			9.1		1395	
BENT NO. 1															10.8		1517	
BENT NO. 2			LUMP SUM	48.0	12.0										30.6		6758	
BENT NO. 3			LUMP SUM	30.0	30.0										34.0		9239	
BENT NO. 4								52.5	11.5	1	1				37.3		7985	2345
BENT NO. 5								44.0	5.0	1	1				38.0		8144	1801
BENT NO. 6			LUMP SUM												35.6		8160	
BENT NO. 7			LUMP SUM												34.9		8056	
BENT NO. 8			LUMP SUM												33.8		7529	
BENT NO. 9			LUMP SUM												32.8		7277	
BENT NO. 10			LUMP SUM												32.6		8809	
BENT NO. 11						21.0	8.0								15.5		3574	742
END BENT NO. 2				0.0	0.0							LUMP SUM			11.6		1945	
TOTAL	39	130.00	LUMP SUM	78	42	21.0	8.0	96.5	16.5	2	2	LUMP SUM	2608	7069	356.6	LUMP SUM	80,388	4888

TOTAL BILL OF MATERIAL

	PILE DRIVING EQUIPMENT SETUP FOR HP 12 X 53 STEEL PILES	HP 12 X 53 STEEL PILES		PILE DRIVING EQUIPMENT SETUP FOR HP 14 X 73 STEEL PILES	HP 14 X 73 STEEL PILES		1'-5" x 1'-0" CONCRETE PARAPET	4" SLOPE PROTECTION	ELASTOMERIC BEARINGS	FOAM JOINT SEALS	3'-0" X 2'-3" PRESTRESSED CONCRETE BOX BEAMS		PREFABRICATED FULL-THROUGH ARCH TRUSS PEDESTRIAN BRIDGE	TOWN OF HUNTERSVILLE "H" LOGO WITH BACKLIGHTING	120" POLYCARBONATE BARRIER	THERMAL PROFILE LOGGING	FOUNDATION PREPARATION FOR PEDESTRIAN BRIDGE END BENT 2
	EA.	NO.	LIN.FT.	EA.	NO.	LIN.FT.	LIN.FT.	SQ.YDS.	LUMP SUM	LUMP SUM	NO.	LIN. FT.	LUMP SUM	LUMP SUM	LIN. FT.	EA.	LUMP SUM
SUPERSTRUCTURE							1250.2		LUMP SUM	LUMP SUM	36	2,799	LUMP SUM	LUMP SUM	360.0		
END BENT NO. 1	4	4	60														
BENT NO. 1	4	4	60														
BENT NO. 2	6	6	90														
BENT NO. 3	6	6	90														
BENT NO. 4																1	
BENT NO. 5																1	
BENT NO. 6				6	6	180											
BENT NO. 7				6	6	180											
BENT NO. 8				6	6	180											
BENT NO. 9				6	6	180											
BENT NO. 10	6	6	120														
BENT NO. 11																	
END BENT NO. 2	4	4	120					9.8									LUMP SUM
TOTAL	30	30	540	24	24	720	1250.2	9.8	LUMP SUM	LUMP SUM	36	2,799	LUMP SUM	LUMP SUM	360.0	2	LUMP SUM

PROJECT NO. BL-0119

MECKLENBURG COUNTY

STATION: 15+46.20 -GW-

SHEET 14 OF 14

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

TOTAL BILL OF MATERIAL

NORTH CAROLINA PROFESSIONAL SEAL 039194 ENGINEER BLAKE M. BUSH

10/22/2026

Blake M. Bush

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

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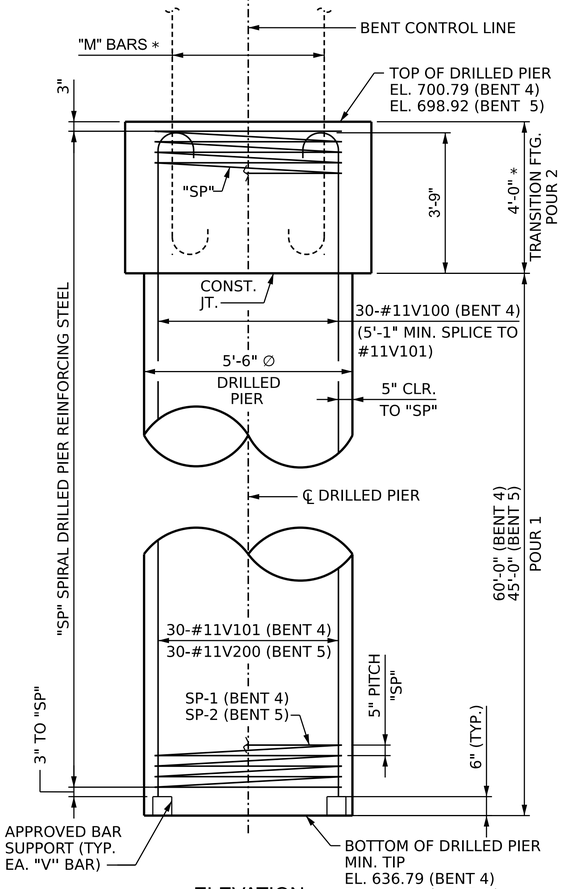
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S16
1	--	--	3	--	--	TOTAL SHEETS
2	--	--	4	--	--	61

DES BY: G. MARTINEZ DATE : 05/26
DES CHK: D. MAST DATE : 05/26

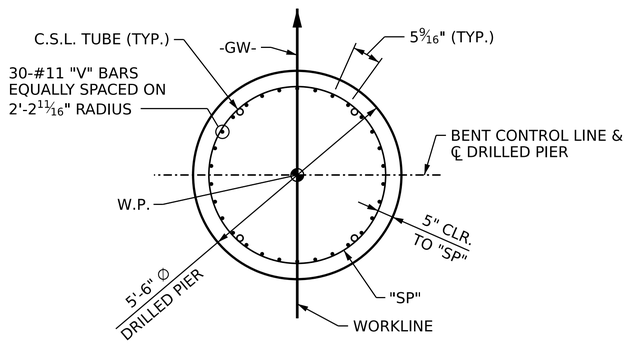
DWG BY: D. CARTER DATE : 05/26
CHK BY: D. MAST DATE : 05/26

Docusign Envelope ID: 60A81897-B06E-8F75-832F-5E6119A02564



ELEVATION

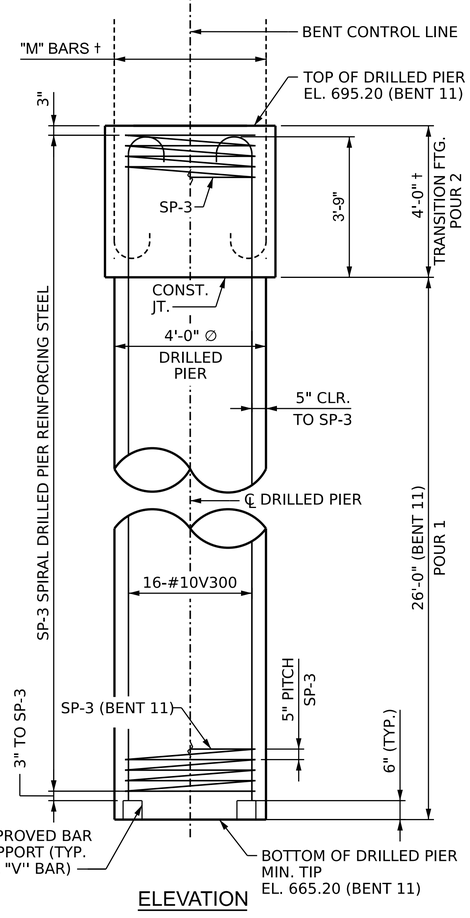
* FOR DIMENSIONS AND DETAILS OF REINFORCEMENT FOR COLUMN AND TRANSITION FOOTING, SEE "SUBSTRUCTURE BENTS 4 & 5" SHEETS.



