

**STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
ID/IQ PROPOSAL  
CONTRACT NO. MG00479  
PO NO. 3600056129**

**CONTRACT ID:** MG00479  
**WBS ELEMENT NO.:** GMR07.ALA.1PB, GMR07.CAS.1PB,  
GMR07.GLF.1PB, GMR07.ORA.1PB,  
GMR07.ROC.1PB, GMR07.ALA.1NB,  
GMR07.CAS.1NB, GMR07.GLF.1NB  
GMR07.ORA.1NB, GMR07.ROC.1NB,  
GMR07.ALA.2PB, GMR07.CAS.2PB,  
GMR07.GLF.2PB, GMR07.ORA.2PB,  
GMR07.ROC.2PB, 7BPR.100111, 7BPR.101711,  
7BPR.104111, 7BPR.106811, 7BPR.107911,  
7BPR.200111, 7BPR.201711, 7BPR.204111,  
7BPR.206811, 7BPR.207911  
**COUNTY:** ALAMANCE, CASWELL, GUILFORD, ORANGE &  
ROCKINGHAM  
**LOCATION:** STRUCTURES DIVISION WIDE  
**TYPE OF WORK:** CONCRETE BRIDGE DECK REPAIRS AS NEEDED

**CONTRACTOR:** JESSICA JOHNSON  
APPLIED POLYMERICS INC  
PO BOX 6007  
MOUNT AIRY, NC, 27030

**CONTRACT EXECUTED:** OCTOBER 22, 2025

**ENGINEER:** JEFF A. BROWN  
**PHONE NUMBER:** (336) 690-6830

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
HIGHWAY DIVISION 7**ID/IQ PROPOSAL****DATE AND TIME OF BID OPENING: SEPTEMBER 4, 2025, AT 2:00 PM****CONTRACT ID: MG00479****WBS ELEMENT NO.:** GMR07.ALA.1PB, GMR07.CAS.1PB, GMR07.GLF.1PB,  
GMR07.ORA.1PB, GMR07.ROC.1PB, GMR07.ALA.1NB,  
GMR07.CAS.1NB, GMR07.GLF.1NB, GMR07.ORA.1NB,  
GMR07.ROC.1NB, GMR07.ALA.2PB, GMR07.CAS.2PB,  
GMR07.GLF.2PB, GMR07.ORA.2PB, GMR07.ROC.2PB  
7BPR.100111, 7BPR.101711, 7BPR.104111, 7BPR.106811,  
7BPR.107911, 7BPR.200111, 7BPR.201711, 7BPR.204111,  
7BPR.206811, 7BPR.207911**COUNTY:** ALAMANCE, CASWELL, GUILFORD, ORANGE AND  
ROCKINGHAM COUNTIES**TIP NO.:** N/A**ROUTE NO.:** VARIOUS LOCATIONS DIVISION WIDE**LOCATION:** STRUCTURES DIVISION WIDE**TYPE OF WORK:** PIPE REPAIR/REHABILITATION AS NEEDED FOR  
BRIDGE MAINTENANCE**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 \$30,000 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.

THIS IS A STRUCTURE PROJECT.

BID BONDS ARE NOT REQUIRED.

Applied Polymerics Inc  
NAME OF BIDDER131 St. James Way Mt. Airy NC 27030  
ADDRESS OF BIDDER

**PROPOSAL FOR THE CONSTRUCTION OF  
CONTRACT No. MG00479 IN ALAMANCE, CASWELL, GUILFORD, ORANGE AND ROCKINGHAM  
COUNTIES, NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION,  
RALEIGH, NORTH CAROLINA**

The Bidder has carefully examined the location of the proposed work to be known as Contract No. **MG00479**; has carefully examined the plans and specifications, which are acknowledged to be part of the proposal, the special provisions, the proposal, the form of contract; and thoroughly understands the stipulations, requirements and provisions. The undersigned bidder agrees to be bound upon his execution of the bid and subsequent award to him by the Department of Transportation in accordance with this proposal. Payment and performance bonds are not required on this project. The undersigned Bidder further agrees to provide all necessary machinery, tools, labor, and other means of construction; and to do all the work and to furnish all materials, except as otherwise noted, necessary to perform and complete the said contract in accordance with the *2024 Standard Specifications for Roads and Structures* by the dates(s) specified in the Project Special Provisions and in accordance with the requirements of the Engineer, and at the unit or lump sum prices, as the case may be, for the various items given on the sheets contained herein.

The Bidder shall provide and furnish all the materials, machinery, implements, appliances and tools, and perform the work and required labor to construct and complete Contract No. **MG00479** in **Alamance, Caswell, Guilford, Orange and Rockingham Counties**, for the unit or lump sum prices, as the case may be, bid by the Bidder in his bid and according to the proposal, plans, and specifications prepared by said Department, which proposal, plans, and specifications show the details covering this project, and hereby become a part of this contract.

The published volume entitled *North Carolina Department of Transportation, Raleigh, Standard Specifications for Roads and Structures, January 2024* with all amendments and supplements thereto, is by reference incorporated into and made a part of this contract; that, except as herein modified, all the construction and work included in this contract is to be done in accordance with the specifications contained in said volume, and amendments and supplements thereto, under the direction of the Engineer.

If the proposal is accepted and the award is made, the contract is valid only when signed either by the Contract Officer or such other person as may be designated by the Secretary to sign for the Department of Transportation. The conditions and provisions herein cannot be changed except over the signature of the said Contract Officer or Division Engineer.

The quantities shown in the itemized proposal for the project are considered to be approximate only and are given as the basis for comparison of bids. The Department of Transportation may increase or decrease the quantity of any item or portion of the work as may be deemed necessary or expedient.

An increase or decrease in the quantity of an item will not be regarded as sufficient ground for an increase or decrease in the unit prices, nor in the time allowed for the completion of the work, except as provided for in the contract.

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## **INSTRUCTIONS TO BIDDERS**

**PLEASE READ ALL INSTRUCTIONS CAREFULLY  
BEFORE PREPARING AND SUBMITTING YOUR BID.**

**All bids shall be prepared and submitted in accordance with the following requirements. Failure to comply with any requirement may cause the bid to be considered irregular and may be grounds for rejection of the bid.**

### **TRADITIONAL PAPER BIDS:**

1. Download the entire proposal from the Connect NCDOT website and return the entire proposal with your bid.
2. In accordance with Article 102-3 of the *Standard Specifications*, registration on the Interested Parties List is required unless SP1 G02 Interested Parties List Not Required provision is included in the proposal.
3. All entries on the itemized proposal sheet (bid form) shall be written in ink or typed.
4. The Bidder shall submit a unit price for every item on the itemized proposal sheet. The unit prices for the various contract items shall be written in figures. Unit prices shall be rounded off by the Bidder to contain no more than FOUR decimal places.
5. An amount bid shall be entered on the itemized proposal sheet for every item. The amount bid for each item shall be determined by multiplying each unit bid by the quantity for that item, and shall be written in figures in the "Amount" column of the form.
6. The total amount bid shall be written in figures in the proper place on the bid form. The total amount bid shall be determined by adding the amounts bid for each item.
7. Changes to any entry shall be made by marking through the entry in ink and making the correct entry adjacent thereto in ink. A representative of the Bidder shall initial the change in ink. Do not use correction fluid, correction tape or similar product to make corrections.
8. The bid shall be properly executed on the included **Execution of Bid – Non-collusion, Debarment and Gift Ban Certification** form. All bids shall show the following information:
  - a. Name of corporation, partnership, Limited Liability Company, joint venture, individual or firm, submitting bid.  
Corporations that have a corporate seal shall include it on the bid, otherwise write your corporations name in the seal location.
  - b. Name of individual or representative submitting bid and position or title held on behalf of the bidder.
  - c. Name, signature, and position or title of witness.
9. The bid shall not contain any unauthorized additions, deletions, or conditional bids.
10. The Bidder shall not add any provision reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.
11. **THE PROPOSAL WITH THE ITEMIZED PROPOSAL SHEET ATTACHED SHALL BE PLACED IN A SEALED ENVELOPE AND SHALL BE DELIVERED TO AND RECEIVED IN THE NCDOT DIVISION OFFICE, LOCATED AT 1584 YANCEYVILLE STREET, GREENSBORO, NC BY 2:00 PM ON, SEPTEMBER 4, 2025.**

12. The sealed bid must display the following statement on the front of the sealed envelope:

**QUOTATION FOR – MG00479- PIPE REPAIR/REHABILITATION AS NEEDED AS NEEDED DIVISION WIDE TO BE OPENED AT 2:00 PM ON SEPTEMBER 4, 2025.**

As well as the following information:

- a. Name of corporation, partnership, Limited Liability Company, joint venture, individual or firm, submitting bid.
  - b. Name of individual or representative submitting bid and position or title held on behalf of the bidder.
  - c. Address of corporation, partnership, Limited Liability Company, joint venture, individual or firm, submitting bid.
  - d. SAP Vendor Number of corporation, partnership, Limited Liability Company, joint venture, individual or firm, submitting bid.
  - e. Contractor License Number, if available, of corporation, partnership, Limited Liability Company, joint venture, individual or firm, submitting bid.
13. If delivered by mail, the sealed envelope shall be placed in another sealed envelope and the outer envelope shall be addressed as follows:

**N. C. DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS, DIVISION 7  
ATTN: JENNIFER SOUR  
1584 YANCEYVILLE STREET  
GREENSBORO, NC 27405-6932**

14. Questions should be emailed 7 calendar days prior to the bid opening to **Jennifer Sour** at **[jsour@ncdot.gov](mailto:jsour@ncdot.gov)**. Contact with any other NCDOT personnel concerning this project is strictly prohibited, unless otherwise noted, and may result in bids being considered non-responsive.

**PROJECT SPECIAL PROVISIONS - GENERAL****INTERESTED PARTIES LIST NOT REQUIRED:**

(6-21-22)(Rev. 2-20-24)

102

SP1 G02

Revise the *Standard Specifications* as follows:

The *Interested Parties List* sign up process is not applicable to this contract.

**Page 1-13, Article 102-3 PROPOSALS AND INTERESTED PARTIES LIST, lines 12-15,** delete the first paragraph.

**Page 1-14, Article 102-8 PREPARATION AND SUBMISSION OF BIDS, lines 43-44,** delete the first sentence of the first paragraph.

**DIVISION LET CONTRACT PREQUALIFICATION:**

(07-01-14)(12-1-16)

SPD 01-410

Any firm that wishes to bid as a prime contractor shall be prequalified as a Bidder or PO Prime Contractor prior to submitting a bid. Information regarding prequalification can be found at: <https://connect.ncdot.gov/business/Prequal/Pages/default.aspx>.

Prior to performing the work, the prime contractor and/or subcontractor(s) shall be prequalified in the work code(s) which are identified as work items in the prime contractor's construction progress schedule that they will complete themselves. Any contractor identified as working outside their expertise may be considered in default of contract.

**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.

**CONTRACT TIME FOR ID/IQ:**

(2-15-22)(Rev. 4-15-25)

108

SP1 G11

The date of availability for this contract is **October 1, 2025**.

The completion date for this contract is **September 30, 2026**.

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.

Work shall be accomplished in a continuous manner once the contractor begins.

The liquidated damages for this contract will be assessed per the Mobilization and Liquidated Damages for ID/IQ provision located elsewhere in this contract.

**WORK ORDER ASSIGNMENT (SINGLE AWARDS) FOR ID/IQ:**

(2-15-22)(Rev. 4-19-22)

SPD 01-800A

Work orders will be assigned by the Engineer. The Contractor shall respond to the work order assignments with the anticipated start date, within three working days of notification unless noted otherwise. Failure to complete work in accordance with contract provisions and completion date may result in liquidated damages.

For federal ID/IQ contracts, all work orders will be assigned via the Work Order Assignment Form (Form IDIQ-1SA), and the Contractor is required to formally respond in writing for federal work orders within three working days, unless noted otherwise. The Work Order Assignment Form will also be used for any state ID/IQ contract in which the estimated work order cost meets the threshold for Performance and Payment Bonds in accordance with the Bonding Requirements for ID/IQ provision found elsewhere in this contract. For state ID/IQ contracts in which the work order assignment doesn't meet the threshold for bonds, the Department has the option to use the Work Order Assignment Form or other methods for work order assignments as agreed upon by the Engineer and Contractor.

The Contractor shall be required to prosecute the work in a continuous and uninterrupted manner from the time they begin the work until completion and final acceptance of the work order. Multiple failures of the Contractor to mobilize and begin work on the work order within the agreed upon time frame or failure to complete the work within the given time frame may result in the Contractor being excluded from future work on this contract in accordance with the *Standard Specifications*.

**BONDING REQUIREMENTS FOR ID/IQ:**

(2-15-22)

SPD 01-810

For purposes of this ID/IQ contract, the following definitions apply:

**Project Agreement:** A transportation improvement with a defined scope of work; a written agreement between NCDOT and the Federal Government defining the extent of construction work to be undertaken in accordance with the submitted plans, specifications and estimates. Execution of the agreement prompts the authorization to proceed (construction funding).

**Project:** An undertaking issued to a contractor through a Work Order Assignment. The construction under a Project Agreement may be accomplished by one or more work order assignments, from one or more ID/IQ contracts. Note that for ID/IQ contracts this definition supersedes the definition in the *Standard Specifications*.

Award: The issuance of a signed Work Order Assignment by NCDOT shall constitute the notice of award of a project.

In accordance with North Carolina General Statute 44A-26, bonds are required on contracts awarded for any one project that exceeds \$500,000. Beyond statutory requirements, NCDOT policy requires payment and performance bonds on all projects where the engineer's estimate is \$450,000 or greater, all Asphalt Surface Treatment projects, and projects containing the 12-month guarantee provision. The limit for waiving bonds for all bridge replacement and major bridge rehabilitation projects (latex overlays, etc.) is \$300,000 based on the engineer's estimate. The decision of bonding of a work order assignment below the dollar amounts listed shall be at the discretion of the Division's evaluation of the risks associated with the project.

The need for contract payment and performance bonds will be determined at the Work Order Assignment level. The Work Order Assignment will notify the Contractor of an award of a project and if required, to provide contract payment and performance bonds per Article 103-7 of the *Standard Specifications*. The Work Order Assignment replaces the Notification of Award Letter mentioned in Article 103-4(A) of the *Standard Specifications*.

**MOBILIZATION AND LIQUIDATED DAMAGES FOR ID/IQ:**

(2-15-22)

SPD 01-820

The Contractor shall mobilize to each location he is required to perform work. There will be no direct pay for Mobilization as it will be incidental to the other bid items. The only exception is if there is an Emergency Mobilization provision within the contract.

The Contractor will be provided a Work Order Assignment for each project with location(s), estimated quantities, and liquidated damages unless waived by the Engineer. Notification will be verbal followed by a faxed or emailed signed Work Order Assignment. There will be no minimum quantities for any line item associated with a particular mobilization. The Contractor shall complete the work identified on each Work Order Assignment.

The Contractor shall mobilize and complete the work within the time specified on the Work Order Assignment. Failure to complete the work by the completion date may result in the application of liquidated damages. Liquidated damage amounts will be based on the work order estimate and the liquidated damage table below.

<b>Work Order Value</b>	<b>Liquidated Damages (per calendar day)</b>
\$0 - \$100K	\$100.00
\$100K - \$200K	\$250.00
\$200K - \$300K	\$500.00
\$300K - \$500K	\$600.00
\$500K - \$1M	\$700.00
\$1M - \$2M	\$850.00

**RENEWAL OF CONTRACT (CPI PRICE ADJUSTMENT) FOR ID/IQ:**

(2-15-22)(Rev. 9-19-23)

SPD 01-840

The Contractor shall submit a bid for one year. At the option of the Department, this contract may be extended for **2** additional periods of one year each (maximum (3) three years total). Each year shall have a limit of **Dollars (\$5,000,000)**.

The compensation payable to the contractor shall be fixed for the first twelve months of this contract. However, upon an application of renewal of the contract, or thirty days prior to the end of each contract period, the renewal contract may be adjusted to reflect the adjustment in the Consumer Price Index over the latest twelve month period as published by the US Bureau of Labor and Statistics at <http://www.bls.gov/cpi> to be applied to new work order assignments. The Consumer Price Index for All Urban Consumers (CPI-U), US City Average, All Items, 1982-84=100, not seasonally adjusted will be used. If the amount of the requested adjustment is more than ten percent, the Department of Transportation reserves the right to cancel this contract.

CPI adjustment values can be determined using the calculator on the NCDOT Construction website.