PLAN

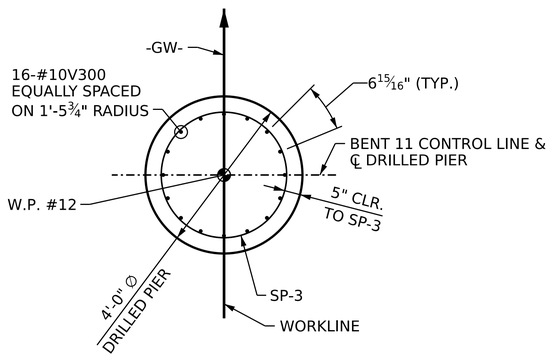
5'-6" DRILLED PIER DETAILS

(BENT 4 & 5)



ELEVATION

† FOR DIMENSIONS AND DETAILS OF REINFORCEMENT FOR COLUMN AND TRANSITION FOOTING, SEE "SUBSTRUCTURE BENTS 11" SHEETS.



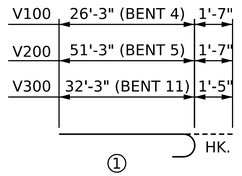
PLAN

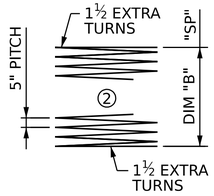
4'-0" DRILLED PIER DETAILS

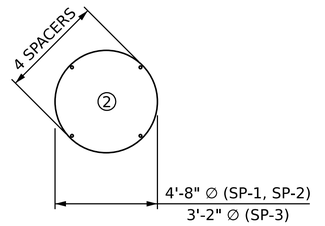
(BENT 11)

BAR TYPES

ALL BAR DIMENSIONS ARE OUT TO OUT







ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL
DRILLED PIERS

BENT 4

BAR	NO.	SIZE	TYPE	DIM "B"	LENGTH	WEIGHT
V100	30	#11	1	-	27'-10"	4,437
V101	30	#11	STR.	-	45'-1"	7,186
REINFORCING STEEL					LBS.	11,623
SP-1	1	**	2	63'-0"	2248'-0"	2,345
SPIRAL COLUMN REINFORCING STEEL					LBS.	2,345
DRILLED PIER CONCRETE POUR #1 - DRILLED PIERS					CU. YD.	56.3

BENT 5

BAR	NO.	SIZE	TYPE	DIM "B"	LENGTH	WEIGHT
V200	30	#11	1	-	52'-10"	8,421
REINFORCING STEEL					LBS.	8,421
SP-2	1	**	2	48'-0"	1725'-11"	1,801
SPIRAL COLUMN REINFORCING STEEL					LBS.	1,801
DRILLED PIER CONCRETE POUR #1 - DRILLED PIER					CU. YD.	43.1

BENT 11

BAR	NO.	SIZE	TYPE	DIM "B"	LENGTH	WEIGHT
V300	16	#10	1	-	33'-8"	2,318
REINFORCING STEEL					LBS.	2,318
SP-3	1	**	2	29'-0"	711'-1"	742
SPIRAL COLUMN REINFORCING STEEL					LBS.	742
DRILLED PIER CONCRETE POUR #1 - DRILLED PIERS					CU. YD.	13.5

** - THE "SP" SPIRAL REINFORCING STEEL SHALL BE W31 OR D31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR.

NOTES

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE LONGITUDINAL REINFORCEMENT FOR THE DRILLED PIERS IS DETAILED WITH 3 FEET OF EXTRA LENGTH.

ALL STEEL IN THE DRILLED PIERS IS INCLUDED IN THE PAY ITEMS FOR ``REINFORCING STEEL'' AND ``SPIRAL COLUMN REINFORCING STEEL''.

FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

THE LOCATION OF THE CONSTRUCTION JOINT IN THE DRILLED PIERS IS BASED ON AN APPROXIMATE GROUND LINE ELEVATION. IF THE CONSTRUCTION JOINT IS ABOVE THE ACTUAL GROUND LINE ELEVATION, THE CONTRACTOR SHALL PLACE THE CONSTRUCTION JOINT 1 FT. BELOW THE GROUND LINE.

PROJECT NO. BL-0119

MECKLENBURG COUNTY

STATION: 15+46.20 -GW-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE DRILLED PIER DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S53
1	--	--	3	--	--	TOTAL SHEETS
2	--	--	4	--	--	61

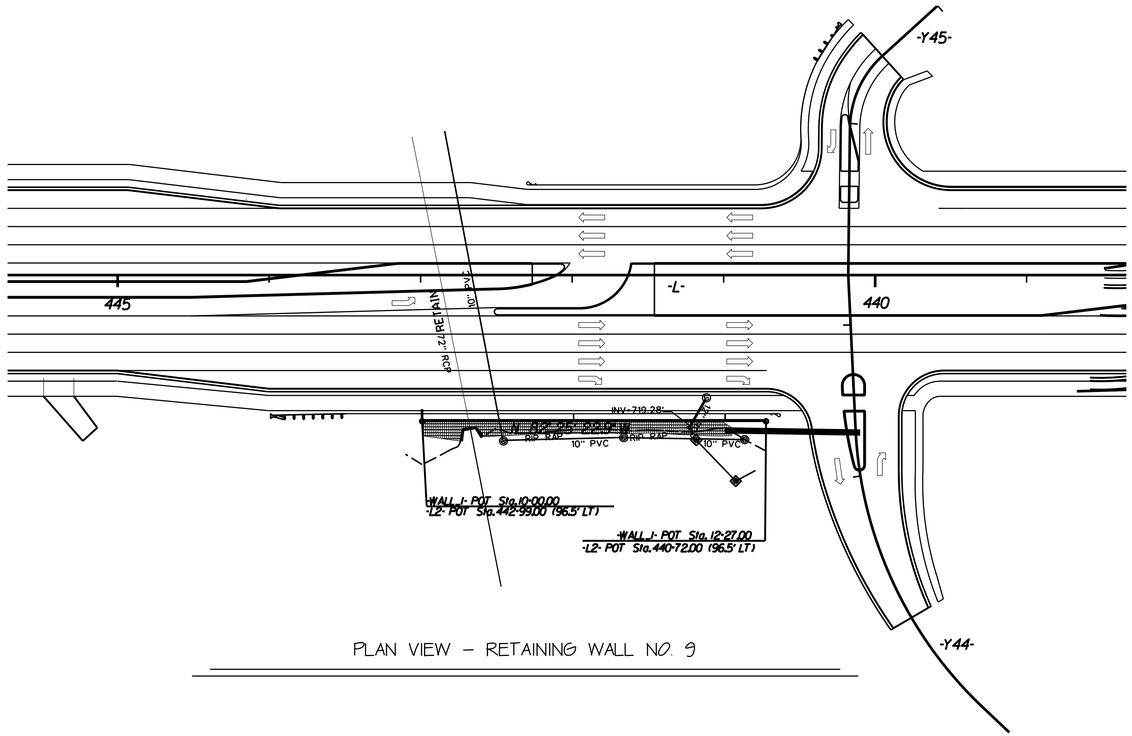
NORTH CAROLINA PROFESSIONAL SEAL 045418 ENGINEER DURRELL J. MAST

Durrell J Mast 10/22/2026

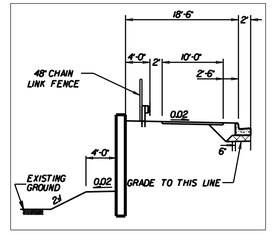
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

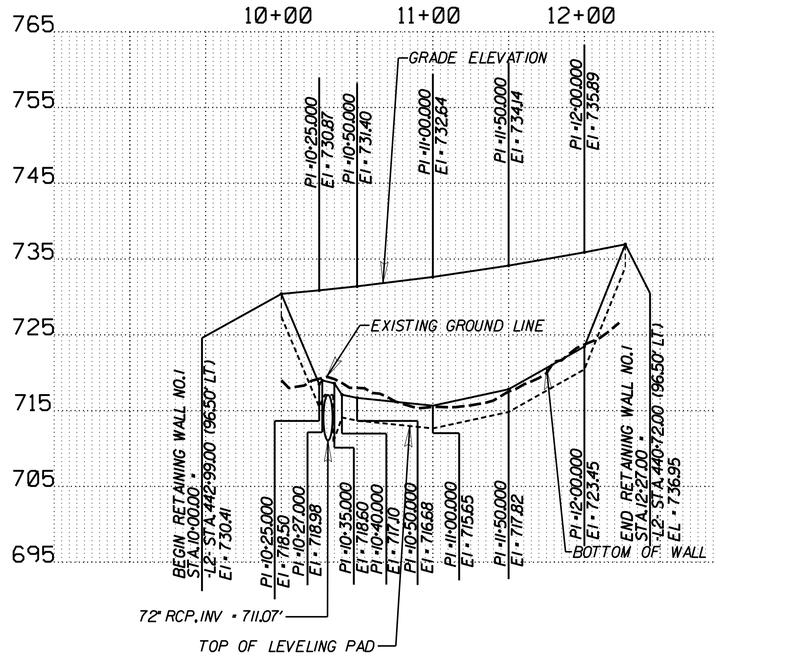
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DES BY:	R. BEAUCHAMP	DATE :	03/26	DWG BY:	D. CHAPMAN
DES CHK:	G. MYERS	DATE :	03/26	CHK BY:	D. MAST
				DATE :	03/26
				DATE :	03/26



PLAN VIEW – RETAINING WALL NO. 9





WALL ENVELOPE - RETAINING WALL NO. 9

NOTE: 1) OFFSET DIMENSIONS ARE FROM FACE OF WALL
2) THE WALL ENVELOPE DOES NOT ACCURATELY DEPICT THE ACTUAL FACE OF THE WALL
3) EMBED WALL AT 72" RCP TO ELEVATION 710'

PREPARED BY: SY	DATE: 8/2025
REVIEWED BY: SCC	DATE: 8/2025

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 031361 ENGINEER SHIPING YANG

DocuSigned by: Shiping Yang 7A7310E67F76411...

09/30/2026

SIGNATURE DATE

ENGINEER

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MSE RETAINING WALL QUANTITIES

RETAINING WALL NO. 9	-WALL9-	• 3687 SQUARE FEET

• WALL AREA IS MEASURED USING THE DESIGN HEIGHT "H"

ARCHITECTURAL SURFACE TREATMENT

RETAINING WALL NO. 9	-WALL9-	• 3687 SQUARE FEET

PROJECT NO.: U-5765

MECKLENBURG COUNTY

STATION: RW9: 440+72 TO 442+99 -L2-

SHEET 1 OF 8

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 9 MSE WALL WITH PRECAST CONCRETE PANELS

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1	SY	5/2026	3		
2	SY	9/2026	4		

SHEET NO. W-1

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 031361 ENGINEER SHIPING YANG

DocuSigned by: Shiping Yang 7A7310E67F76411...

09/30/2026

SIGNATURE DATE

ENGINEER

SIGNATURE DATE

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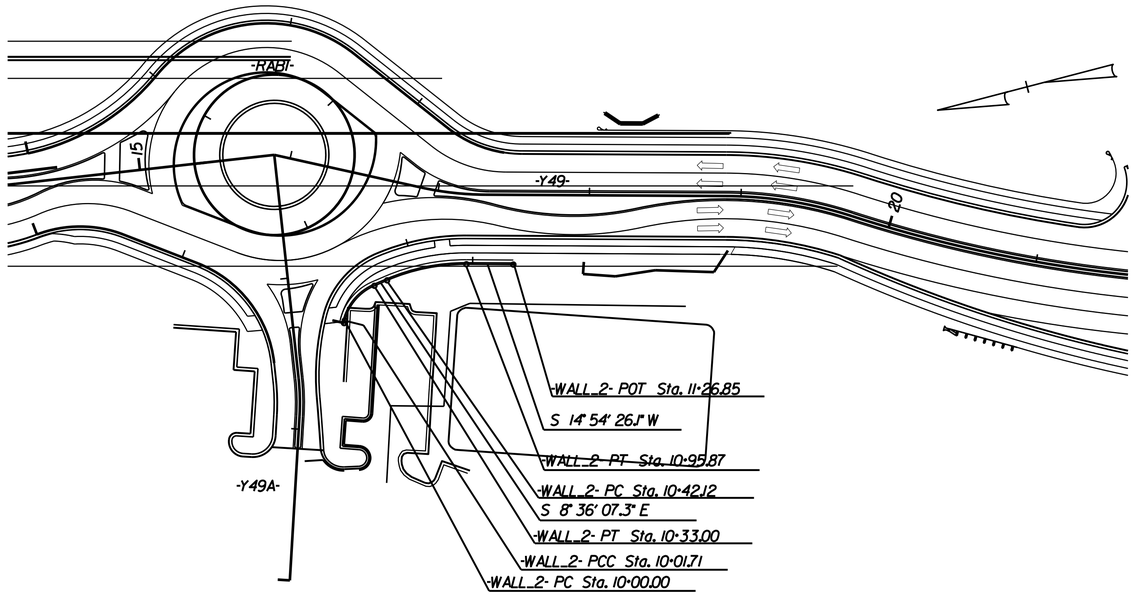
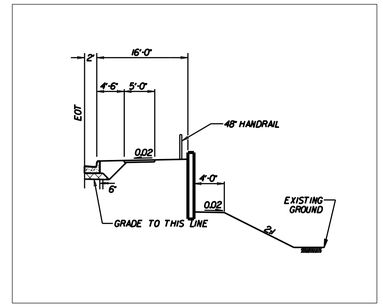