This price escalation method will not be applied to items of work that are separately covered under commodity price escalation clauses. No other changes in the terms, conditions, etc. of this contract will be made when an extension to the contract is implemented. The Engineer will notify the Contractor in writing **90 DAYS BEFORE THE END OF THE CONTRACT PERIOD** if the contract may be extended. The Contractor must notify the Engineer in writing **WITHIN 60 CALENDAR DAYS** of his acceptance or rejection of this offer. Failure on the part of the Contractor to reply will be received as a rejection of contract extension.

**DISPUTE RESOLUTION PROCESS FOR ID/IQ:**

(2-15-22)

SPD 01-850

If a question should arise on the contract or assignment of a work order, the contractor should notify the Engineer noted on the assignment documentation or the Division Engineer within 48 hours after the scheduled time of bid opening or work order assignment. The following should be included in the notification if applicable:

- the contract for which bids were solicited;
- the particular law, regulation, or contract specification violated;
- a detailed description of the alleged violation; and
- any other information deemed to be relevant.

Once the initial evaluation has been completed, the contractor may be asked to attend a meeting for further discussion and clarification.

Once a determination has been made, the contractor will be notified of the decision by the Division Engineer. If the decision does not meet the satisfaction of the contractor, they have 24 hours from the Division Engineer's notification to elevate the dispute to the Chief Engineer. The Chief Engineer will make the final decision and will not be subject to further review by NCDOT.

**INTERMEDIATE CONTRACT TIME NUMBER 1 AND LIQUIDATED DAMAGES:**

(2-20-07)

108

SP1 G14B

The Contractor shall not close or narrow a lane of traffic on **all roads**, 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 **6:00 a.m.** December 31st and **9:00 p.m.** January 2nd. If New Year's Day is on a Friday, Saturday, Sunday or Monday, then until **9:00 p.m.** the following Tuesday.
3. For **Easter**, between the hours of **6:00 a.m.** Thursday and **9:00 p.m.** Monday.
4. For **Memorial Day**, between the hours of **6:00 a.m.** Friday and **9:00 p.m.** Tuesday.
5. For **Independence Day**, between the hours of **6:00 a.m.** the day before Independence Day and **9:00 p.m.** the day after Independence Day.

If **Independence Day** is on a Friday, Saturday, Sunday or Monday, then between the hours of **6:00 a.m.** the Thursday before Independence Day and **9:00 p.m.** the Tuesday after Independence Day.

6. For **Labor Day**, between the hours of **6:00 a.m.** Friday and **9:00 p.m.** Tuesday.
7. For **Thanksgiving Day**, between the hours of **6:00 a.m.** Tuesday and **9:00 p.m.** Monday.
8. For **Christmas**, between the hours of **6:00 a.m.** the Friday before the week of Christmas Day and **9:00 p.m.** 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 hour.

**INTERMEDIATE CONTRACT TIME NUMBER 2 AND LIQUIDATED DAMAGES:**

(2-20-07)

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 **Interstates** during the following time restrictions:

**DAY AND TIME RESTRICTIONS****Sunday thru Thursday 6:00 a.m. to 9:00 p.m.****Unless otherwise directed/approved by the Engineer**

The time of availability for this intermediate contract time will be the time the Contractor begins to install traffic control devices required for the lane 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 lane 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 hour.

**INTERMEDIATE CONTRACT TIME NUMBER 3 AND LIQUIDATED DAMAGES:**

(2-20-07)

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 **Multi-Lane Roads other than Interstates** during the following time restrictions:

**DAY AND TIME RESTRICTIONS****Monday thru Sunday****6:00 a.m. to 8:30 a.m. and 4:00 p.m. to 8:00 p.m.****Unless otherwise directed/approved by the Engineer**

The time of availability for this intermediate contract time will be the time the Contractor begins to install traffic control devices required for the lane 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 lane 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 hour.

**INTERMEDIATE CONTRACT TIME NUMBER 4 AND LIQUIDATED DAMAGES:**

(2-20-07)

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 **Two-Way, Two-Lane Roads** during the following time restrictions:

**DAY AND TIME RESTRICTIONS****Monday thru Sunday 6:00 a.m. to 8:30 a.m.**

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

The liquidated damages are **Two Hundred Fifty Dollars (\$ 250.00)** per hour.

**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.

**NO SPECIALTY ITEMS:**

(7-1-95)(Rev. 1-16-24)

108-6

SP1 G34

None of the items included in this contract will be specialty items (see Article 108-6 of the *Standard Specifications*).

**FUEL PRICE ADJUSTMENT PAPER BID:**

(11-15-05) (Rev. 1-16-24)

109-8

SP1 G44

Revise the *Standard Specifications* as follows:

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

The base index price for DIESEL #2 FUEL is **\$ 2.5735** 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 for Paper Bid* with their bid submission if they elect to use the fuel usage factor. The *Fuel Usage Factor Adjustment Form for Paper Bid* is included toward the end of this paper bid document when asphalt items noted in the chart as eligible for fuel adjustments are part of the project.

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 for Paper Bid*. 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 for Paper Bid* 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.

#### **SCHEDULE OF ESTIMATED COMPLETION PROGRESS:**

(7-15-08)(Rev. 6-17-25)

108-2

SP1 G58

The Contractor's attention is directed to the Standard Special Provision entitled *Availability of Funds Termination of Contracts* included elsewhere in this proposal. The Department of Transportation's schedule of estimated completion progress for this project as required by that Standard Special Provision is as follows:

<u>Fiscal Year</u>	<u>Progress (% of Dollar Value)</u>
2026 (7/01/25 - 6/30/26)	34% of Total Amount Bid
2027 (7/01/26 - 6/30/27)	33% of Total Amount Bid
2028 (7/01/27 - 6/30/28)	33% of Total Amount Bid

The Contractor shall also furnish his own progress schedule in accordance with Article 108-2 of the *Standard Specifications*. Any acceleration of the progress as shown by the Contractor's progress schedule over the progress as shown above shall be subject to the approval of the Engineer.

### **MINORITY BUSINESS ENTERPRISE AND WOMEN BUSINESS ENTERPRISE**

#### **(DIVISIONS):**

(10-16-07)(Rev. 5-9-24)

102-15(J)

SP1 G67

#### **Description**

The purpose of this Special Provision is to carry out the North Carolina Department of Transportation's policy of ensuring nondiscrimination in the award and administration of contracts financed in whole or in part with State funds.

#### **Definitions**

*Additional MBE/WBE Subcontractors* - Any MBE/WBE submitted at the time of bid that will not be used to meet the Combined MBE/WBE goal. No submittal of a Letter of Intent is required.

*Combined MBE/WBE Goal:* A portion of the total contract, expressed as a percentage that is to be performed by committed MBE/WBE subcontractors.

*Committed MBE/WBE Subcontractor* - Any MBE/WBE submitted at the time of bid that is being used to meet the Combined MBE / WBE goal by submission of a Letter of Intent. Or any MBE or WBE used as a replacement for a previously committed MBE or WBE firm.

*Contract Goal Requirement* - The approved participation at time of award, but not greater than the advertised Combined MBE/WBE contract goal.

*Goal Confirmation Letter* - Written documentation from the Department to the bidder confirming the Contractor's approved, committed participation along with a listing of the committed MBE and WBE firms.

*Manufacturer* - A firm that owns (or leases) and operates or maintains a factory or establishment that produces on the premises, the materials or supplies obtained by the Contractor. A firm that makes minor modifications to the materials, supplies, articles, or equipment is not a manufacturer.

*MBE Participation (Anticipated)* - A portion of the total contract, expressed as a percentage that is anticipated to be performed by committed MBE subcontractor(s).



*Minority Business Enterprise (MBE)* - A firm certified as a Disadvantaged Minority-Owned Business Enterprise through the North Carolina Unified Certification Program.

*Regular Dealer* - A firm that owns (or leases), and operates a store, warehouse, or other establishment in which the materials or supplies required for the performance of the contract are bought, kept in sufficient quantities, and regularly sold to the public in the usual course of business. A regular dealer engages in, as its principal business and in its own name, the purchase and sale or lease of the products in question. A regular dealer in such bulk items as steel, concrete or concrete products, gravel, stone, asphalt and petroleum products need not keep such products in stock, if it owns and operates distribution equipment for the products. Any supplement of regular dealers' own distribution equipment shall be by a long-term operating lease and not on an ad hoc or contract-by-contract basis.

*Distributor* - A firm that engages in the regular sale or lease of the items specified by the contract. A distributor assumes responsibility for the items it purchases once they leave the point of origin (e.g., a manufacturer's facility), making it liable for any loss or damage not covered by the carrier's insurance.

*Replacement / Substitution* - A full or partial reduction in the amount of work subcontracted to a committed (or an approved substitute) MBE/WBE firm.

*North Carolina Unified Certification Program (NCUCP)* - A program that provides comprehensive services and information to applicants for MBE/WBE certification. The MBE/WBE program follows the same regulations as the federal Disadvantaged Business Enterprise (DBE) program in accordance with 49 CFR Part 26.

*United States Department of Transportation (USDOT)* - Federal agency responsible for issuing regulations (49 CFR Part 26) and official guidance for the DBE program.

*WBE Participation (Anticipated)* - A portion of the total contract, expressed as a percentage that is anticipated to be performed by committed WBE subcontractor(s).

*Women Business Enterprise (WBE)* - A firm certified as a Disadvantaged Women-Owned Business Enterprise through the North Carolina Unified Certification Program.

### **Forms and Websites Referenced in this Provision**

*Payment Tracking System* - On-line system in which the Contractor enters the payments made to MBE and WBE subcontractors who have performed work on the project.  
<https://apps.dot.state.nc.us/Vendor/PaymentTracking/>

*DBE-IS Subcontractor Payment Information* - Form for reporting the payments made to all MBE/WBE firms working on the project. This form is for paper bid projects only.  
<https://connect.ncdot.gov/business/Turnpike/Documents/Form%20DBE-IS%20Subcontractor%20Payment%20Information.pdf>

RF-1 *MBE/WBE Replacement Request Form* - Form for replacing a committed MBE or WBE.  
<https://connect.ncdot.gov/projects/construction/Construction%20Forms/DBE%20MBE%20WBE%20Replacement%20Form%20and%20Instructions.pdf>

SAF *Subcontract Approval Form* - Form required for approval to sublet the contract.  
<https://connect.ncdot.gov/projects/construction/Construction%20Forms/SAF%20Form%20-%20Subcontract%20Approval%20Form%20Revised%2004-19.xlsm>

JC-1 *Joint Check Notification Form* - Form and procedures for joint check notification. The form acts as a written joint check agreement among the parties providing full and prompt disclosure of the expected use of joint checks.  
<http://connect.ncdot.gov/projects/construction/Construction%20Forms/Joint%20Check%20Notification%20Form.pdf>

*Letter of Intent* - Form signed by the Contractor and the MBE/WBE subcontractor, manufacturer or regular dealer that affirms that a portion of said contract is going to be performed by the signed MBE/WBE for the estimated amount (based on quantities and unit prices) listed at the time of bid.  
<http://connect.ncdot.gov/letting/LetCentral/Letter%20of%20Intent%20to%20Perform%20as%20a%20Subcontractor.pdf>

*Listing of MBE and WBE Subcontractors Form* - Form for entering MBE/WBE subcontractors on a project that will meet the Combined MBE/WBE goal. This form is for paper bids only.  
[http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/09%20MBE-WBE%20Subcontractors%20\(State\).docx](http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/09%20MBE-WBE%20Subcontractors%20(State).docx)

*Subcontractor Quote Comparison Sheet* - Spreadsheet for showing all subcontractor quotes in the work areas where MBEs and WBEs quoted on the project. This sheet is submitted with good faith effort packages.  
<http://connect.ncdot.gov/business/SmallBusiness/Documents/DBE%20Subcontractor%20Quote%20Comparison%20Example.xls>

*DBE Regular Dealer/Distributor Affirmation Form* – Form is used to make a preliminary counting determination for each DBE listed as a regular dealer or distributor to assess its eligibility for 60 or 40 percent credit, respectively of the cost of materials or supplies based on its demonstrated capacity and intent to perform as a regular dealer or distributor, as defined in section 49 CFR 26.55 under the contract at issue. A Contractor will submit the completed form with the Letter of Intent.  
<https://connect.ncdot.gov/projects/construction/Construction%20Forms/DBE%20Regular%20Dealer-Distributor%20Affirmation%20Form%20-%20USDOT%202024.pdf>

### **Combined MBE/WBE Goal**

The Combined MBE/WBE Goal for this project is **0 %**

The Combined Goal was established utilizing the following anticipated participation for Minority Business Enterprises and Women Business Enterprises:

**(A) Minority Business Enterprises 0 %**

- (1) *If the anticipated MBE participation is more than zero*, the Contractor shall exercise all necessary and reasonable steps to ensure that MBEs participate in at least the percent of the contract as set forth above.
- (2) *If the anticipated MBE participation is zero*, the Contractor shall make an effort to recruit and use MBEs during the performance of the contract. Any MBE participation obtained shall be reported to the Department.

**(B) Women Business Enterprises 0 %**

- (1) *If the anticipated WBE participation is more than zero*, the Contractor shall exercise all necessary and reasonable steps to ensure that WBEs participate in at least the percent of the contract as set forth above.
- (2) *If the anticipated WBE participation is zero*, the Contractor shall make an effort to recruit and use WBEs during the performance of the contract. Any WBE participation obtained shall be reported to the Department.

The Bidder is required to submit only participation to meet the Combined MBE/WBE Goal. The Combined Goal may be met by submitting all MBE participation, all WBE participation, or a combination of MBE and WBE participation.

**Directory of Transportation Firms (Directory)**

Real-time information is available about firms doing business with the Department and firms that are certified through NCUCP in the Directory of Transportation Firms. Only firms identified in the Directory as MBE and WBE certified shall be used to meet the Combined MBE / WBE goal. The Directory can be found at the following link.

<https://www.ebs.nc.gov/VendorDirectory/default.html>

The listing of an individual firm in the directory shall not be construed as an endorsement of the firm's capability to perform certain work.

**Listing of MBE/WBE Subcontractors**

At the time of bid, bidders shall submit all MBE and WBE participation that they anticipate to use during the life of the contract. Only those identified to meet the Combined MBE/WBE goal will be considered committed, even though the listing shall include both committed MBE/WBE subcontractors and additional MBE/WBE subcontractors. Any additional MBE/WBE subcontractor participation above the goal will follow the banking guidelines found elsewhere in this provision. All other additional MBE/WBE subcontractor participation submitted at the time of bid will be used toward the Department's overall race-neutral goals. Only those firms with current MBE and WBE certification at the time of bid opening will be acceptable for listing

in the bidder's submittal of MBE and WBE participation. The Contractor shall indicate the following required information:

(A) Electronic Bids

Bidders shall submit a listing of MBE and WBE participation in the appropriate section of the electronic submittal file.

- (1) Submit the names and addresses of MBE and WBE firms identified to participate in the contract. If the bidder uses the updated listing of MBE and WBE firms shown in the electronic submittal file, the bidder may use the dropdown menu to access the name and address of the firms.
- (2) Submit the contract line numbers of work to be performed by each MBE and WBE firm. When no figures or firms are entered, the bidder will be considered to have no MBE or WBE participation.
- (3) The bidder shall be responsible for ensuring that the MBE and WBE are certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that MBE's or WBE's participation will not count towards achieving the Combined MBE/WBE goal.

(B) Paper Bids

- (1) *If the Combined MBE/ WBE goal is more than zero,*
  - (a) Bidders, at the time the bid proposal is submitted, shall submit a listing of MBE/WBE participation, including the names and addresses on *Listing of MBE and WBE Subcontractors* contained elsewhere in the contract documents in order for the bid to be considered responsive. Bidders shall indicate the total dollar value of the MBE and WBE participation for the contract.
  - (b) If bidders have no MBE or WBE participation, they shall indicate this on the *Listing of MBE and WBE Subcontractors* by entering the word "None" or the number "0." This form shall be completed in its entirety. **Blank forms will not be deemed to represent zero participation.** Bids submitted that do not have MBE and WBE participation indicated on the appropriate form will not be read publicly during the opening of bids. The Department will not consider these bids for award and the proposal will be rejected.
  - (c) The bidder shall be responsible for ensuring that the MBE/WBE is certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that MBE's or WBE's participation will not count towards achieving the Combined MBE/WBE goal.

- (2) *If the Combined MBE/WBE Goal is zero*, entries on the *Listing of MBE and WBE Subcontractors* are not required for the zero goal, however any MBE or WBE participation that is achieved during the project shall be reported in accordance with requirements contained elsewhere in the special provision.