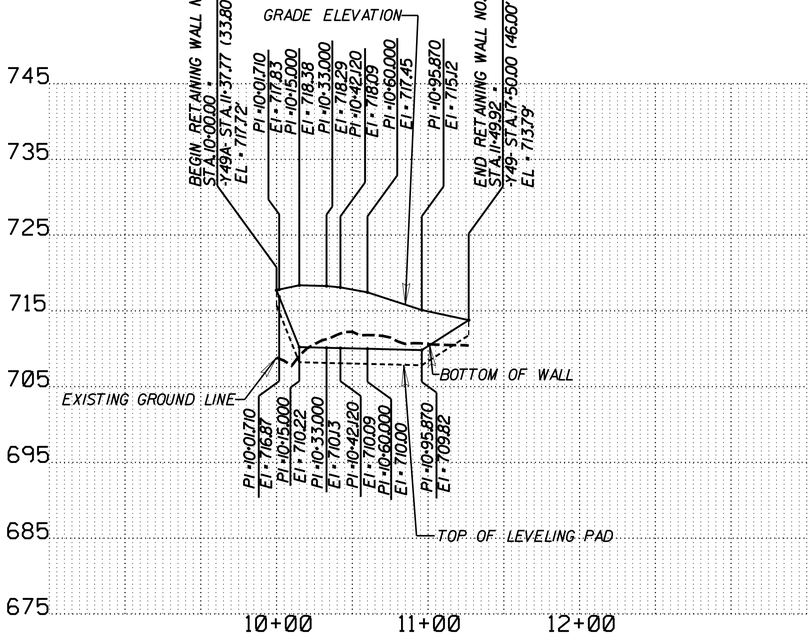
PLAN VIEW – RETAINING WALL NO. 10



MSE WALL WITH SRW UNITS QUANTITIES

RETAINING WALL NO. 10	-WALL10-	• 985 SQUARE FEET

• WALL AREA IS MEASURED USING THE DESIGN HEIGHT "H"



WALL ENVELOPE - RETAINING WALL NO. 10

NOTE: 1) OFFSET DIMENSIONS ARE FROM FACE OF WALL
2) THE WALL ENVELOPE DOES NOT ACCURATELY DEPICT THE ACTUAL FACE OF THE WALL

PROJECT NO.: U-5765

MECKLENBURG COUNTY

STATION: RW10: 11+37.77 -Y49A- TO 17+50 -Y49-

SHEET 2 OF 8

PREPARED BY: SY	DATE: 8/2025
REVIEWED BY: SCC	DATE: 8/2025

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

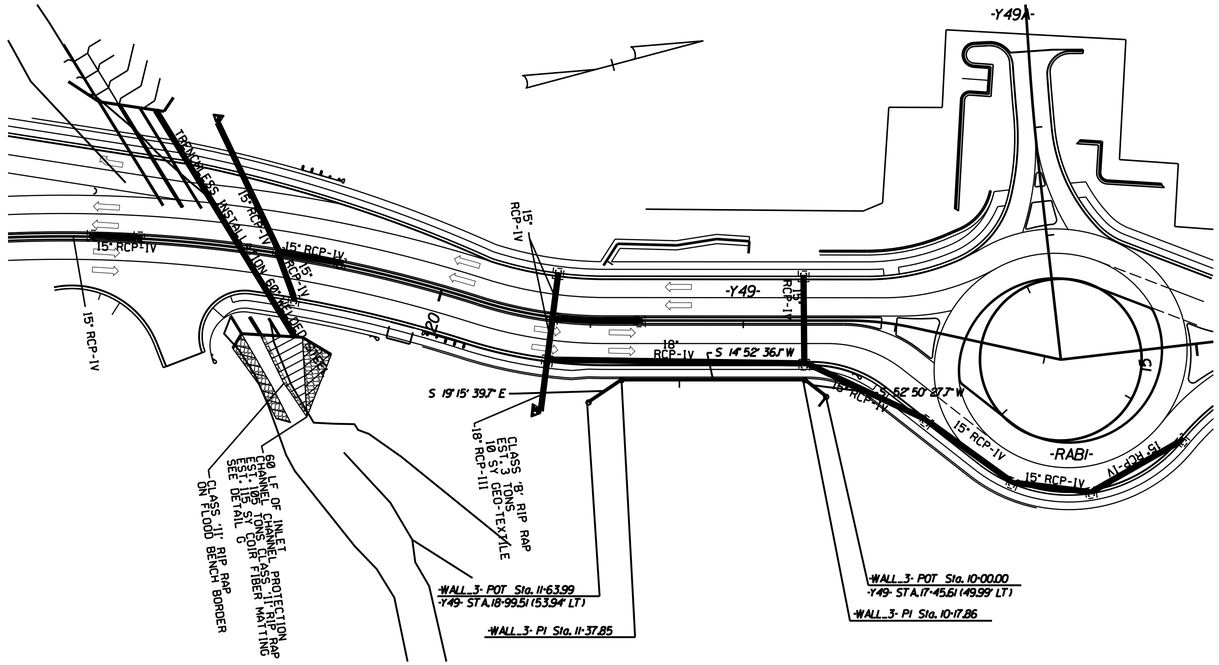
GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 10
MSE WALL WITH SRW UNITS

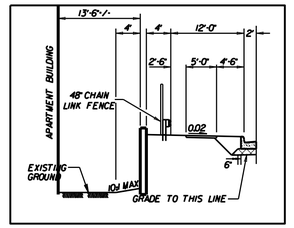
REVISIONS

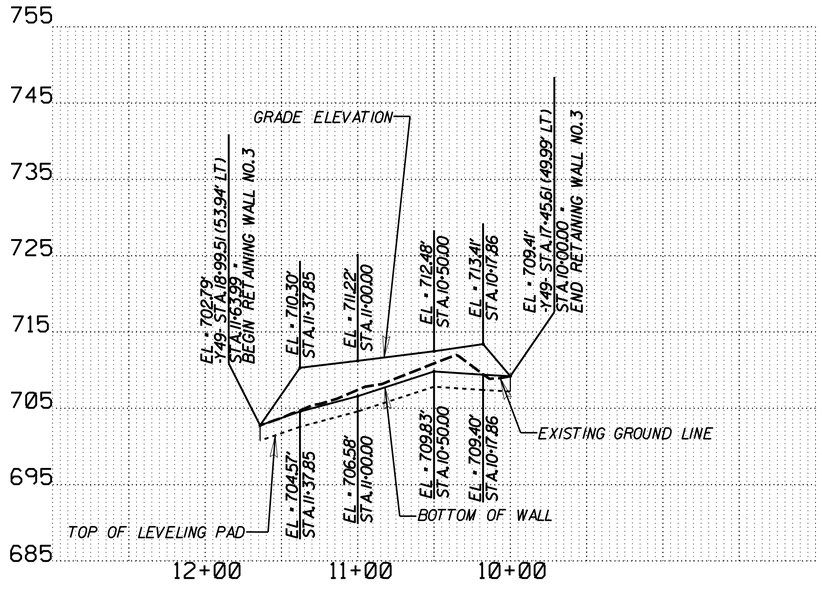
NO.	BY	DATE	NO.	BY	DATE
1	SY	5/2026	3		
2	SY	9/2026	4		

SHEET NO. W-2



PLAN VIEW – RETAINING WALL NO. 11





WALL ENVELOPE - RETAINING WALL NO. 11

NOTE: 1) OFFSET DIMENSIONS ARE FROM FACE OF WALL
2) THE WALL ENVELOPE DOES NOT ACCURATELY DEPICT THE ACTUAL FACE OF THE WALL

MSE WALL WITH SRW UNITS QUANTITIES		
RETAINING WALL NO. 11	-WALL11-	• 924 SQUARE FEET

• WALL AREA IS MEASURED USING THE DESIGN HEIGHT "H"

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 031361 ENGINEER SHIPING YANG

DocuSigned by: Shiping Yang 7A7310E67F76411...