### **MBE or WBE Prime Contractor**

When a certified MBE or WBE firm bids on a contract that contains a Combined MBE/WBE Goal, the firm is responsible for meeting the goal or making good faith efforts to meet the goal, just like any other bidder. In most cases, a MBE or WBE bidder on a contract will meet the Combined MBE/WBE goal by virtue of the work it performs on the contract with its own forces. However, all the work that is performed by the MBE or WBE bidder and any other similarly certified subcontractors will count toward the goal. The MBE or WBE bidder shall list itself along with any MBE or WBE subcontractors, if any, in order to receive credit toward the goals.

MBE/WBE prime contractors shall also follow Sections A or B listed under *Listing of MBE/WBE Subcontractors* just as a non-MBE/WBE bidder would.

### **Written Documentation – Letter of Intent**

The bidder shall submit written documentation for each MBE/WBE that will be used to meet the Combined MBE/WBE goal of the contract, indicating the bidder's commitment to use the MBE/WBE in the contract. This documentation shall be submitted on the Department's form titled *Letter of Intent*.

The documentation shall be received in the office of the Engineer no later than 2:00 p.m. of the fifth calendar day following opening of bids, unless the fifth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the Engineer no later than 10:00 a.m. on the next official state business day.

If the bidder fails to submit the Letter of Intent from each committed MBE and WBE to be used toward the Combined MBE/WBE goal, or if the form is incomplete (i.e. both signatures are not present), the MBE/WBE participation will not count toward meeting the Combined MBE/WBE goal. If the lack of this participation drops the commitment below the Combined MBE/WBE goal, the Contractor shall submit evidence of good faith efforts for the goal not met, completed in its entirety, to the Engineer no later than 2:00 p.m. of the eighth calendar day following opening of bids, unless the eighth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the Engineer no later than 10:00 a.m. on the next official state business day.

### **Banking MBE/WBE Credit**

If the committed MBE/WBE participation submitted exceeds the algebraic sum of the Combined MBE/WBE goal by \$1,000 or more, the excess will be placed on deposit by the Department for future use by the bidder. Separate accounts will be maintained for MBE and WBE participation and these may accumulate for a period not to exceed 24 months.

When the apparent lowest responsive bidder fails to submit sufficient participation by MBE and WBE firms to meet the advertised goal, as part of the good faith effort, the Department will consider allowing the bidder to withdraw funds to meet the Combined MBE/WBE goal as long as there are adequate funds available from the bidder's MBE and WBE bank accounts.

### **Submission of Good Faith Effort**

If the bidder fails to meet or exceed the Combined MBE/WBE goal, the apparent lowest responsive bidder shall submit to the Department documentation of adequate good faith efforts made to reach that specific goal.

One complete set and 5 copies of this information shall be received in the office of the Engineer no later than 2:00 p.m. of the fifth calendar day following opening of bids, unless the fifth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the Engineer no later than 10:00 a.m. on the next official state business day.

Note: Where the information submitted includes repetitious solicitation letters, it will be acceptable to submit a representative letter along with a distribution list of the firms that were solicited. Documentation of MBE/WBE quotations shall be a part of the good faith effort submittal. This documentation may include written subcontractor quotations, telephone log notations of verbal quotations, or other types of quotation documentation.

### **Consideration of Good Faith Effort for Projects with a Combined MBE/WBE Goal More Than Zero**

Adequate good faith efforts mean that the bidder took all necessary and reasonable steps to achieve the goal which, by their scope, intensity, and appropriateness, could reasonably be expected to obtain sufficient MBE/WBE participation. Adequate good faith efforts also mean that the bidder actively and aggressively sought MBE/WBE participation. Mere *pro forma* efforts are not considered good faith efforts.

The Department will consider the quality, quantity, and intensity of the different kinds of efforts a bidder has made. Listed below are examples of the types of actions a bidder will take in making a good faith effort to meet the goals and are not intended to be exclusive or exhaustive, nor is it intended to be a mandatory checklist.

- (A) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising, written notices, use of verifiable electronic means through the use of the NCDOT Directory of Transportation Firms) the interest of all certified MBEs/WBEs that are also prequalified subcontractors. The bidder must solicit this interest within at least 10 days prior to bid opening to allow the MBEs/WBEs to respond to the solicitation. Solicitation shall provide the opportunity to MBEs/WBEs within the Division and surrounding Divisions where the project is located. The bidder must determine with certainty if the MBEs/WBEs are interested by taking appropriate steps to follow up initial solicitations.

- (B) Selecting portions of the work to be performed by MBEs/WBEs in order to increase the likelihood that the Combined MBE/WBE goal will be achieved.
- (1) Where appropriate, break out contract work items into economically feasible units to facilitate MBE/WBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.
  - (2) Negotiate with subcontractors to assume part of the responsibility to meet the advertised goal when the work to be sublet includes potential for MBE/WBE participation (2<sup>nd</sup> and 3<sup>rd</sup> tier subcontractors).
- (C) Providing interested certified MBEs/WBEs that are also prequalified subcontractors with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- (D) (1) Negotiating in good faith with interested MBEs/WBEs. It is the bidder's responsibility to make a portion of the work available to MBE/WBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available MBE/WBE subcontractors and suppliers, so as to facilitate MBE/WBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of MBEs/WBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for MBEs/WBEs to perform the work.
- (2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including MBE/WBE subcontractors, and would take a firm's price and capabilities as well as the advertised goal into consideration. However, the fact that there may be some additional costs involved in finding and using MBEs/WBEs is not in itself sufficient reason for a bidder's failure to meet the advertised goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidding contractors are not, however, required to accept higher quotes from MBEs/WBEs if the price difference is excessive or unreasonable.
- (E) Not rejecting MBEs/WBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associates and political or social affiliations (for example, union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
- (F) Making efforts to assist interested MBEs/WBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or bidder.



- (G) Making efforts to assist interested MBEs/WBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
- (H) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; Federal, State, and local minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of MBEs/WBEs. Contact within 7 days from the bid opening the Business Opportunity and Work Force Development Unit at [BOWD@ncdot.gov](mailto:BOWD@ncdot.gov) to give notification of the bidder's inability to get MBE or WBE quotes.
- (I) Any other evidence that the bidder submits which shows that the bidder has made reasonable good faith efforts to meet the advertised goal.

In addition, the Department may take into account the following:

- (1) Whether the bidder's documentation reflects a clear and realistic plan for achieving the Combined MBE/WBE goal.
- (2) The bidders' past performance in meeting the contract goal.
- (3) The performance of other bidders in meeting the advertised goal. For example, when the apparent successful bidder fails to meet the goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts the apparent successful bidder could have met the goal. If the apparent successful bidder fails to meet the advertised goal, but meets or exceeds the average MBE and WBE participation obtained by other bidders, the Department may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made a good faith effort.

If the Department does not award the contract to the apparent lowest responsive bidder, the Department reserves the right to award the contract to the next lowest responsive bidder that can satisfy to the Department that the Combined MBE/WBE goal can be met or that an adequate good faith effort has been made to meet the advertised goal.

### **Non-Good Faith Appeal**

The Engineer will notify the Contractor verbally and in writing of non-good faith. A Contractor may appeal a determination of non-good faith made by the Goal Compliance Committee. If a Contractor wishes to appeal the determination made by the Committee, they shall provide written notification to the Engineer. The appeal shall be made within 2 business days of notification of the determination of non-good faith.



**Counting MBE/WBE Participation Toward Meeting the Combined MBE/WBE Goal****(A) Participation**

The total dollar value of the participation by a committed MBE/WBE will be counted toward the contract goal requirements. The total dollar value of participation by a committed MBE/WBE will be based upon the value of work performed by the MBE/WBE and the actual payments to MBE/WBE firms by the Contractor.

**(B) Joint Checks**

Prior notification of joint check use shall be required when counting MBE/WBE participation for services or purchases that involves the use of a joint check. Notification shall be through submission of Form JC-1 (*Joint Check Notification Form*) and the use of joint checks shall be in accordance with the Department's Joint Check Procedures.

**(C) Subcontracts (Non-Trucking)**

A MBE/WBE may enter into subcontracts. Work that a MBE subcontracts to another MBE firm may be counted toward the anticipated MBE participation. The same holds for work that a WBE subcontracts to another WBE firm. Work that a MBE/WBE subcontracts to a non-MBE/WBE firm does not count toward the contract goal requirement. It should be noted that every effort shall be made by MBE and WBE contractors to subcontract to the same certification (i.e., MBEs to MBEs and WBEs to WBEs), in order to fulfill the MBE or WBE participation breakdown. This, however, may not always be possible due to the limitation of firms in the area. If the MBE or WBE firm shows a good faith effort has been made to reach out to similarly certified firms and there is no interest or availability, and they can get assistance from other certified firms, the Engineer will not hold the prime responsible for meeting the individual MBE or WBE breakdown. If a MBE or WBE contractor or subcontractor subcontracts a significantly greater portion of the work of the contract than would be expected on the basis of standard industry practices, it shall be presumed that the MBE or WBE is not performing a commercially useful function.

**(D) Joint Venture**

When a MBE or WBE performs as a participant in a joint venture, the Contractor may count toward its contract goal requirement a portion of the total value of participation with the MBE or WBE in the joint venture, that portion of the total dollar value being a distinct clearly defined portion of work that the MBE or WBE performs with its forces.

**(E) Manufacturer, Regular Dealer, Distributor**

A Contractor may count toward its MBE/WBE requirement 40 percent of its expenditures for materials or supplies (including transportation costs) from a MBE/WBE distributor, 60 percent of its expenditures for materials or supplies (including transportation costs) from a

MBE/WBE regular dealer and 100 percent of such expenditures obtained from a MBE/WBE manufacturer.

A Contractor may count toward its MBE/WBE requirement the following expenditures to MBE/WBE firms that are not manufacturers, regular dealers or distributors:

- (1) The fees or commissions charged by a MBE/WBE firm for providing a *bona fide* service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, provided the fees or commissions are determined to be reasonable and not excessive as compared with fees and commissions customarily allowed for similar services.
- (2) With respect to materials or supplies purchased from a MBE/WBE, which is neither a manufacturer, regular dealer, nor a distributor count the entire amount of fees or commissions charged that the Department deems to be reasonable, including transportation charges for the delivery of materials or supplies. Do not count any portion of the cost of the materials and supplies themselves.

A Contractor will submit a completed *DBE Regular Dealer/Distributor Affirmation Form* with the Letter of Intent to the Engineer. The Engineer will forward to the State Contractor Utilization Engineer or DBE@ncdot.gov. The State Contractor Utilization Engineer will make a preliminary assessment as to whether a MBE/WBE supplier has the demonstrated capacity to perform a commercially useful function (CUF) on a contract-by-contract basis *prior* to its participation.

### **Commercially Useful Function**

#### **(A) MBE/WBE Utilization**

The Contractor may count toward its contract goal requirement only expenditures to MBEs and WBEs that perform a commercially useful function in the work of a contract. A MBE/WBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by performing, managing, and supervising the work involved. To perform a commercially useful function, the MBE/WBE shall also be responsible with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material and installing (where applicable) and paying for the material itself. To determine whether a MBE/WBE is performing a commercially useful function, the Department will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is performing and the MBE/WBE credit claimed for its performance of the work, and any other relevant factors. If it is determined that a MBE or WBE is not performing a Commercially Useful Function, the contractor may present evidence to rebut this presumption to the Department.

## (B) MBE/WBE Utilization in Trucking

The following factors will be used to determine if a MBE or WBE trucking firm is performing a commercially useful function:

- (1) The MBE/WBE shall be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there shall not be a contrived arrangement for the purpose of meeting the Combined MBE/WBE goal.
- (2) The MBE/WBE shall itself own and operate at least one fully licensed, insured, and operational truck used on the contract.
- (3) The MBE/WBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.
- (4) The MBE may subcontract the work to another MBE firm, including an owner-operator who is certified as a MBE. The same holds true that a WBE may subcontract the work to another WBE firm, including an owner-operator who is certified as a WBE. When this occurs, the MBE or WBE who subcontracts work receives credit for the total value of the transportation services the subcontracted MBE or WBE provides on the contract. It should be noted that every effort shall be made by MBE and WBE contractors to subcontract to the same certification (i.e., MBEs to MBEs and WBEs to WBEs), in order to fulfill the participation breakdown. This, however, may not always be possible due to the limitation of firms in the area. If the MBE or WBE firm shows a good faith effort has been made to reach out to similarly certified transportation service providers and there is no interest or availability, and they can get assistance from other certified providers, the Engineer will not hold the prime responsible for meeting the individual MBE or WBE participation breakdown.
- (5) The MBE/WBE may also subcontract the work to a non-MBE/WBE firm, including from an owner-operator. The MBE/WBE who subcontracts the work to a non-MBE/WBE is entitled to credit for the total value of transportation services provided by the non-MBE/WBE subcontractor not to exceed the value of transportation services provided by MBE/WBE-owned trucks on the contract. Additional participation by non-MBE/WBE subcontractors receives credit only for the fee or commission it receives as a result of the subcontract arrangement. The value of services performed under subcontract agreements between the MBE/WBE and the Contractor will not count towards the MBE/WBE contract requirement.
- (6) A MBE/WBE may lease truck(s) from an established equipment leasing business open to the general public. The lease must indicate that the MBE/WBE has exclusive use of and control over the truck. This requirement does not preclude the leased truck from working for others during the term of the lease with the consent

of the MBE/WBE, so long as the lease gives the MBE/WBE absolute priority for use of the leased truck. This type of lease may count toward the MBE/WBE's credit as long as the driver is under the MBE/WBE's payroll.

- (7) Subcontracted/leased trucks shall display clearly on the dashboard the name of the MBE/WBE that they are subcontracted/leased to and their own company name if it is not identified on the truck itself. Magnetic door signs are not permitted.

### **MBE/WBE Replacement**

When a Contractor has relied on a commitment to a MBE or WBE subcontractor (or an approved substitute MBE or WBE subcontractor) to meet all or part of a contract goal requirement, the contractor shall not terminate the MBE/WBE subcontractor or any portion of its work for convenience. This includes, but is not limited to, instances in which the Contractor seeks to perform the work of the terminated subcontractor with another MBE/WBE subcontractor, a non-MBE/WBE subcontractor, or with the Contractor's own forces or those of an affiliate.

The Contractor must give notice in writing both by certified mail and email to the MBE/WBE subcontractor, with a copy to the Engineer of its intent to request to terminate a MBE/WBE subcontractor or any portion of its work, and the reason for the request. The Contractor must give the MBE/WBE subcontractor five (5) business days to respond to the Contractor's Notice of Intent to Request Termination and/or Substitution. If the MBE/WBE subcontractor objects to the intended termination/substitution, the MBE/WBE, within five (5) business days must advise the Contractor and the Department of the reasons why the action should not be approved. The five-day notice period shall begin on the next business day after written notice is provided to the MBE/WBE subcontractor.

A committed MBE/WBE subcontractor may only be terminated or any portion of its work after receiving the Department's written approval based upon a finding of good cause for the proposed termination and/or substitution. Good cause does not exist if the Contractor seeks to terminate a MBE/WBE or any portion of its work that it relied upon to obtain the contract so that the Contractor can self-perform the work for which the MBE/WBE was engaged, or so that the Contractor can substitute another MBE/WBE or non-MBE/WBE contractor after contract award. For purposes of this section, good cause shall include the following circumstances:

- (a) The listed MBE/WBE subcontractor fails or refuses to execute a written contract;
- (b) The listed MBE/WBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the MBE/WBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the prime contractor;
- (c) The listed MBE/WBE subcontractor fails or refuses to meet the prime contractor's reasonable, nondiscriminatory bond requirements;
- (d) The listed MBE/WBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;

- (e) The listed MBE/WBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant to 2 CFR parts 180, 215 and 1200 or applicable State law;
- (f) The listed MBE/WBE subcontractor is not a responsible contractor;
- (g) The listed MBE/WBE voluntarily withdraws from the project and provides written notice of withdrawal;
- (h) The listed MBE/WBE is ineligible to receive MBE/WBE credit for the type of work required;
- (i) A MBE/WBE owner dies or becomes disabled with the result that the listed MBE/WBE contractor is unable to complete its work on the contract; and
- (j) Other documented good cause that compels the termination of the MBE/WBE subcontractor.

The Contractor shall comply with the following for replacement of a committed MBE/WBE:

(A) Performance Related Replacement

When a committed MBE/WBE is terminated for good cause as stated above, an additional MBE/WBE that was submitted at the time of bid may be used to fulfill the MBE/WBE commitment to meet the Combined MBE/WBE Goal. A good faith effort will only be required for removing a committed MBE/WBE if there were no additional MBE/WBEs submitted at the time of bid to cover the same amount of work as the MBE/WBE that was terminated.

If a replacement MBE/WBE is not found that can perform at least the same amount of work as the terminated MBE/WBE, the Contractor shall submit a good faith effort documenting the steps taken. Such documentation shall include, but not be limited to, the following:

- (1) Copies of written notification to MBE/WBEs that their interest is solicited in contracting the work defaulted by the previous MBE/WBE or in subcontracting other items of work in the contract.
- (2) Efforts to negotiate with MBE/WBEs for specific subbids including, at a minimum:
  - (a) The names, addresses, and telephone numbers of MBE/WBEs who were contacted.
  - (b) A description of the information provided to MBE/WBEs regarding the plans and specifications for portions of the work to be performed.
- (3) A list of reasons why MBE/WBE quotes were not accepted.
- (4) Efforts made to assist the MBE/WBEs contacted, if needed, in obtaining bonding or insurance required by the Contractor.

**(B) Decertification Replacement**

- (1) When a committed MBE/WBE is decertified by the Department after the SAF (*Subcontract Approval Form*) has been received by the Department, the Department will not require the Contractor to solicit replacement MBE/WBE participation equal to the remaining work to be performed by the decertified firm. The participation equal to the remaining work performed by the decertified firm will count toward the contract goal requirement but not the overall goal.
  - (i) If the MBE/WBE's ineligibility is caused solely by its having exceeded the size standard during the performance of the contract. The Department may continue to count participation equal to the remaining work performed by the decertified firm which will count toward the contract goal requirement and overall goal.
  - (ii) If the MBE/WBE's ineligibility is caused solely by its acquisition by or merger with a non- MBE/WBE during the performance of the contract. The Department may not continue to count the portion of the decertified firm's performance on the contract remaining toward either the contract goal or the overall goal, even if the Contractor has executed a subcontract with the firm or the Department has executed a prime contract with the MBE/WBE that was later decertified.
- (2) When a committed MBE/WBE is decertified prior to the Department receiving the SAF (*Subcontract Approval Form*) for the named MBE/WBE firm, the Contractor shall take all necessary and reasonable steps to replace the MBE/WBE subcontractor with another MBE/WBE subcontractor to perform at least the same amount of work to meet the Combined MBE/WBE goal requirement. If a MBE/WBE firm is not found to do the same amount of work, a good faith effort must be submitted to NCDOT (see A herein for required documentation).

All requests for replacement of a committed MBE/WBE firm shall be submitted to the Engineer for approval on Form RF-1 (*DBE Replacement Request*). If the Contractor fails to follow this procedure, the Contractor may be disqualified from further bidding for a period of up to 6 months.

**Changes in the Work**

When the Engineer makes changes that result in the reduction or elimination of work to be performed by a committed MBE/WBE, the Contractor will not be required to seek additional participation. When the Engineer makes changes that result in additional work to be performed by a MBE/WBE based upon the Contractor's commitment, the MBE/WBE shall participate in additional work to the same extent as the MBE/WBE participated in the original contract work.

When the Engineer makes changes that result in extra work, which has more than a minimal impact on the contract amount, the Contractor shall seek additional participation by MBEs/WBEs unless otherwise approved by the Engineer.

When the Engineer makes changes that result in an alteration of plans or details of construction, and a portion or all of the work had been expected to be performed by a committed MBE/WBE, the Contractor shall seek participation by MBEs/WBEs unless otherwise approved by the Engineer.

When the Contractor requests changes in the work that result in the reduction or elimination of work that the Contractor committed to be performed by a MBE/WBE, the Contractor shall seek additional participation by MBEs/WBEs equal to the reduced MBE/WBE participation caused by the changes.

### **Reports and Documentation**

A SAF (*Subcontract Approval Form*) shall be submitted for all work which is to be performed by a MBE/WBE subcontractor. The Department reserves the right to require copies of actual subcontract agreements involving MBE/WBE subcontractors.

When using transportation services to meet the contract commitment, the Contractor shall submit a proposed trucking plan in addition to the SAF. The plan shall be submitted prior to beginning construction on the project. The plan shall include the names of all trucking firms proposed for use, their certification type(s), the number of trucks owned by the firm, as well as the individual truck identification numbers, and the line item(s) being performed.

Within 30 calendar days of entering into an agreement with a MBE/WBE for materials, supplies or services, not otherwise documented by the SAF as specified above, the Contractor shall furnish the Engineer a copy of the agreement. The documentation shall also indicate the percentage (60% or 100%) of expenditures claimed for MBE/WBE credit.

### **Reporting Minority and Women Business Enterprise Participation**

The Contractor shall provide the Engineer with an accounting of payments made to all MBE and WBE firms, including material suppliers and contractors at all levels (prime, subcontractor, or second tier subcontractor). This accounting shall be furnished to the Engineer for any given month by the end of the following month. Failure to submit this information accordingly may result in the following action:

- (A) Withholding of money due in the next partial pay estimate; or
- (B) Removal of an approved contractor from the prequalified bidders' list or the removal of other entities from the approved subcontractors list.

While each contractor (prime, subcontractor, 2nd tier subcontractor) is responsible for accurate accounting of payments to MBEs/WBEs, it shall be the prime contractor's responsibility to report all monthly and final payment information in the correct reporting manner.

Failure on the part of the Contractor to submit the required information in the time frame specified may result in the disqualification of that contractor and any affiliate companies from further bidding until the required information is submitted.

Failure on the part of any subcontractor to submit the required information in the time frame specified may result in the disqualification of that contractor and any affiliate companies from being approved for further work on future projects until the required information is submitted.

Contractors reporting transportation services provided by non-MBE/WBE lessees shall evaluate the value of services provided during the month of the reporting period only.

At any time, the Engineer can request written verification of subcontractor payments. The Contractor shall report the accounting of payments through the Department's DBE Payment Tracking System.

#### **Failure to Meet Contract Requirements**

Failure to meet contract requirements in accordance with Subarticle 102-15(J) of the *Standard Specifications* may be cause to disqualify the Contractor.

#### **MULTI-YEAR MAINTENANCE CONTRACTS (ID/IQ):**

(4-20-21) (Rev. 4-19-22)

SP1 G75

This contract is a multi-year maintenance contract let pursuant to the provisions of N.C. General Statute §136-28.1(b). No minimum quantity of services is guaranteed to be awarded bidders under this contract. In accordance with N.C. General Statute §136-28.1(b), an award in a maintenance contract may be for an amount less but shall not exceed \$5,000,000 per year. No payments in excess of this amount will be disbursed, in accordance with the Statute.

#### **RESTRICTIONS ON ITS EQUIPMENT AND SERVICES:**

(11-17-20)

SP01 G090

All telecommunications, video or other ITS equipment or services installed or utilized on this project must be in conformance with UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS FOR FEDERAL AWARDS 2 CFR, § 200.216 **Prohibition on certain telecommunications and video surveillance services or equipment.**

#### **USE OF UNMANNED AIRCRAFT SYSTEM (UAS):**

(8-20-19)(Rev. 8-19-25)

SP1 G092

The Contractor shall adhere to all Federal, State and Local regulations and guidelines for the use of Unmanned Aircraft Systems (UAS). This includes but is not limited to US 14 CFR Part 107, NC GS 15A-300, all FAA rules, regulations and policies and all NCDOT UAS Policies. The



required operator certifications include possessing a current Federal Aviation Administration (FAA) Remote Pilot Certificate, as well as operating a UAS registered with the FAA.

All UAS operations shall be approved by the Engineer prior to beginning the operations.

All contractors or subcontractors operating UAS shall have UAS specific general liability insurance to cover all operations under this contract.

The use of UAS is at the Contractor's discretion. No measurement or payment will be made for the use of UAS. In the event that the Department directs the Contractor to utilize UAS, payment will be in accordance with Article 104-7 Extra Work.

**EQUIPMENT IDLING GUIDELINES:**

(1-19-21)

107

SP1 G096

Exercise reduced fuel consumption and reduced equipment emissions during the construction of all work associated with this contract. Employees engaged in the construction of this project should turn off vehicles when stopped for more than thirty (30) minutes and off-highway equipment should idle no longer than fifteen (15) consecutive minutes.

These guidelines for turning off vehicles and equipment when idling do not apply to:

1. Idling when queuing.
2. Idling to verify the vehicle is in safe operating condition.
3. Idling for testing, servicing, repairing or diagnostic purposes.
4. Idling necessary to accomplish work for which the vehicle was designed (such as operating a crane, mixing concrete, etc.).
5. Idling required to bring the machine system to operating temperature.
6. Emergency vehicles, utility company, construction, and maintenance vehicles where the engines must run to perform needed work.
7. Idling to ensure safe operation of the vehicle.
8. Idling when the propulsion engine is providing auxiliary power for other than heating or air conditioning. (such as hydraulic systems for pavers)
9. When specific traffic, safety, or emergency situations arise.
10. If the ambient temperature is less than 32 degrees Fahrenheit. Limited idling to provide for the safety of vehicle occupants (e.g. to run the heater).
11. If the ambient temperature is greater than 90 degrees Fahrenheit. Limited idling to provide for the safety of vehicle occupants of off-highway equipment (e.g. to run the air conditioning) no more than 30 minutes.
12. Diesel powered vehicles may idle for up to 30 minutes to minimize restart problems.

Any vehicle, truck, or equipment in which the primary source of fuel is natural gas or electricity is exempt from the idling limitations set forth in this special provision.

**OUTSOURCING OUTSIDE THE USA:**

(9-21-04) (Rev. 5-16-06)

SP1 G150

All work on consultant contracts, services contracts, and construction contracts shall be performed in the United States of America. No work shall be outsourced outside of the United States of America.

*Outsourcing* for the purpose of this provision is defined as the practice of subcontracting labor, work, services, staffing, or personnel to entities located outside of the United States.

The North Carolina Secretary of Transportation shall approve exceptions to this provision in writing.

**PROJECT SPECIAL PROVISIONS - ROADWAY****BURNING RESTRICTIONS:**

(7-1-95)

200, 210, 215

SP2 R05

Open burning is not permitted on any portion of the right-of-way limits established for this project. Do not burn the clearing, grubbing or demolition debris designated for disposal and generated from the project at locations within the project limits, off the project limits or at any waste or borrow sites in this county. Dispose of the clearing, grubbing and demolition debris by means other than burning, according to state or local rules and regulations.

**CONES:**

(3-19-24)

1135

SP11 R35

Revise the *Standard Specifications* as follows:

**Page 11-11, Article 1135-3 CONSTRUCTION METHODS, lines 19-20,** delete the third sentence of the first paragraph, "Do not use cones in the upstream taper of lane or shoulder closures for multi-lane roadways."

**FLAGGERS:**

(12-17-24)

1150

SP11 R50

Revise Section 1150 of the *Standard Specification* as follows:

**Page 11-13, Article 1150-1, DESCRIPTION,** add the following after line 31:

Alternatively, at the discretion of the Contractor, the Contractor may furnish, install, place in operation, repair, maintain, relocate, and remove remotely controlled Automated Flagging Assistance Devices (AFAD) or Temporary Portable Traffic Signal units (PTS units) to assist, supplement, or replace human flaggers for one-lane, two-way traffic maintenance during construction in accordance with this provision and the *Standard Specifications*.

For the purpose of this provision, an "approach" refers to a single lane of traffic moving in one direction toward a point of control or work zone. Flaggers, AFAD and PTS units are only used to control one lane of approaching traffic in a specific direction.

**Page 11-13, Article 1150-2, MATERIALS,** add the following after line 34:

Provide documentation to the Engineer that the AFAD or PTS units meets or exceeds the requirements of this special provision and is on the NCDOT APL or ITS and Signals QPL.

**(A) Automated Flagging Assistance Devices (AFAD)**

**(1) AFAD General**

Cover the automated gate arm with Department approved Type VII, VIII or IX retroreflective sheeting of vertical alternating red and white stripes at 16 inch intervals

measured horizontally. When the gate arm is in the down position the minimum vertical aspect of the arm and sheeting shall be 4 inches. The retroreflectorized sheeting shall be on both sides of the gate arm. With the AFAD parked or positioned 2 feet outside or in a location deemed acceptable for the lane being controlled, the gate arm shall reach at least to the center of the lane but shall not exceed the width of the lane being controlled.

Design the system to be fail-safe. Provide a conflict monitor, malfunction monitoring unit, or similar device that monitors for malfunctions and prevents the display of conflicting indications. This system shall be electronic and operated by remote control.

## **(2) AFAD Type I System: RED/YELLOW**

Provide a Red/Yellow AFAD with at least one set of CIRCULAR RED and CIRCULAR YELLOW lenses in a vertical configuration that are 12 inches in diameter. The bottom of the housing (including brackets) shall be at least 7 feet (2.1 meters) above the pavement.

This system is required to have yellow 12 inch aluminum or polycarbonate vehicle signal heads with 10 inch tunnel visors, backplates, and Light Emitting Diode (LED) modules. Provide signal heads, backplates, and LED modules listed on the ITS and Signals QPL available on the Department's website.

Provide an automated gate arm on the AFAD that descends to a down position across the approaching lane of traffic when the steady CIRCULAR RED lens is illuminated and then ascends to an upright position when the flashing CIRCULAR YELLOW lens is illuminated. The automated gate arm is to be designed such that if a motorist pulls underneath the gate arm while lowering, no damage to the vehicle occurs.

A STOP HERE ON RED (R10-6 or R10-6a) sign shall be installed on the right-hand side of the approach at the point at which drivers are expected to stop when the steady CIRCULAR RED lens is illuminated.

**To stop traffic, the AFAD shall transition from the flashing CIRCULAR YELLOW lens by initiating a minimum 5 second steadily illuminated CIRCULAR YELLOW lens followed by the CIRCULAR RED lens.**

**Once the CIRCULAR RED lens is displayed, the system is to have a minimum 2 second delay between the time the steady CIRCULAR RED is displayed and the time the gate arm begins to lower. The maximum delay between CIRCULAR RED and the time the gate arm lowers is 4 seconds. To permit stopped road users to proceed, the AFAD shall display the flashing CIRCULAR YELLOW lens and the gate arm shall be placed in the upright position.**

Ensure the system monitors for a lack of yellow or red signal voltage, total loss of indication in any direction, presence of multiple indications on any approach and low power conditions.

Additional sets of CIRCULAR RED and CIRCULAR YELLOW lenses located over the roadway or on the left side of the approach and operated in unison with the primary set, may be used to improve visibility of the AFAD. If the set of lenses is located over any portion of the roadway that can be used by motor vehicles, the bottom of the housing (including brackets) shall be at least 15 feet (4.6 meters) above the pavement.

### **(3) AFAD Type II System: STOP/SLOW**

Provide STOP/SLOW signs that are octagonal in shape, made of rigid material, and at least 36 inch x 36 inch in size. Letters shall be a minimum of 8 inches high. The STOP face shall have a red background with white letters and border.

The SLOW face shall be diamond shaped, orange, or yellow background with black letters and border. Cover both faces in a Department approved Type VII, VIII or IX retroreflective sheeting. The minimum mounting height for the sign faces shall be 7 feet above the pavement to the bottom of the sign.

The AFAD's STOP/SLOW signs shall be supplemented with active conspicuity devices by incorporating a stop beacon (red lens) and a warning beacon (yellow lens). The stop beacon shall be no more than 24 inches above the STOP face. Mount the warning beacon no more than 24 inches above or beside of the SLOW face. Except for the mounting locations, the beacons shall conform to the provisions of Chapter 4L of the MUTCD and have 12 inch signal lenses.

Strobe/flashing lights are an acceptable alternative to flashing beacons. If utilized, they shall be either white or red flashing lights located within the STOP face and white or yellow flashing lights within the SLOW face and conform to the provisions of Chapter 6D of the MUTCD. If used, the lens diameter shall be a minimum of 5 inches with a minimum height of 6 inches. Equip strobes/flashing lights for both dual and quad flash patterns.

Type B warning lights shall not be used in lieu of the beacons or the strobe lights.

The faces of the AFADs STOP/SLOW sign may include louvers. If louvers are used, design the louvers such that the aspect of the sign face to approaching traffic is a full sign face at a distance of 50 feet or greater.

A WAIT ON STOP (R1-7) sign and a GO ON SLOW (R1-8) sign shall be displayed to traffic approaching the AFAD. Position signs on the same support structure as the AFAD. Both signs shall have black legends and borders on white Type III sheeting backgrounds. Each of these signs shall be rectangular in shape and be at least 24 inch x 30 inch size with letters at least 6 inches high.

Provide an automated gate arm on the AFAD that descends to a down position across the approaching lane of traffic when the STOP face is displayed and then ascends to an upright position when the SLOW face is displayed.