09/30/2026

SIGNATURE DATE

ENGINEER

SIGNATURE DATE

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PROJECT NO.: U-5765

MECKLENBURG COUNTY

STATION: RW11: 17+45.61 TO 18+99.51 -Y49-

SHEET 3 OF 8

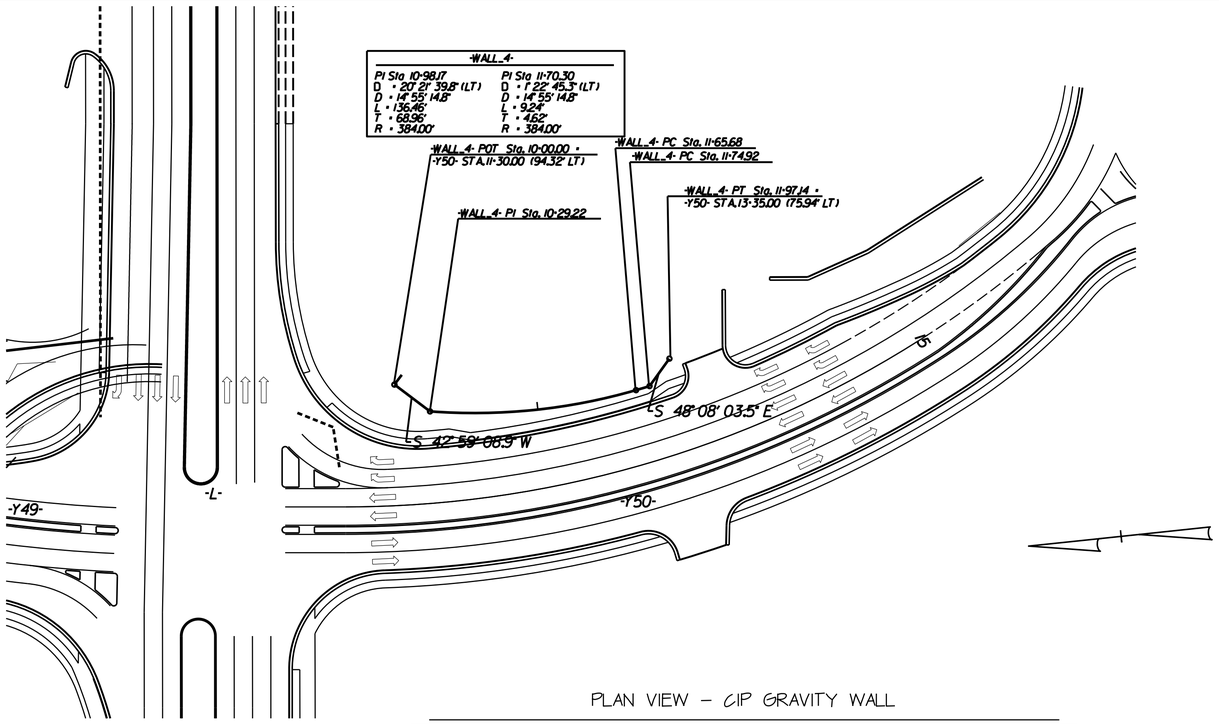
PREPARED BY: SY	DATE: 8/2025
REVIEWED BY: SCC	DATE: 8/2025

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

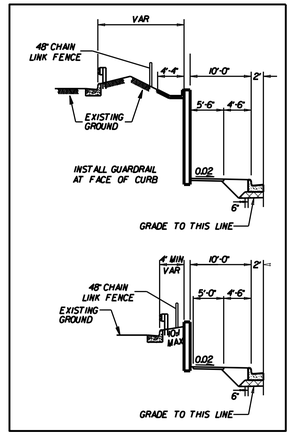
GEOTECHNICAL ENGINEERING UNIT

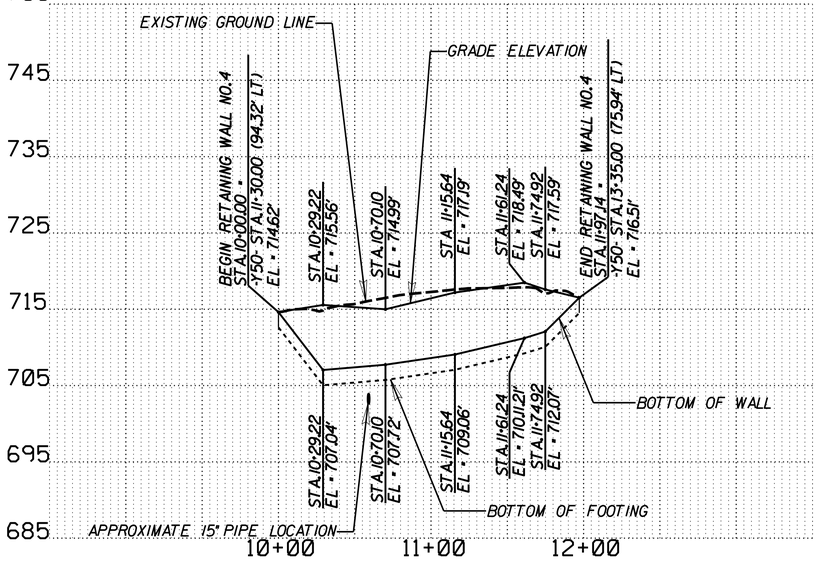
RETAINING WALL NO. 11
MSE WALL WITH SRW UNITS

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1	SY	8/2026	3			W-3
2	SY	9/2026	4			



PLAN VIEW – CIP GRAVITY WALL





WALL ENVELOPE - CIP GRAVITY WALL

NOTE: 1) OFFSET DIMENSIONS ARE FROM FACE OF WALL
2) THE WALL ENVELOPE DOES NOT ACCURATELY DEPICT THE ACTUAL FACE OF THE WALL

CIP GRAVITY WALL QUANTITIES

RETAINING WALL	-WALL-	• 1692 SQUARE FEET

• WALL AREA IS MEASURED USING THE DESIGN HEIGHT "H"

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 031361 ENGINEER SHIPING YANG

DocuSigned by: Shiping Yang 7A7310E67F76411...

09/30/2026

SIGNATURE DATE

ENGINEER

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO.: U-5765

MECKLENBURG COUNTY

STATION: RW: 11+30.00 TO 13+35.00 -Y50-

SHEET 4 OF 8

PREPARED BY:SY	DATE:8/2025
REVIEWED BY:SCC	DATE:8/2025

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

CIP GRAVITY WALL

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			W-4
2	SY	9/2026	4			

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 031361 ENGINEER SHIPING YANG

DocuSigned by: Shiping Yang 7A7310E67F76411...