The automated gate arm is to be designed such that if a motorist pulls underneath the gate arm while lowering, no damage to the vehicle occurs.

A STOP HERE ON RED (R10-6 or R10-6a) sign shall be installed on the right-hand side of the approach at the point at which drivers are expected to stop when the STOP face is displayed.

When approaching motorists are to proceed, display the SLOW face and the warning beacon or strobes are to flash on the AFAD. When approaching motorists are to be stopped, display the STOP face and the stop beacon or strobes are to flash on the AFAD.

**To stop traffic, the AFAD will transition from the SLOW face to the STOP face by initiating a minimum 5 second change cycle. First, the warning beacon is to be steadily illuminated for the change cycle. If strobes are used in lieu of a warning beacon, they are to be placed in the quad flash pattern. At the end of the change cycle, the STOP face is to be displayed with the stop beacon flashing and the warning beacon or strobes are to stop flashing. Once the STOP face is displayed, the system is to have a minimum 2 second delay between the time the STOP face is displayed and the time the gate arm begins to lower. The maximum delay between the time the STOP face is displayed and the time the gate arm lowers is 4 seconds.**

**To permit stopped road users to proceed, the gate arm shall be placed in the upright position and the AFAD shall display the SLOW face and the warning beacon or strobes are to flash in the dual flash pattern.**

Do not flash the stop beacon when the SLOW face is displayed, and do not flash the warning beacon when the STOP face is displayed.

#### **(B) Portable Traffic Signals (PTS) Units**

Provide PTS units with at least one set of CIRCULAR RED, CIRCULAR YELLOW, and CIRCULAR GREEN lenses in a vertical configuration that are 12 inch diameter aluminum or polycarbonate vehicle signal heads with 10 inch tunnel visors, backplates, and Light Emitting Diode (LED) modules. All signal heads, tunnel visors, and backplates shall be yellow in color.

The bottom of the housing (including brackets) shall be at least 7 feet above the pavement for single set units. Additional signal heads on units with more than one signal head shall be capable of extending over the travel lane.

#### **Communication Requirements**

All PTS units within the signal set up systems shall maintain communication at all times by either hardwire cable or wireless radio link communication. If the hardwire cable communication is utilized the communication cable shall be deployed in a manner that will not intrude in the direct work area of the project or obstruct vehicular and pedestrian traffic.

Utilize radio communication with 900MHz frequency band and frequency hopping capability. The radio link communication system shall have a minimum range of 1 mile.

**Fault Mode Requirements**

Revert PTS units to a flashing red mode upon system default unless otherwise specified by the Engineer. Equip the PTS units with a remote monitoring system. Where cell communication availability exists, the remote monitoring system shall adhere to the remote monitoring system section of this provision.

**Remote Monitoring System**

The remote monitoring system (RMS) shall be capable of reporting signal location, battery voltage / battery history and system default. Provide a password protected website viewable from any computer with internet capability for the RMS. In the event of a system default, the RMS shall provide specific information concerning the cause of the system default (i.e. red lamp on signal number 1). Equip the RMS with a mechanism capable of immediately contacting a minimum of three previously designated individuals via text messaging and/or email upon a default.

The running program operating the PTS units shall be always available and viewable through the RMS website. Maintain a history of the RMS operating system in each signal including operating hours and events and the location of the PTS units.

**Trailer / Cart**

The AFAD and PTS units may be mounted on either a trailer or a moveable cart system.

Finish all exterior metal surfaces with Federal orange enamel per AMS-STD-595, color chip ID# 13538 or 12473 respectively with a minimum paint thickness of 2.5 mils (64 microns).

Design and test the AFAD or PTS units trailer / cart to withstand an 80 MPH wind load while in the operational position. Provide independent certification that the assembly meets the design wind load.

Equip the AFAD or PTS units with leveling jacks capable of stabilizing the unit in a horizontal position when located on slopes 6:1 or flatter.

Equip trailers in compliance with North Carolina Law governing motor vehicles and include a 12-volt trailer lighting system complying with *Federal Motor Carrier Safety Regulations 393*, safety chains and a minimum 2 inch ball hitch.

Provide a minimum 4 inch wide strip of fluorescent conspicuity sheeting retroreflective sheeting to the frame of the trailer. Apply the sheeting to all sides of the trailer. The sheeting shall meet the ASTM requirements of Type VII, VIII or IX.

**Power System**

Design the systems to operate both with and without an external power source. Furnish transmitters, generators, batteries, controls and all other components necessary to operate the device.

Provide equipment that is solar powered and supplemented with a battery backup system that includes a minimum 110/120 VAC powered on-board charging system capable of powering the unit for 7 continuous days with no solar power. Each unit shall also be capable of being powered by standard 110/120 VAC power sources, if applicable.

Locate batteries and electronic controls in a locked, weather and vandal resistant housings.

**Page 11-14, Article 1150-3, CONSTRUCTION METHODS**, add the following after line 11:

Flaggers shall have a path to escape an errant approaching vehicle at all times, unimpeded by barrier, guardrail, guiderail, parked vehicles, construction materials, slopes steeper than 2:1, or any other obstruction at all times. If an unimpeded path cannot be maintained, the Contractor shall use AFAD or PTS units in lieu of a flagger.

Provide documentation to the Engineer prior to deploying the device that the AFAD or PTS units operator(s) are qualified flagger(s) that have been properly trained through an NCDOT approved training agency or other NCDOT approved training provider and that the qualified flagger(s) have received manufacturer training to operate that specific device. This training shall include proper installation, remote control operation, central control systems and maintenance of the AFAD or PTS units. The training shall take place off the project site where training conditions are removed from live traffic. The documentation shall include the names of the authorized trainer, the trainees, the device on which they have been trained and the date of the training. Provide updated documentation to the Engineer prior to deploying any additional operators.

Install advance warning signs and operate AFADs in accordance with the attached detail drawings in this provision.

Install advance warning signs and operate PTS units in accordance with *NCDOT Roadway Standard Drawings* No. 1101.02, Sheet 17.

AFAD and PTS units shall only be used in situations where there is only one lane of approaching traffic in the direction to be controlled. **At no time shall an AFAD unit controlling traffic through the work area be placed in an autonomous mode and/or left unattended.**

Signal timing and operation of PTS units shall be field verified and accepted by the Engineer before use.

Use AFAD or PTS units in locations where queueing from the AFAD or PTS units will extend to within 150 feet of a signalized intersection or railroad crossing. Do not use AFAD and PTS



units as a substitute for or a replacement for a continuously operating temporary traffic control signal as described in Section 6F.84 of the MUTCD.

If used at night, illuminate each AFAD or PTS units as described in Section 6D of the MUTCD.

Provide a complete AFAD or PTS units that is capable of being relocated as traffic conditions demand.

If AFADs or PTS units become inoperative, be prepared at all times to replace the unit with the same type and model of AFAD or PTS units, revert to human flagging operations or terminate all construction activities requiring the use of the AFAD or PTS units until the AFAD or PTS units become operative or qualified human flaggers are available.

When the work requiring the AFAD or PTS units is not pursued for 30 minutes or longer, power off each AFAD or PTS units. Removed the AFAD or PTS units from the travel lane and relocated to a minimum of 5 feet from the edge line. AFAD gate arms shall be in the upright position. Remove all traffic control devices from the road, place two cones by each AFAD or PTS units and all signs associated with the lane closure operation shall be removed or laid down. At the end of each workday, remove all AFADs or PTS units from the roadway and shoulder areas.

Ensure the system's wireless communication links continuously monitor and verify proper transmission and reception of data used to monitor and control each AFAD or PTS units. Ensure ambient mobile or other radio transmissions or adverse weather conditions do not affect the system.

In the event of a loss of communications, immediately display the flashing RED or STOP indication on all AFAD or PTS units.

### **AFAD Specific Construction Methods**

The flagger/operator controlling the AFAD units shall be on the project site at all times. If multiple AFAD units are used, one AFAD unit shall be the Main AFAD unit and all other units shall be remote AFAD units. Ensure that each device meets the physical display and operational characteristics as specified in the MUTCD.

Multiple AFAD units may be controlled with **one** flagger/operator when the AFAD units meet each of the following requirements:

- (1) AFAD units are spaced no greater than the manufacturer's recommendations.
- (2) Both AFAD units can be seen at the same time from the flagger/operator's position, or the AFAD is operating on its own secure network with malfunction detection and notification to the flagger/operator.
- (3) The flagger/operator has an unobstructed view of approaching traffic in both directions from the flagger/operator position or the AFAD is operating on its own secure network,

with cameras that provide the flagger/operator an unobstructed view of approaching traffic from both directions. The flagger/operator may control the AFAD units from a pilot vehicle.

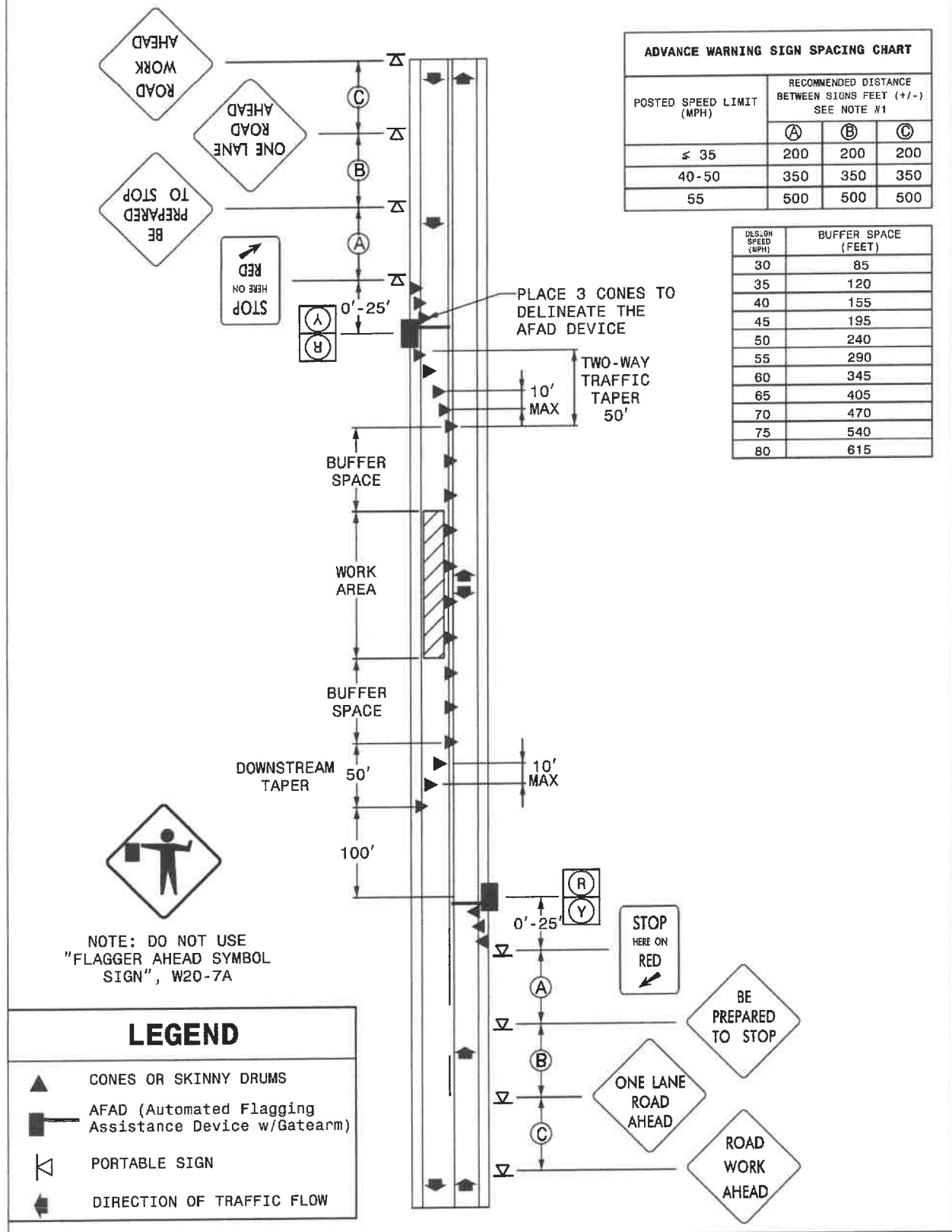
If any of the above requirements are not met, flagger/operator control each AFAD unit.

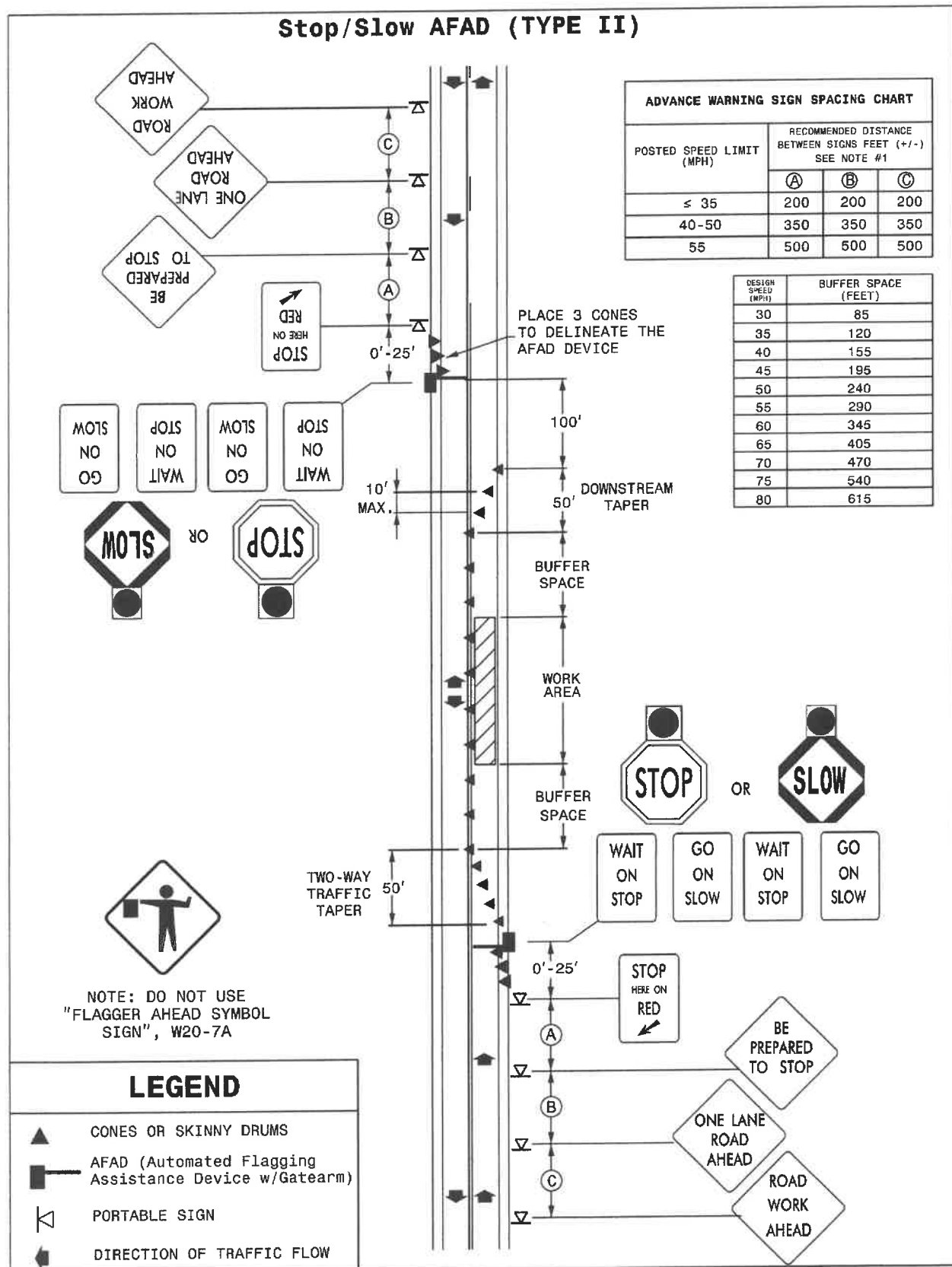
AFAD operators may either control traffic at side streets or driveways between the AFAD units or operate the pilot car while operating the AFAD system if approved by the Engineer. AFAD units must continue to be within clear sight of the operator during these work activities.

**Page 11-14, Article 1150-4, MEASUREMENT AND PAYMENT**, add the following after line 24:

Each AFAD or PTS unit will be measured and paid for as *Flaggers* paid by day in accordance with Article 1150-4 of the *Standard Specifications*. Where the pay item for *Flaggers* is not included in the original contract then no separate payment will be made for this item and payment will be included in the lump sum price bid for *Temporary Traffic Control* found elsewhere in this contract. Each approach controlled by AFAD or PTS units will be measured and paid as one flagger, irrespective of the number of devices used. If multiple PTS units are required to control a single approach, these units will collectively be considered as replacing one flagger.

No separate measurement or payment will be made for AFAD or PTS unit operators, as the cost of such including their training and operational costs shall be included in the unit or lump sum price for *Flaggers* or *Temporary Traffic Control*. Such price and payment also includes the relocation, maintenance, and removal during repair periods of AFAD or PTS units as well as the signal controller, communication, vehicle detection system, traffic signal software of PTS units and any other incidentals necessary to complete the work.

**Red/Yellow Lens AFAD (TYPE I)**



**PROJECT SPECIAL PROVISIONS – PIPE REPAIR****GENERAL**

(2-26-2014)(Reviewed 2/21/22)

Div. 7 Bridge Maint.

All repairs will be delineated by the Engineer. The Contractor shall begin work within 7 days of notification. Failure to respond within the designated time frame may result in liquidated damages or cancellation of this contract.

The contractor shall notify the Bridge Engineer/Supervisor at the beginning of each week of his intended schedule.

**CORRUGATED METAL PIPE REPAIR**

Reviewed 2/21/22

Div. 7 Bridge Maint.

**General**

The work covered by this provision consists of rehabilitating various sizes of in situ corrugated metal pipe. Rehabilitation includes utilizing approved hydrophilic polyurethane resin for joint repair, a hydrophobic polyurethane injection resin to backgrout all necessary joints and fastening culvert grade aluminum plates using a unique riveting-type process, throughout the corroded invert. An approved single component, single component high density hydrophobic polyurethane injection resin will be pumped beneath the aluminum plates to fill voids and stabilize the bottom of the pipe in this area. The material is to be installed per the approved manufacturer's instructions. If required, a two-component elastomeric membrane will be spray-applied to the pipe interior above the plated invert.

**Dewatering and Cleaning**

The General Contractor will be responsible for all dewatering of conduit in preparation for sealing, backgrouting and coating process if needed.

**Material Requirements*****Hydrophilic polyurethane injection resins***

Hydrophilic polyurethane injection resin for use in construction of containment dams and joint repair shall be a Hydrophilic Polyurethane Resin. A certification from ANSI for use in potable water systems shall be submitted and approved by the contracting officer prior to use. Typical physical properties at 73° F are:

Appearance: Amber liquid  
Viscosity: 250-350 cps  
Wt. Per Gal.: 8.65 lbs  
Solids Cont: 88%  
Induction Time: 3 to 4 minutes  
Cure Time: 5 to 6 minutes  
Cured foam tests

Bond Strength:	60 psi	ASTM 882
Tensile Strength:	450 psi	ASMT D-3574
Elongation:	350%	ASTM D-3574
	64%	ASTM 1623, free rise
Shrinkage:	less than 2%	ASTM D-1042/D-756
Int. Lin. Shrink.:	5%	
Tear Resist.:	21 lbs/in	ASTM D-3574
Density:	610 kg/m <sup>3</sup>	

Polyurethane injection resin for use in backgrouting and filling voids shall be a Moisture Activated Hydrophobic Polyurethane Resin. This material shall utilize a catalyst to activate timed expansion as required by the site conditions. A certification from ANSI for use in potable water systems shall be submitted and approved by the contracting officer prior to use. Typical physical properties at 73° F are:

Appearance:	brown liquid
Viscosity:	120 cps
Wt. Per Gal.:	9.34 lbs
Solids Cont:	100%

**Cured foam tests**

Tensile Strength:	41 psi	ASMT D-3574
Elongation:	3.4%	ASTM D-3574
Shrinkage:	none	ASTM D-1042/D-756

Typical physical properties of Catalyst at 73° F are:

Appearance:	clear liquid
Viscosity:	15-20 cps
Wt. Per Gal.:	8.73 lbs
Solids Cont:	100%

The jute oakum for use as a composite containment dam shall consists of a fibrous twisted jute rope, dry and oil free meeting Federal Specification HHP117, T-1.

**Aluminum Plating**

Aluminum alloy sheets shall conform to the applicable requirements of AASHTO M 197 for alclad alloy 3004-H34 or H32. All sheets shall be new and unused and a minimum of 16-gage nominal thickness.

**Two-Component Elastomeric System (optional)**

This system shall be a waterborne, polymer-modified, two-component elastomeric system that is spray applied to form a non-toxic, seamless fully bonding monolithic membrane. The contractor shall be a certified applicator and approved for this type of work to insure conformance to

manufacturer's instructions. This system shall be certified to meet the following physical properties:

<b><u>Test</u></b>	<b><u>Result</u></b>	<b><u>Method</u></b>
Elongation	>1,750 %; Max machine stroke reached	ASTM D412
Tensile Strength	No failure; Max machine stroke reached	ASTM D412
Recovery	95%	ASTM D412
Peel Strength	Material does not peel from substrate	ASTM D903
Puncture Resistance	No puncture at deflection at 12.5"	ASTM E154
Maximum machine stroke reached		
Low Temp Elong. (at 22° F)	>500%	ASTM D412-92
High Temp Aging (48 days at 176°	Elongation >300% min.	ASTM D240
Service Temp.	No deterioration at failure	
No deterioration at failure	-35 to 176° F	ASTM D412-92
Water Absorption	Wt. change 1.02% maximum	ASTM D746
Water Vapor Trans.	0.08 grains/hr./ft <sup>2</sup>	ASTM D570
Permeance	0.16 grains/hr./ft <sup>2</sup> /in Hg (perms)	ASTM E96
Resist Hydro Head	>150 ft water, no leak observed	ASTM E96
Hydro Stand 10-30K		Calders Testing
Ozone Exposure (41 days @100 ppm, maintained at 95° F)	Period equivalent to 14 yrs. Exposure in outdoor ambient environment	ASTM G19
Salt Fog Exposure (@ 95° F for 1,000 hours)	No deterioration at failure	ASTM D756
Biomonitoring (daphnia, fathead Minnow, algal)	No deterioration at failure	ASTM B117-90
Cathodic Disbond	Passed	SeaCrest Int'l.
Class A Fire Rating (1/2":12 slope)	No disbondment	ASTM G8
UV Light Expos.	Passed	ASTM E108-94
Exposure in outdoor ambient environment	Period equivalent to 57 yrs.	ASTM G26
Accel. Aging	Period equivalent to 61 yrs.	ASTM D573
Noise Reduction	98% @205 mils	ASTM E1007
ASTM E492		

### Submittals

Submittals for all materials and experience as referenced herein shall be provided to the Engineer/Owner for approval one week prior to work being initiated. No work shall be performed without express written approval by the Engineer/Owner.

**Experience and Certification**

Contractor shall provide Engineer with five (5) projects, including references and contact information, where pipe culvert rehabilitation described herein was successfully performed within the last year. Contractor shall provide approved applicator certification from manufacturers of polyurethane resins and two component elastomeric system, as described herein. Onsite supervisor must be NCDOT Level I or II certified for Erosion and Sedimentation Control. Certifications are to be submitted accordingly (see Submittals).

**Installation****1. Cleaning and Preparation**

Culvert inverts will be cleaned using high-pressure power washer and hand-brooming. Protruding areas in the invert caused by corrosion such as severe pitting or perforations will be either cut away and disposed of at the contractor's expense or hammered out so area no longer protrudes into pipe interior.

**2. Inlet Protection**

A small toe wall will be constructed underneath existing pipe inlet and outlet to prevent further undermining and to hold replaced bedding if needed. The toe wall will be located at the interface with the existing embankment and the projection point of the culvert. It will be constructed by hand using either sand bags at the direction of the engineer. If needed a lightweight nonwoven geotextile will be placed on the soil side of the wall to help prevent soil migration.

**3. Invert Protection**

Eroded bedding underneath the pipe shall be replaced with washed pea gravel where perforations and large voids exist permitting access to these areas.

Minimum 16 gage aluminum alloy plates shall conform to the applicable requirements of AASHTO M 197 or ASTM B209 for alclad alloy 3004-H34 or H32 plates will be placed in the invert using stainless steel, self-tapping screws or fasteners. The bottom of plates shall be precoated with an elastomeric two component system (see #6 below). The plates will be shingled such that the leading edges will not be exposed to hydraulic traffic and underneath the trailing edge of the adjacent upstream plate. The plates covering areas where bedding has been eroded will be equipped with Zerk-type fittings to facilitate pumping of hydrophobic polyurethane injection resin.

A moisture activated hydrophobic polyurethane injection resin meeting all requirements shall be pumped underneath plates using Zerk-type fittings to fill voids underneath pipe invert.

**4. Sealing Pipe Joints**

All interior pipe joints where needed shall be sealed using a containment dam consisting of polyurethane as specified above along with an approved jute oakum.



Clean area in joint, removing soil, grease or chemical contaminants with water and scrub brush. Spray joint with water prior to inserting containment dam. Cut the oakum into appropriate lengths and saturate with hydrophilic polyurethane resin. Rubber gloves shall be used while handling activated oakum. Avoid breathing urethane vapors (see Ventilation). Submerge saturated oakum in water per manufacturer's instructions. Force oakum into joint and drive in as deep as possible with screwdriver or pry bar. Allow to cure.

Drill 3/8" injection port holes at approximately 18" cc around the periphery of each joint. Clean holes by injecting water through a wand that will reach the back of the hole. Insert Prime Resins Injection Port (or approved equal), flush water into the port holes, leaving the fittings off.

## **5. Backgrouting Pipe Joints**

Mix the appropriate ratio of catalyst to hydrophobic polyurethane resin as the conditions require, following the recommended rates per the manufacturer.

Apply first fitting to port in the bottom and pump resin at a pressure of 250 psi minimum or per manufacturer's instructions. When material begins to flow out of next port up, apply fitting and begin pumping in through that port, working around the entire perimeter of the joint.

## **6. Dewatering and Cleaning Pipe**

The General Contractor will be responsible for all dewatering of conduit in preparation for sealing, backgrouting and coating process if the dewatering process can be obtained by the use of a single 3" or less centrifugal water pump. All other dewatering activities shall be completed by NCDOT. **All permits required by ACOE, DWQ or any other agencies shall be the responsibility of NCDOT.** The Contractor shall be responsible to follow all requirements listed in these permits.

## **Confined Space Entry**

The contractor and all laborers shall be certified per OSHA regulations for Confined Space Entry. All laborers shall wear full harnesses, meeting OSHA regulations with sufficient lengths of ½ -inch nylon rope tied off at entry. An outside supervisor shall be stationed at the entry during work inside pipe. Supervisor and crew shall communicate using standard-issue 2-way communication devices.

The contractor is responsible for entry using a ladder or other acceptable means. Entry security is to be maintained by the contractor during the project and in coordination with the contracting officer. The contractor is to submit copies of Confined Entry Safety plan to NCDOT engineer prior to commencement of work (see Submittals and Certifications).

There will be no payment for any personnel, equipment or materials required to meet these regulations.

**Ventilation**

A ventilation fan, stationed outside the pipe manhole entry, shall be utilized to pump clean air into the work area. The fan shall employ sufficient duct to force air into the work zone. Contractor is responsible for operation of fan.

Air quality detection device with alarm shall be worn to measure exhaustables and other harmful gases, such as hydrogen sulfide.

There will be no payment for any personnel, equipment or materials required to meet this provision.

**Clean Up**

The contractor is responsible for all necessary clean up.

**Measurement and Payment**

*Dewatering and Cleaning Pipe* will be measured and paid for as the number of days needed to render each conduit, in need of repair, free of sediment, debris, and water, as acceptable to the Engineer. Such price and payment will be full compensation for all work covered by this provision, including, but not limited to, removal, hauling, and properly disposing of all debris, along with associated tipping fees at landfills.

*Repairs to Corrugated Metal Pipe* will be measured and paid for as the number of square feet of aluminum plating that has been acceptably installed. No separate payment will be for the preparation work required or associated materials, prior to the plate installation. Such price and payment will be full compensation for all work covered by this provision, including, but not limited to, cleaning and preparation, inlet protection, furnishing, hauling, and placing all materials need for steps (A) through (C), above.

*Sealing Pipe Joints* will be measured and paid for as the number of linear feet of pipe joints acceptably sealed. No separate measurement will be made for the 3/8" injection port fittings. Such price and payment will be full compensation for all work covered by this provision, including, but not limited to, furnishing, hauling, placing all sealing materials, as described above.

*Backgrouting/Void Filling at Pipe Joints* will be measured and paid for as the number of gallons injected to acceptably backgrout and fill voids at the pipe joints. No separate measurement will be made for the 3/8" injection port fittings. Such price and payment will be full compensation for all work covered by this provision, including, but not limited to, furnishing, hauling, placing all grouting materials, as described above:

**Pay Item**

Dewatering and Cleaning Pipe  
Repair Corrugated Metal Pipe  
Sealing Pipe Joints  
Backgrouting/Void-Filling at Pipe Joints

**Pay Unit**

Day  
Square Feet  
Linear Feet  
Gallon

**PIPE REHABILITATION:****Description**

Rehabilitate existing storm water pipes, or culverts by the method or methods specified at the designated locations described in the plans and this special provision.

Use pipe liner systems for rehabilitation that are on the NCDOT APL as subject to limitations for use as specified herein, by site-specific limitations for those locations listed in the contract, or limitations as shown on the NCDOT APL for the specific liner system. Review the contract to determine the method or methods that are permitted at each rehabilitation location.

Liners provided per this special provision shall be designed in accordance with the *NCDOT Pipe Liner Manual*. Hydraulic and Structural calculations shall be provided as part of the contract submittals.

Provide contract submittals as described in this special provision to the Engineer, Department's Materials and Tests Unit, and Department's Hydraulics Unit, a minimum of 10 days prior to start of installation for review and approval.

**Materials**

The following are liners available on the NCDOT APL.

**(A) Category A - Cured-In-Place Pipe (CIPP) liners**

This liner lines an existing culvert by either pulling or inverting a resin-impregnated fabric tube and curing the tube in place. When CIPP liners are specified in the contract, the liner system supplied by the Contractor shall conform to the following requirements and be provided in contract submittals for review and approval:

- (1) Host pipe diameter ranges for which the product is applicable;
- (2) Indicate corrosion potential/acid reaction potential;
- (3) List cure method (e.g., UV, steam, hot water, etc.);
- (4) List typical, minimum, maximum application thicknesses;
- (5) Calculated minimum thickness of liner;
- (6) Designation of air or water inversion or pull-in-place method;
- (7) Maximum allowable pulling force;
- (8) Site specific cure time;
- (9) Minimum pressure to hold liner tight against the host pipe;
- (10) Maximum pressure to ensure liner does not sustain damage;
- (11) Maximum and minimum cure temperatures;
- (12) Post cure temperature to hold during cool down, as well as duration of cool down period;
- (13) Sample of temperature and pressure log to be used for monitoring the curing process;

- (14) Certification on manufacturer's letterhead indicating that the Contractor is approved by the fabric tube and resin manufacturer to perform CIPP installation work;
- (15) Material safety data sheets for all hazardous chemicals that will be used on the job site including resin, catalyst, cleaners, and repair agents;
- (16) List which of the following ASTM specifications that the installation will comply with;
- (17) Provide third party, independent lab test results that demonstrate compliance with the applicable specifications, and specifications referenced by those listed below (For example, there is no ASTM F1216 lab test. However, ASTM F1216 references ASTM D790 for flexural properties and ASTM D543 for chemical resistance. In the case of a proposed ASTM F1216-compliant installation, the submittal must include ASTM D790 and ASTM D543 lab test results.);
  - (a) ASTM F1216 for inverted CIPP
  - (b) ASTM F1743 for pulled-in-place CIPP
  - (c) ASTM F2019 for pulled-in-place GRP CIPP
  - (d) ASTM F2599 for sectional inverted CIPP (applies to pipe sections, not full length)
  - (e) ASTM F3541 for sectional repair CIPP; pushed or pulled in place
- (18) Long Term Modulus of Elasticity required for use in calculations = 150,000 psi. Third Party, Independent lab test results may be submitted by vendors or subcontractors to justify use of alternate Long Term Modulus of Elasticity in calculations. The value will be extrapolated from ASTM D2990, 10000-hour test, or will be 50% of the initial modulus value from ASTM D790. Design value of Long Term Modulus of Elasticity may be no greater than 50% of Initial Modulus of Elasticity. Tested value of 50% of Initial Modulus of Elasticity of samples taken during construction must be greater than or equal to value used in design equations;
- (19) Initial Modulus of Elasticity required for use in calculations = 300,000 psi. Third Party, Independent lab test results may be submitted by vendors or subcontractors to justify use of alternate Initial Modulus of Elasticity in calculations. The value will be from ASTM D790. Tested value of samples taken during construction must be greater than or equal to value used in design equations;
- (20) Long Term Flexural Strength required for use in calculations = 2250 psi. Third Party, Independent lab test results may be submitted by vendors or subcontractors to justify use of alternate Long Term Flexural Strength in calculations. The value will be extrapolated from ASTM D2990, 10000-hour test, or will be 50% of the initial flexural strength value from ASTM D790. Tested value of samples taken during construction must be greater than or equal to value used in design equations.