09/30/2026

SIGNATURE DATE

ENGINEER

SIGNATURE DATE

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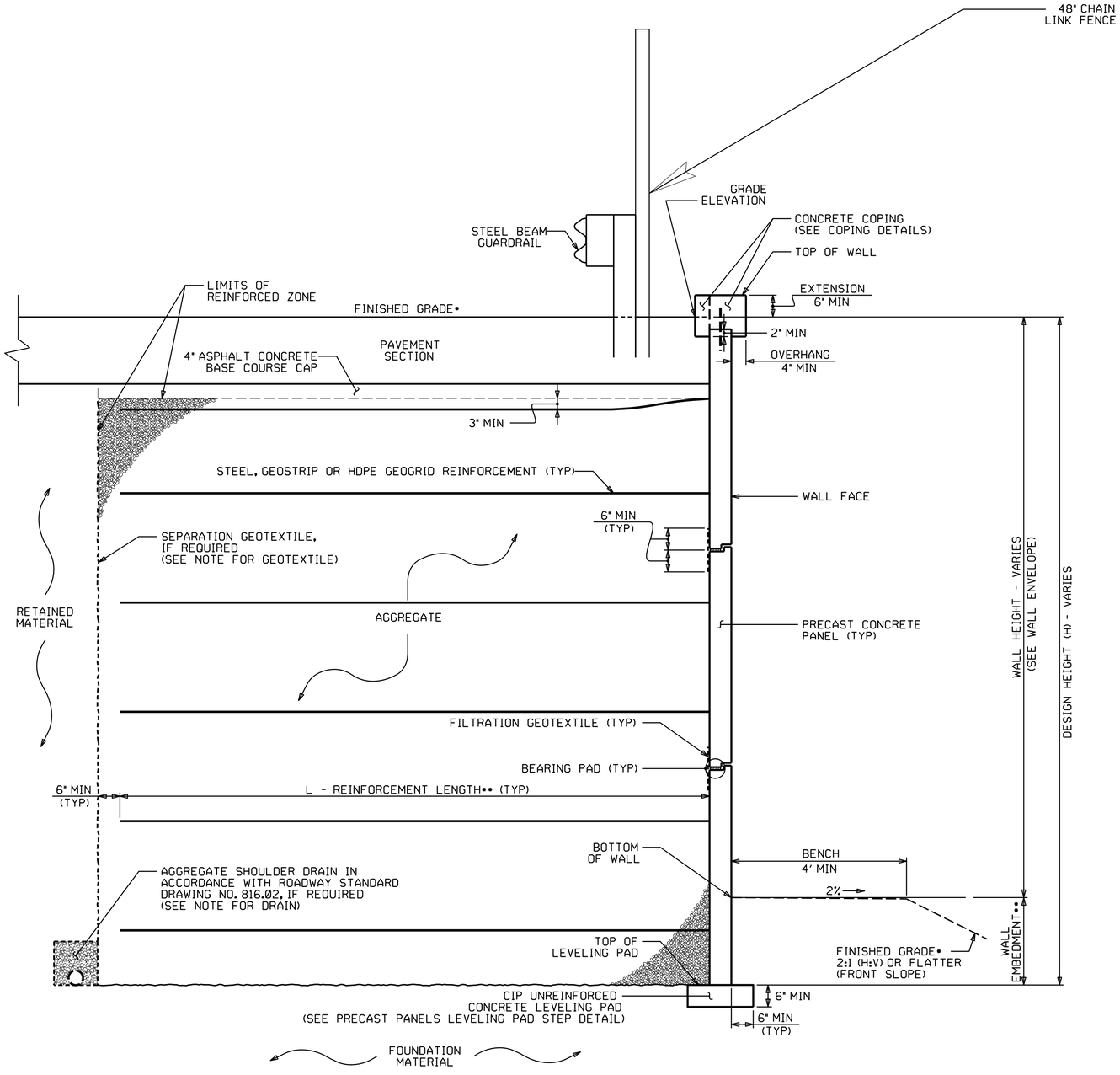
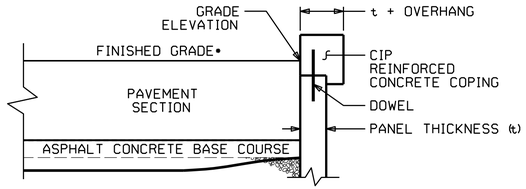
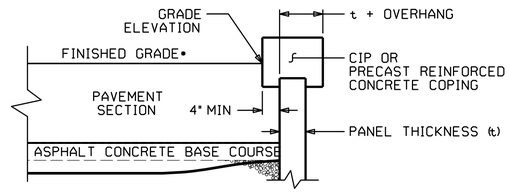


MSE WALL WITH PRECAST PANELS - TYPICAL SECTION

•SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.
••SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR WALL EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.





COPING DETAILS

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS.
•SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.

PROJECT NO.: U-5765

MECKLENBURG COUNTY

STATION: RW9: 440+80.00 TO 442+95.00 -L2-

SHEET 5 OF 8

PREPARED BY:SY	DATE:8/2025
REVIEWED BY:SCC	DATE:8/2025

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 9
MSE RETAINING WALL

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1			3		
2	SY	9/2026	4		

SHEET NO. W-5

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 031361 ENGINEER SHIPING YANG

DocuSigned by: Shiping Yang 7A7310E67F76411...