**(B) Category B Fold and Form flexible liners**

When Fold and Form flexible liners are specified in the contract, the liner system supplied by the Contractor shall conform to the following requirements and be provided in contract submittals for review and approval:

- (1) List host pipe diameter ranges for which the product is applicable;
- (2) Indicate corrosion potential/acid reaction potential;
- (3) List type of reforming method (steam, hot water, etc.);

- (4) Certification on manufacturer's letterhead indicating that the Contractor is approved by the manufacturer to perform installation work;
- (5) Material safety data sheets for all hazardous chemicals that will be used on the job site. Identify the proposed use for each hazardous chemical and where it will be used in the work;
- (6) Calculated minimum thickness of liner;
- (7) Maximum allowable pulling force;
- (8) Site specific reforming & cooling time;
- (9) Minimum pressure to hold liner tight against the host pipe;
- (10) Maximum pressure to ensure liner does not sustain damage;
- (11) Maximum and minimum forming temperatures;
- (12) Ambient temperature range for installation;
- (13) Sample of temperature and pressure log to be used for monitoring the curing process;
- (14) Must provide and comply with specification for installation, and in accordance with Article 106-3 of the *Standard Specifications* provide Type 1 or Type 4 material certification of compliance with material specifications as applicable to the list below, or equivalent as approved by the Engineer:
  - (a) ASTM D1784 defines PVC cell class referenced below
  - (b) ASTM F1504 for PVC cell classification 12334 or 13223
  - (c) ASTM F1533 for polyethylene
  - (d) ASTM F714 for polyethylene min. cell classification 335420 and 2-4% carbon black
  - (e) ASTM F1606 for deformed polyethylene
  - (f) ASTM F1947 for folded PVC
  - (g) ASTM F1867 for folded / formed PVC Type A
  - (h) ASTM F1871 for PVC Type A
- (15) Submit to the Engineer Type 2 or Type 5 material certifications in accordance with Article 106-3 of the *Standard Specifications* by vendors or subcontractors for proof of long-term modulus of elasticity, 50-year sustained loading value, if the following values are not used in design calculations: 22,000 psi shall be used for HDPE, PE, PP; and 140,000 psi shall be used for PVC; or use values in accordance with *AASHTO LRFD Bridge Design Specifications*, Table 12.12.3.3-1, Mechanical Properties of Thermoplastic Pipe, if different and approved by the Engineer.

**(C) Category C HDPE, PE, PVC, PP, solid wall slip liners**

When HDPE, PE, PVC, PP, solid wall slip liners are specified in the contract, the liner system supplied by the Contractor shall conform to the following requirements and be provided in contract submittals for review and approval:

- (1) List host pipe diameter ranges for which the product is applicable;
- (2) Indicate corrosion potential/acid reaction potential;
- (3) Liner must be closed profile; i.e. no definable bell and spigot that protrudes from the outer wall of the pipe;
- (4) Certification on manufacturer's letterhead indicating that the Contractor is approved by the manufacturer to perform installation work;

- (5) Material safety data sheets for all hazardous chemicals that will be used on the job site. Identify the proposed use for each hazardous chemical and where it will be used in the work;
- (6) Calculated minimum thickness of liner;
- (7) Maximum allowable pulling and/or pushing force;
- (8) Grouting mix design and manufacturer recommendations;
- (9) Installation procedures and recommendations;
- (10) Provide inside diameter and outside diameter of pipe;
- (11) Provide and comply with specification for installation, and in accordance with Article 106-3 of the *Standard Specifications* provide Type 1 or Type 4 material certification of compliance with material specifications as applicable to the below, or equivalent as approved by the Engineer;
  - (a) ASTM D1784 defines PVC cell class referenced below
  - (b) ASTM D3350 defines PE cell class referenced below
  - (c) ASTM F714 for solid wall polyethylene min cell classification 345464 and 2-4% carbon black
  - (d) AASHTO M326 for solid wall polyethylene
  - (e) ASTM D3034 for solid wall PVC, min. cell classification 12454
  - (f) ASTM F679 for solid wall PVC, large diameter, min. cell classification 12454
  - (g) ASTM D2241 for solid wall PVC, min. cell classification 12454
  - (h) ASTM F585 for polyethylene slip-line
  - (i) ASTM F2620 for polyethylene heat fusion joining
- (12) Submit to the Engineer Type 2 or Type 5 material certifications in accordance with Article 106-3 of the *Standard Specifications* by vendors or subcontractors for proof of long-term modulus of elasticity, 50-year sustained loading value, if the following values are not used in design calculations: 22,000 psi shall be used for HDPE, PE, PP; and 140,000 psi shall be used for PVC; in accordance with *AASHTO LRFD Bridge Design Specifications*, Table 12.12.3.3-1, Mechanical Properties of Thermoplastic Pipe

**(D) Category D HDPE, PVC, PP corrugated, profile wall, steel reinforced, or spiral wound slip liners**

When HDPE, PVC, PP corrugated, profile wall, steel reinforced, or spiral wound slip liners are specified, the liner system supplied by the Contractor shall conform to the following requirements and be provided in contract submittals for review and approval:

- (1) List host pipe diameter ranges for which the product is applicable;
- (2) Indicate corrosion potential/acid reaction potential;
- (3) Certification on manufacturer's letterhead indicating that the Contractor is approved by the manufacturer to perform installation work;
- (4) Material safety data sheets for all hazardous chemicals that will be used on the job site. Identify the proposed use for each hazardous chemical and where it will be used in the work;
- (5) Calculated minimum thickness of liner;
- (6) Maximum allowable pulling and/or pushing force;
- (7) Grouting mix design and manufacturer recommendations;

- (8) Installation procedures and recommendations;
- (9) Provide and comply with specification for installation, and in accordance with Article 106-3 of the *Standard Specifications* provide Type 1 or Type 4 material certification of compliance with material specifications as applicable to the below, or equivalent as determined by the Engineer;
  - (a) ASTM D1784 defines PVC cell class referenced below
  - (b) AASHTO M294 for polyethylene profile wall (See Article 1032-7 of the *Standard Specifications*)
  - (c) ASTM F894 for profile polyethylene
  - (d) ASTM F2562 or F2435 for steel reinforced polyethylene min. cell classification 334452 and 2-4% carbon black
  - (e) AASHTO M304 for profile PVC (see Article 1032-8 of the *Standard Specifications*)
  - (f) ASTM F1803 for closed profile PVC
  - (g) ASTM F949 and F794 for corrugated PVC min cell classification 12454
  - (h) AASHTO M330 for corrugated polypropylene
  - (i) AASHTO MP20-13 for steel reinforced polyethylene ribbed
  - (j) ASTM F1735 PVC for profile strip / spiral wound, min. cell classification 12454. When steel reinforced, resin shall conform to ASTM D3350, min. cell classification 335420 and 2-4% carbon black. Steel fully encapsulated.
  - (k) ASTM F1697 PVC for profile strip / machine spiral wound, min. cell classification 13354 (for Type A) or 12344 (for Type B) or higher, as defined in Specification D1784. When steel reinforced, resin shall conform to ASTM D3350, min. cell classification 335420 and 2-4% carbon black. Steel fully encapsulated.
  - (l) ASTM F585 for polyethylene slip-line
  - (m) ASTM F1698 for PVC spiral wound
  - (n) ASTM F1741 for PVC machine spiral wound
- (10) Submit to the Engineer Type 2 or Type 5 material certifications in accordance with Article 106-3 of the *Standard Specifications* by vendors or subcontractors for proof of long-term modulus of elasticity, 50-year sustained loading value, if the following values are not used in design calculations: 22,000 psi shall be used for HDPE, PE, PP; and 140,000 psi shall be used for PVC; in accordance with *AASHTO LRFD Bridge Design Specifications*, Table 12.12.3.3-1, Mechanical Properties of Thermoplastic Pipe.

#### **(E) Category E - Spray-on liners**

Spray-on liners consist of conduit lining with spray applied, factory blended cementitious, geopolymer, or other material. The liner system supplied by the Contractor shall conform to the following requirements and be provided in contract submittals for review and approval:

- (1) List host pipe diameter ranges for which the product is applicable;
- (2) Indicate corrosion potential/acid reaction potential;
- (3) List liner material type;
- (4) List typical, minimum, maximum application thicknesses;
- (5) Include documentation of specification or standard practice for installation;

- (6) Minimum thickness of liner from design calculations;
- (7) Manufacturer moisture limitations (e.g. installation in the dry humidity restrictions, etc.);
- (8) Certification on manufacturer's letterhead indicating that the Contractor is approved by manufacturer to perform installation work;
- (9) Material safety data sheets for all hazardous chemicals that will be used on the job site. Identify the proposed use for each hazardous chemical and where it will be used in the work;
- (10) Site specific cure time;
- (11) Provide volume (cubic yards or cubic feet) of liner material planned for use in each host pipe. For example, cubic yards of dry, unmixed cementitious liner material. This must match the value provided by design calculations;
- (12) Ambient temperature range during installation;
- (13) Other submittals as appropriate for the type of spray-on liner, as determined by the Engineer;
- (14) Minimum thickness for cementitious or geopolymer liner material is 1 inch (clear of corrugations);
- (15) Cementitious and geopolymer liner material must fill the corrugations of the host pipe (if corrugated);
- (16) All liner thickness is measured above the corrugation crests, whether corrugations are filled or not;
- (17) For cementitious or geopolymer liners, submit to the Engineer Type 2 or Type 5 material certifications in accordance with Article 106-3 of the *Standard Specifications* for the categories below, and a letter of certification from the manufacturer that states the material to be used conforms to manufacturer specifications. Actual properties must meet or exceed the values used in structural calculations when field tested. The psi values in the following table shall be provided in the contract submittals for review and approval;

Property	Test Method	Duration	Provide Value
Compressive Strength	ASTM C 109	3 Day	psi
		28 Days	psi
Flexural Strength	ASTM C 78	7 Days	psi
		28 Days	psi
Modulus of Elasticity	ASTM C 469	28 Days	psi
Tensile Strength	ASTM C 496	28 Days	psi

- (18) For onsite or offsite Ready Mix or Project Produced cementitious or geopolymer liners (i.e. not "bag mixes" produced by a manufacturer), submit a mix design to the Engineer for review and approval;
- (19) Liners which exhibit Rigid Pipe behavior, such as Cementitious or geopolymer liners, require the following submittals. (Rigid Pipe behavior is characterized by cracking when subjected to 2% or greater deflection.);
  - (a) Provide Type 2 or Type 5 material certifications in accordance with Article 106-3 of the *Standard Specifications* for the compressive strength, flexural



- strength, modulus of elasticity, and tensile strength in accordance with the table above.
- (b) Provide liner structural designs for each pipe in Excel format to the Engineer using the cementitious tabs of the NCDOT-provided spreadsheet: 2021 03 25 *SAPL Design Worksheet Final Version 135417* where the *NCDOT Pipe Liner Manual* provides guidance on spreadsheet input values.
  - (c) Provide written justification to the Engineer for all user-input values contained in the spreadsheet described above. If default values are accepted as provided in the spreadsheet, it is acceptable to indicate for each value: *Default value verified and adopted.*
- (20) Liners which exhibit Flexible Pipe behavior (can withstand greater than 2% deflection without structural damage) shall be treated as Thermoplastic Pipe as described in the *NCDOT Pipe Liner Manual*. Cementitious and geopolymer liners are not eligible for this method. The following submittals are required:
- (a) Provide liner structural designs for each pipe in Excel format using the polymer tabs of the NCDOT-provided spreadsheet: 2021 03 25 *SAPL Design Worksheet Final Version 135417*.
  - (b) Provide written justification to the Engineer for all user-input values contained in the spreadsheet described above. If default values are accepted as provided in the spreadsheet, it is acceptable to indicate for each value: *Default value verified and adopted* where the *NCDOT Pipe Liner Manual* provides guidance on spreadsheet input values.
  - (d) Provide  $E_{SAPL}$ , Short-Term Circumferential Flexural Modulus of Liner Material. Vendor or subcontractor must provide value used in calculations. It shall be provided from test ASTM D790. Provide Type 2 or Type 5 material certifications in accordance with Article 106-3 of the *Standard Specifications* for value used in calculations.
  - (e) Provide  $E_{SAPL}$ , Long-Term Circumferential Flexural Modulus of Liner Material. Vendor or subcontractor must provide value used in calculations. It shall be provided from test ASTM D2990, using 50-year sustained loading value. In the absence of the ASTM D2990 standard tests, it is acceptable to use 50% of the short term flexural modulus described immediately above (provided by ASTM D790) as a value for the long term flexural modulus. Provide Type 2 or Type 5 material certifications in accordance with Article 106-3 of the *Standard Specifications* for value used in calculations. This value does not apply to, and is not required for arch host pipes.
  - (f) Provide  $S_b$ , Long-Term Ring-Bending Strain. Vendor or subcontractor must provide value used in calculations. It shall be provided from test. ASTM D5365. Provide Type 2 or Type 5 material certifications in accordance with Article 106-3 of the *Standard Specifications* for value used in calculations. This value does not apply to, and is not required for arch host pipes.
  - (g) Provide  $\sigma_R$  Compressive Strength (Stress Strength of Material Corresponding to 95% Lower Confidence Limit). Vendor or subcontractor must provide value used in calculations which shall be provided from test ASTM D695. Provide Type 2 or Type 5 material certifications in accordance with Article 106-3 of the *Standard Specifications* for value used

in calculations. This value applies only to arch host pipes, and is not required for round host pipes.

**(F) Category F - Smooth-wall steel pipe liner**

Smooth-wall steel pipe liner rehabilitation materials shall conform to Article 1032-5 of the *Standard Specifications*, except as altered herein.

Grade B pipe shall be used with minimum wall thicknesses as listed in the *NCDOT Pipe Liner Manual*.

The Contractor shall submit the following items to the Engineer:

- (1) Material safety data sheets for all hazardous chemicals that will be used on the job site. Identify the proposed use for each hazardous chemical and where it will be used in the work.
- (2) Grouting mix design and manufacturer recommendations.

**Construction Methods**

For all categories the Contractor shall perform pre-installation inspection, pipe cleanout, grout host pipe, inlet and outlet sealing, dewatering, and submit a disposal plan as follows:

**(A) Pre-Installation Inspection**

Perform a pre-installation video inspection of pipe using NASSCO certified personnel. Place the camera that is mounted on a rubber tired or tracked pipe rover that allows for a 360-degree inspection at the centerline of the pipe. Inspection equipment shall be capable of measuring protrusions and obstructions of 1/2 inch or greater. Provide a pipe profile, on which deflections that may affect the installation of the liner are located and noted. The inspection shall be performed in the presence of the Engineer, unless waived by the Engineer. Dewater the host pipe to the satisfaction of the Engineer, and in accordance with *NCDOT's Best Management Practices for Construction and Maintenance Activities*. A thorough culvert inspection is required to determine the number of existing "pipe to pipe" connections and the extent, if any, of obstruction removal and voids. Perform inspection by experienced personnel trained in locating breaks, obstacles, voids and service connections. Video inspections shall be clearly labeled on the media with the time, date, and location of the pipe inspected. Furnish a copy of the video inspection to the Engineer at least 10 days prior to the start of rehabilitative construction. In the event the Contractor's inspection shows the method of rehabilitation the Contractor has selected is no longer viable at that location as verified by the Engineer, select another allowable method, if specified, from those designated in the Designated Locations and Allowable Methods table found earlier in this special provision or as found elsewhere in the contract. *Pre Installation Inspection* will be considered incidental to the work of the line items of the contract, including mobilization of equipment, and production of records incorporated into the completed and accepted work.