09/30/2026

SIGNATURE DATE

ENGINEER

SIGNATURE DATE

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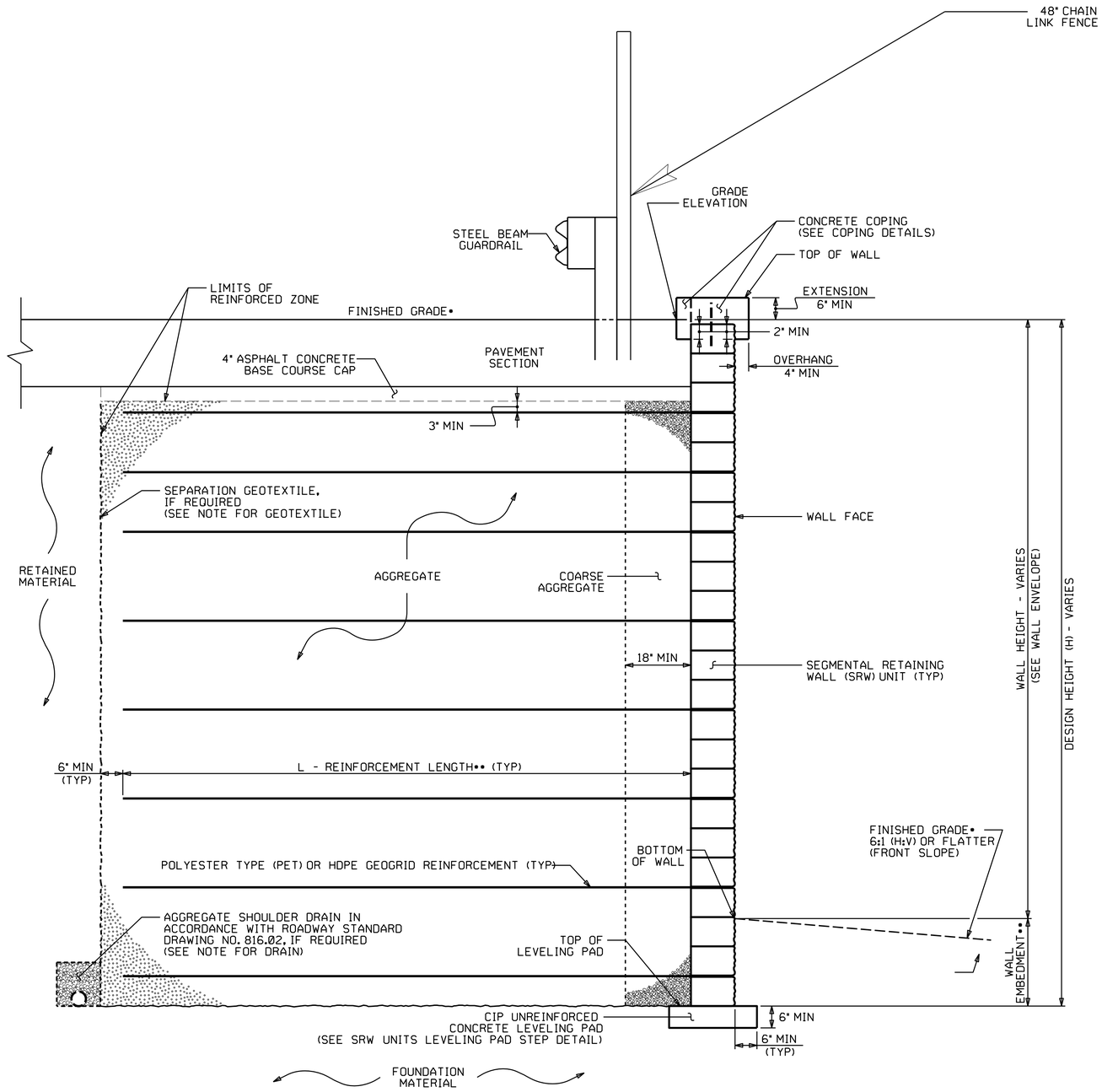
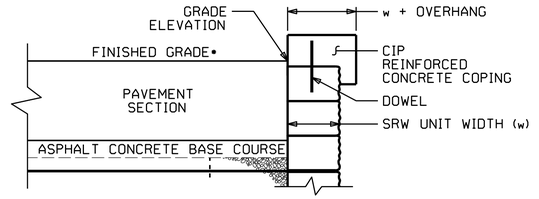
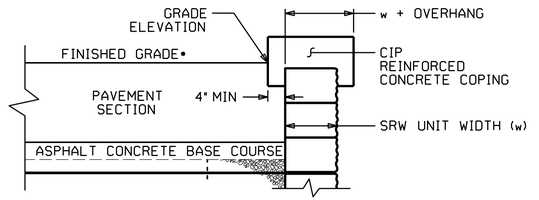


MSE WALL WITH SRW UNITS - TYPICAL SECTION

•SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.
••SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR WALL EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.





COPING DETAILS

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO SRW UNITS WITH DOWELS OR EXTEND COPING DOWN BACK OF SRW UNITS.
•SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.

PROJECT NO.: U-5765
MECKLENBURG COUNTY
STATION: SEE WALL ENVELOPES
SHEET 6 OF 8

PREPARED BY: SY	DATE: 8/2025
REVIEWED BY: SCC	DATE: 8/2025

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NOS. 10&11 MSE WALL WITH SRW UNITS

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1			3		
2	SY	9/2026	4		

SHEET NO. W-6

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 031361 ENGINEER SHIPING YANG

DocuSigned by: Shiping Yang 7A7310E67F76411...

09/30/2026

SIGNATURE DATE

ENGINEER

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOTES:

FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.

FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.

USE AN MSE WALL SYSTEM WITH SEGMENTAL RETAINING WALL UNITS (SRW) UNITS THAT MEET ARTICLE 1040-4 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALL NOS. 10&11.

WHEN USING AN MSE WALL SYSTEM WITH SRW UNITS FOR RETAINING WALL NOS. 10&11, FREEZE-THAW DURABLE SRW UNITS THAT MEET ARTICLE 1040-4 OF THE STANDARD SPECIFICATIONS ARE REQUIRED.

AT THE CONTRACTOR'S OPTION, USE FINE AGGREGATE IN THE REINFORCED ZONE OF RETAINING WALL NOS. 9 THROUGH 11.

A ASLAR STONE ARCHITECTURAL FINISH IS REQUIRED FOR PRECAST CONCRETE PANELS FOR RETAINING WALL NO. 9.

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NOS. 9 THROUGH 11.

A DRAIN IS REQUIRED FOR RETAINING WALL NOS. 9 THROUGH 11.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NOS. 9 THROUGH 11, SURVEY WALL LOCATION AND SUBMIT A REVISED WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPE IS ACCEPTED.

DESIGN RETAINING WALL NO. FOR THE FOLLOWING:
1) DESIGN HEIGHT (H) = WALL HEIGHT + WALL EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 4500 PSF FOR RETAINING WALL NO. 9 AND 2500 PSF FOR RETAINING WALL NOS. 10&11
4) MINIMUM REINFORCEMENT LENGTH (L) = 0.7H OR 6 FT, WHICHEVER IS LONGER
5) REINFORCED ZONE AGGREGATE PARAMETERS:

AGGREGATE TYPE•	UNIT WEIGHT (γ) PCF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) PSF
COARSE	110	38	0
FINE	115	34	0

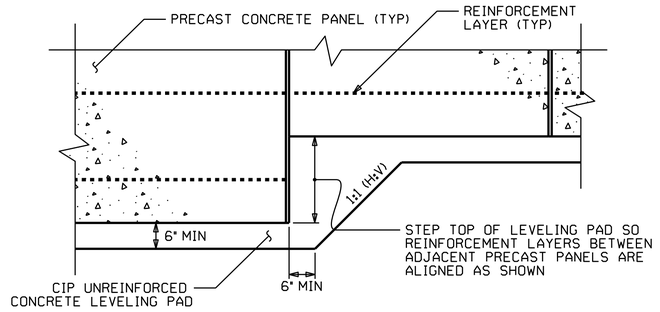
•SEE MSE RETAINING WALLS PROVISION FOR COARSE AND FINE AGGREGATE MATERIAL REQUIREMENTS.

7) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (γ) PCF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) PSF
RETAINED	120	30	0
FOUNDATION	120	28	0

DESIGN RETAINING WALL NO. 9 FOR A PIPE EXTENDING THROUGH THE WALL AS SHOWN. VERIFY PIPE LOCATION AND ELEVATION BEFORE BEGINNING MSE WALL DESIGN OR CONSTRUCTION.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NOS. 9 THROUGH 11 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.



PRECAST PANELS
LEVELING PAD STEP DETAIL

PROJECT NO.: U-5765

MECKLENBURG COUNTY

STATION: SEE WALL ENVELOPES

SHEET 7 OF 8

PREPARED BY: SY	DATE: 8/2025
REVIEWED BY: SCC	DATE: 8/2025

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NOS. 9, 10, &11
MSE RETAINING WALL
NOTES & STEP DETAIL

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1			3		
2	SY	9/2026	4		

SHEET NO. W-7

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 031361 ENGINEER SHIPING YANG

DocuSigned by: Shiping Yang 7A7310E67F776411... 09/30/2026

SIGNATURE DATE

ENGINEER

SIGNATURE DATE

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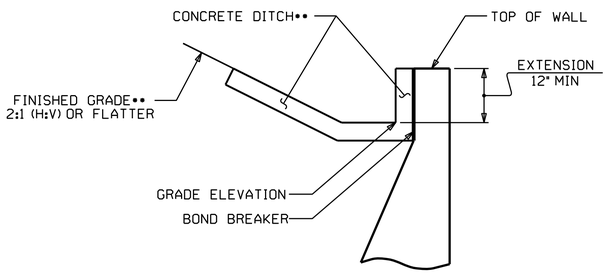
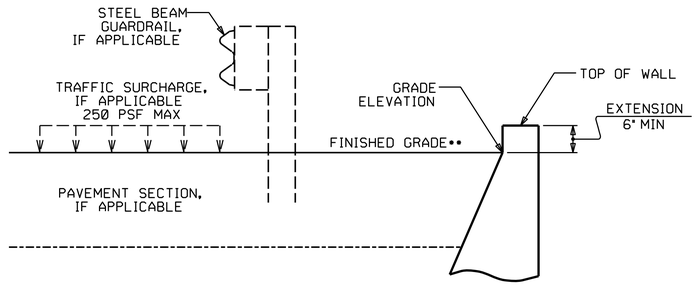


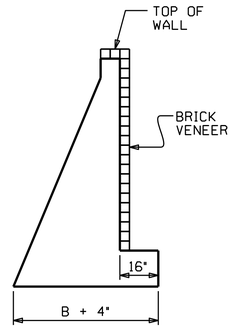
SLOPE CASE

••SEE ROADWAY PLANS FOR CONCRETE DITCH AND FINISHED GRADE DETAILS.



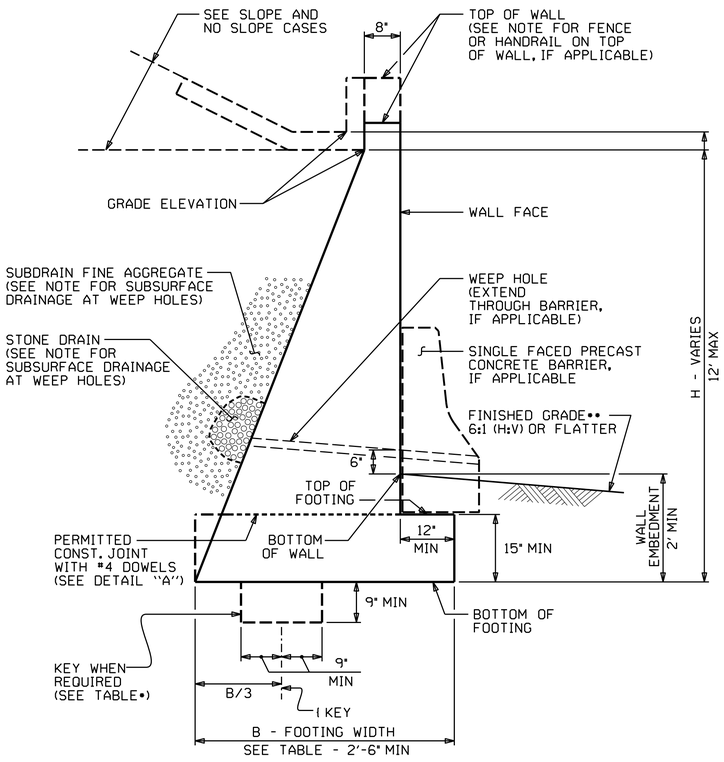
NO SLOPE CASE

••SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.



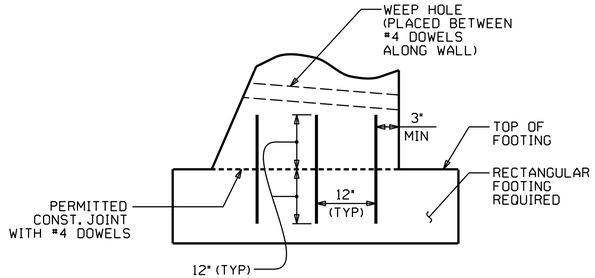
BRICK VENEER DETAIL

(WHEN APPLICABLE)



STANDARD CIP GRAVITY WALL

••SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.



DETAIL "A"

H (FT)	3 - < 6	6 - 9	> 9 - 12
SLOPE CASE	.66	.70•	.75•
NO SLOPE CASE WITH TRAFFIC SURCHARGE	.80	.75•	.70•
NO SLOPE CASE WITHOUT TRAFFIC SURCHARGE	.60	.60	.60

B/H RATIO (B = 2'-6" MIN)

•KEY IS REQUIRED FOR "SLOPE CASE" OR "NO SLOPE CASE WITH TRAFFIC SURCHARGE" WHEN H IS 6' OR GREATER.

NOTES:

FOR STANDARD CIP GRAVITY RETAINING WALLS, SEE SECTION 453 OF THE STANDARD SPECIFICATIONS.

FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.

FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.

FOR FENCES OR HANDRAILS ON TOP OF WALLS, SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.

FOR SUBSURFACE DRAINAGE AT WEEP HOLES, SEE ARTICLE 414-8 OF THE STANDARD SPECIFICATIONS.

STANDARD CIP GRAVITY WALLS ARE BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
- UNIT WEIGHT, γ = 120 PCF
- FRICTION ANGLE, ϕ = 30 DEGREES
- COHESION, c = 0 PSF

DO NOT USE STANDARD CIP GRAVITY WALLS IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE OR GROUNDWATER IS ABOVE BOTTOM OF FOOTING.

DO NOT USE STANDARD CIP GRAVITY WALLS WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS BELOW WALLS.

BEFORE BEGINNING STANDARD CIP GRAVITY WALL CONSTRUCTION, SURVEY WALL LOCATIONS AND SUBMIT WALL PROFILE VIEWS (WALL ENVELOPES) FOR REVIEW. FOR WALL ENVELOPES, INCLUDE BOTTOM OF WALL, EXISTING GROUND AND GRADE ELEVATIONS AND OTHER ELEVATIONS AS NEEDED AT INTERVALS OF 25' OR LESS ALONG WALLS. DO NOT START WALL CONSTRUCTION UNTIL WALL ENVELOPES ARE ACCEPTED.

DESIGN RETAINING WALL NO. 4 FOR A PIPE EXTENDING THROUGH THE WALL AS SHOWN. VERIFY PIPE LOCATION AND ELEVATION BEFORE BEGINNING WALL DESIGN OR CONSTRUCTION.

FOR BRICK VENEERS, SUBMIT BRICK SAMPLES FOR APPROVAL BEFORE BEGINNING STANDARD CIP GRAVITY WALL CONSTRUCTION.

DO NOT PLACE CONCRETE FOR FOOTINGS UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.

WHEN CONSTRUCTING STANDARD CIP GRAVITY WALLS WITH A CONSTRUCTION JOINT AS SHOWN IN DETAIL "A", PROVIDE A MINIMUM OF 3 EQUALLY SPACED #4 DOWELS AT INTERVALS OF 1'-6" ALONG WALLS.

PROJECT NO.: U-5765

MECKLENBURG COUNTY

STATION: RW: 11+30.00 TO 13+35.00 -Y50-

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

STANDARD DETAIL NO. 453.01

STANDARD CIP GRAVITY RETAINING WALL

DATE: 10-19-21

SHEET NO. W-8