**(B) Pipe Clean-out**

Clear the existing pipe(s) designated for rehabilitation of any debris, sediment, protrusions greater than 1/2 inch in height, and any other potential obstructions prior to the start of rehabilitation efforts. Thoroughly clean and prepare the host pipe prior to the liner installation. Conform to the cleaning recommendations of the liner manufacturer, and any additional requirements of this special provision of which the more stringent shall apply. In the absence of manufacturer recommendations, submit the proposed method for cleaning and preparing the host pipe for the Engineer's review and acceptance at least 10 working days prior to beginning the work at that location.

**(C) Grouting Host Pipe**

Perform grouting work described in the contract, prior to pipe liner installation to fill voids in the soil around the existing host pipe. Grouting to fill voids in the soil around the host pipe is not included in the scope of pipe lining described by this special provision and will be paid for as found elsewhere in this contract.

Grouting the annular space between the liner and the host pipe when the liner does not fit snugly against the host pipe is incidental to the *Pipe Rehabilitation* pay item.

**(D) Inlet & Outlet Sealing**

All pipe liner installations shall be sealed to the host pipe at the terminal ends of the liner to prevent flow between the liner and host pipe.

**(E) De-Watering**

Install all pipe liners and grout in dry conditions. De-water by diverting, pumping, or bypassing any water flow through an existing pipe or drainage system prior to and during the lining process. The method of de-watering is to be determined by the Contractor but must be approved by the Engineer prior to implementing.

**(F) Disposal Plan**

Submit a disposal plan to the Engineer a minimum of 10 days prior to installation. The disposal plan shall indicate how by-products and waste are to be contained, captured, transported offsite, and disposed of in accordance with project permits and local, state and federal regulations. It shall be the Contractor's responsibility to report and take appropriate corrective actions to remediate any water quality alteration resulting from lining operations in accordance with project permits and applicable local, state or federal regulations. The cost for such remediation shall be at the Contractor's expense.

**Category A – Cured-In-Place Pipe Liner Construction Methods**

Fabricate and install the cured-in-place pipe liner system in such a manner as to result in a maintained full contact tight fit to the internal circumference of the host pipe for its entire length.

The installation shall adhere to the cure times and temperatures stipulated in the manufacturer's recommended installation and cure specifications and the finished product shall be free of delamination, bubbling, rippling or other signs of installation failure.

Install per specification or standard practice for installation in accordance with (ASTM F1216 for inverted CIPP, or ASTM F1743 for pulled-in-place CIPP, or ASTM F2019 for pulled-in-place GRP CIPP, or ASTM F2599 for sectional inverted CIPP, or ASTM F3541 for sectional CIPP pushed or pulled in place unless otherwise approved by the Engineer).

Pulled-in-place liner installation must be accomplished without significant liner twisting, or stretching the liner greater than 1% of its original length during installation. At no time shall the pulling force, as measured by a Contractor-provided dynamometer or load cell, exceed that established by the liner manufacturer. For liner lengths greater than 100 feet, protect the pipe liner end using a device that uniformly distributes the applied load around the perimeter of the liner.

Curing for styrene-based, epoxy-based, and vinyl ester-based CIPP may be accomplished by water, steam or ultraviolet light and shall be in accordance with the liner manufacturer's recommendations.

Installation and curing requirements of pipe sections shall be in accordance with the manufacturer's recommendations for the specific product, as applicable. Furnish installation and curing requirements for the various flexible liners including individual components of the system, tube type (reinforced or non-reinforced), manufacturer name and type of resin including catalyst, volume of resin required to achieve proper impregnation and curing. All components of the systems shall be in accordance with manufacturer's recommendations for the specific system used, and all components shall include lot numbers and expiration dates.

Place an impermeable barrier immediately upstream and downstream of the host pipe, prior to liner insertion, to capture any possible raw resin spillage during installation and dispose of any materials in accordance with the submitted and approved disposal plan.

Where the pulled-in-place method of installation is used, install a semi-rigid plastic slip sheet over any interior portions of the host pipe that could tear the outer film or over any significant voids in the host pipe.

Reconnect the existing storm drain lateral connections immediately after the liner has been cured in place. Use robotic cutting devices to re-establish tie-ins in non-man accessible pipes.

Monitor temperature via a minimum of three thermocouples on the outer surface (interface between the host pipe and liner) of the liner (one each at the upstream and downstream ends and one approximately mid-length of the host pipe). Monitor pressure during inversion and curing, and maintain pressure between minimum and maximum allowable pressures as provided by the manufacturer. Log cure time-temperature and time-pressure data at 5-minute intervals and provide such information in a format acceptable to the Engineer for review and approval within 48 hours after completing the resin-curing process.

Thoroughly rinse the cured lined pipe with clean water prior to re-introducing flow.

Capture all cure water and/or steam condensate and rinse water and dispose of, in accordance with the submitted and approved disposal plan.

Within 21 days of completing the resin curing at a given culvert location, submit the test results from an ISO 17025 lab approved by the Engineer. The report must be signed by a representative of the independent testing lab. The report must include:

- (1) Thickness measurements as well as flexural strength and flexural modulus test results for field samples.
- (2) Description of the defects in the tested samples in terms of the effect on CIPP performance.

Make cured samples from the identical materials (tube, resin and catalyst) to be used for the CIPP. Identify each sample by date, contract number, drainage system number of the corresponding culvert, thickness, name of resin, and name of catalyst. The samples must be 6 by 16 inches in size, so that the testing lab can cut the sample into five pieces for testing. Comply with the following sampling procedures unless UV cured:

- (1) One sample will be made for each setup of the lining apparatus and tested for thickness and flexural properties. A setup is defined as the lining equipment being used to line one run of storm sewer with one continuous liner bag that undergoes one heating/curing/cooling cycle, which may contain multiple pipes and drainage structures in series.
- (2) Place one aluminum-plate clamped mold containing a flat plate sample, inside the downtube when heated circulated water is used, and in the silencer when steam is used during the resin curing period.
- (3) Seal each flat plate sample in a heavy-duty plastic envelope inside the mold.
- (4) Remove the cured flat plate sample after draining all of the moisture from the cured CIPP.

If UV cured, comply with field sampling procedures under ASTM F2019, Section 7: Recommended Inspection Practices.

Test the samples for flexural properties under ASTM D790, ASTM D5813, ASTM F1216, ASTM F1743, ASTM F2019, or ASTM F3541 as applicable unless otherwise approved by the Engineer. Verify that physical properties of the field samples comply with the minimum values under:

- (1) ASTM F1216, Table 1 (modified values), for heat cured polyester, vinyl ester, and epoxy resins. The flexural strength must be at least 5,000 psi. The flexural modulus must be at least 300,000 psi.
- (2) ASTM F2019, Table 1, for UV cured CIPP. The flexural strength must be at least 6,500 psi. The flexural modulus must be at least 725,000 psi. Comply with sampling and testing procedures under ASTM F2019, Section 7: Recommended Inspection Practices.

Test the samples for thickness. If heat cured, remove the film from the inner lining or preliner. If UV cured, remove the film from the inner and outer foil.

Measure the thickness of the liner at 3 spots on each deburred sample. Calculate the thickness as an average of the measurements.

If UV cured, comply with sampling and testing procedures under ASTM F2019, Section 7: Recommended Inspection Practices. If the culvert material is corrugated metal, measure the thickness at 3 spots that are along a line corresponding to the corrugation crests. Calculate the thickness as an average of at least 6 measurements.

CIPP may be rejected by the Engineer if any of the following occur:

- (1) Actual temperature and curing time and schedule do not comply with those shown in the authorized work plan;
- (2) Pressure deviates more than 1 psi from the required pressure;
- (3) At any time during installation the manufacturer's required minimum cool-down time or maximum cool-down rate is violated;
- (4) There are defects including:
  - (a) Concentrated ridges, including folds and wrinkles exceeding 8 percent of the CIPP diameter
  - (b) Dry spots
  - (c) Lifts
  - (d) Holes
  - (e) Tears
  - (f) Soft spots
  - (g) Blisters or bubbles however this does not include superficial bubbles in the inner plastic liner that do not penetrate into the felt
  - (h) Delaminations
  - (i) Gaps in the length of the CIPP
  - (j) Gaps or a loose fit between the exterior of the CIPP and the culvert
- (5) Test results indicate one of the following:
  - (a) If heat cured, the average of the test results for one prepared sample cut into pieces for testing does not have the specified modulus of elasticity, the specified flexural strength, nor either the specified modulus of elasticity or the specified flexural strength
  - (b) If UV cured, the average of the test results for one prepared sample cut into pieces for testing does not have the specified modulus of elasticity, the specified flexural strength, nor either the specified modulus of elasticity or the specified flexural strength
- (6) The liner thickness is less than the greater of either one of the following:
  - (a) Specified thickness
  - (b) Calculated minimum thickness shown in your authorized work plan
- (7) Materials and installation methods are not those shown in your authorized installation plan;
- (8) Defects are excessive or unrepairable;

- (9) CIPP is not continuous or does not fit tightly for the full length of the culvert;
- (10) If UV cured, and post installation inspections reveal signs of incomplete curing (dripping resin, etc.), trim liner obscuring uncured liner, re-wet, and re-cure with UV.

Post Installation Inspection – In addition to the inspection performed by the Department, the Contractor shall perform two post-installation video inspections using NASSCO certified personnel. The first inspection shall take place between 90 and 100 calendar days after completion of installation for each culvert or system to a single outfall. The second inspection shall take place 30 calendar days prior to the end of the liner warranty period (5 years, secured by construction bond). The camera shall be situated at the centerline of the pipe, and shall be mounted on a rubber tired or tracked pipe rover that allows for a 360-degree inspection. Inspection equipment shall be capable of measuring protrusions and obstructions of 1/2 inch or greater. The inspection shall be performed in the presence of the Engineer. Dewater the host pipe to the satisfaction of the Engineer. Video inspections shall be clearly labeled on the media with the time, date, and location of the pipe inspected. A copy of the video inspection shall be furnished to the Engineer for review and approval prior to acceptance of the work.

The finished liner may be rejected if not continuous over its entire length and free from visual defects such as foreign inclusions, joint separation, cracks, insufficient liner thickness, material loss, roughness, deformation, dry spots, pinholes, insufficient bonding to host pipe, delamination, or other material or installation deficiencies as described herein.

Remedies for rejection of liner - In the event the first post inspection of the installation reveals defects in localized areas of the liner pipe (comprising less than 20 percent of the pipe length) the localized defects shall be repaired as specified by the manufacturer. Where defects occur on 20 percent or more of the pipe length the defects shall be repaired, however, the Contractor will not be allowed to continue with his methodology of installation and/or the liner system used until he can demonstrate to the Engineer that he has remedied his operations to a sufficient level of quality as determined by the Engineer. All such remedial efforts shall be at the Contractor's expense. Further failure(s) to perform a proper installation may result in the disallowance of the use of that liner system and an adjustment in the cost or non-payment of the failed installations depending on the severity of the failure.

In the event the first post installation inspection is not conducted until all or most of the locations in the contract permitting this methodology have been performed, and the inspection reveals defects on 20 percent or more of the host pipe's length, then an adjustment in the cost or non-payment of the failed installations may be made by the Engineer depending on the severity of the failure.

In the event the second post inspection of the installation reveals defects, the Department may execute the option to call the construction bond to reimburse the Department for repairs or corrections, or to act as an adjustment in the cost, or both.

**Measurement and Payment**

*Pipe Rehabilitation* will be measured and paid for as the actual number of linear feet of pipe for the size, and method that has been incorporated into the completed and accepted work. Note: At locations shown in the Contract where multiple methods are permitted, the Contractor may select any of the methods specified, however, if only one method is specified, this will be the only method permitted at that location. This price shall include post installation inspection, cleaning and preparation of the host pipe, furnishing and installing the liner, lateral reconnection, coupling and expansion devices, annular cement grout, design (if necessary) and shop drawing preparation, furnishing and installing liner and all components of the liner system, capturing any discharges or releases during installation or curing operations, furnishing any documentation or fees required for effluent or condensate disposal, all testing and sampling including furnishing reports and pre and post installation video inspections, waste disposal costs, excavation, sheeting, shoring, disposing of surplus and unsuitable material; backfilling and backfill material; compaction, restoring existing surfaces, and clearing debris and obstructions.

*De-Watering* will be measured and paid in units by the day. Each instance of *De-Watering* paid includes de-watering for pre-inspection, installation, post inspections, and remediation (if necessary). All materials, equipment, labor, or other resources required to de-watering a site shall be incidental to the unit cost for *De-Watering*.

Grouting the annular space between the liner and the host pipe is incidental to the *Pipe Rehabilitation* pay item when the liner is a type that does not fit snugly against the host pipe. Otherwise grouting the voids in the soil around the host pipe is not included in the scope of pipe lining described in this special provision and will be paid for as found elsewhere in this contract.

Payment will be made under:

**Pay Item****Pay Unit**

(Size) Pipe Rehabilitation CIPP Liner

Linear Foot

**SITE INVESTIGATION AND REPRESENTATION:**

Reviewed 2/21/22

Div. 7 Bridge Maint.

The contractor acknowledges that he has satisfied himself as to the nature of the work, and general and local conditions; particularly those bearing on transportation, availability of labor, and State Regulations for safety required for the prosecution of the work and all matters which can in any way affect the work or cost thereof under this contract. Any failure by the Contractor to acquaint himself with all the available information concerning these conditions will not relieve him from the responsibility.



**TEMPORARY TRAFFIC CONTROL:**  
(7-23-25)

Div. 7

**General Requirements**

Maintain traffic on all roads in accordance with Divisions 10, 11 and 12 of the *NCDOT Standard Specifications* and the following provisions:

Install Work Zone Advance Warning Signs when work is within 40 feet from the edge of the travel lane in accordance with Standard Drawing No. 1101.01 of the *NCDOT Roadway Standard Drawings* prior to beginning any other work. If signs are installed more than 3 calendar days prior to the beginning of work, cover the signs until the work begins. Install each work zone advance warning sign separately and not on the same post or stand with any other sign.

When personnel and/or equipment are working within 15 feet of an open travel lane, close the nearest open shoulder using Standard Drawing No. 1101.04 of the *NCDOT Roadway Standard Drawings* unless the work area is protected by barrier or guardrail or a lane closure is installed.

When personnel and/or equipment are working within 5 feet of an open travel lane of an undivided facility, close the nearest open travel lane using Standard Drawing No. 1101.02 of the *NCDOT Roadway Standard Drawings* unless the work area is protected by barrier or guardrail.

When personnel and/or equipment are working within 10 feet of an open travel lane of a divided facility, close the nearest open travel lane using Standard Drawing No. 1101.02 of the *NCDOT Roadway Standard Drawings*, unless the work area is protected by barrier or guardrail.

When personnel and/or equipment are working within a lane of travel of an undivided or divided facility, close the lane using Standard Drawing No. 1101.02 of the *NCDOT 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. Perform work only when weather and visibility conditions allow safe operations as directed by the Engineer.

Do not work simultaneously within 15 feet on both sides of an open travel way, ramp, or loop within the same location, unless protected with guardrail or barrier.

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.

At the discretion of the Contractor, automated flagging assistance devices (AFAD) or portable traffic signals (PTS) may be used to assist, supplement, or replace human flaggers in accordance with the *Flaggers* provision found elsewhere in this contract.

### **Temporary Traffic Control (TTC)**

Refer to Standard Drawing No. 1101.02, 1101.03, 1101.04, 1101.11, 1110.01, 1110.02, 1115.01, 1130.01, 1135.01, 1145.01, 1150.01, 1165.01, and 1180.01 of the *NCDOT Roadway Standard Drawings* when closing a lane of travel or shoulder in the work zone.

Notify the Engineer 30 calendar days prior to any traffic pattern alteration.

Ensure all necessary signing is in place prior to altering any traffic pattern.

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 feet on-center in radii, and 3 feet off the edge of an open travelway. Refer to *NCDOT Standard Specifications* Sections 1130 (Drums), 1135 (Cones), and 1180 (Skinny Drums) for additional requirements.

Place additional sets of three channelizing devices (Drums, Cones, or Skinny Drums) perpendicular to the edge of travelway on 100 to 500 foot centers, as directed by the Engineer, when unopened lanes are closed to traffic.

Place Type III Barricades with "ROAD CLOSED" sign R11-2 attached, of sufficient length to close the entire roadway.

Install black on orange "DIP" (W8-2) and/or "BUMP" (W8-1) signs in advance of the uneven area in accordance with Standard Drawing 1101.11, or as directed by the Engineer.

### **Pavement Edge Drop Off Requirements**

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.

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 feet in advance and a

minimum of every half mile throughout the uneven area.

### **Project Requirements**

Failure to comply with the following requirements will result in a suspension of all other operations:

1. Prior to beginning work, the Contractor shall submit a written construction sequence for traffic control and construction lighting to the Engineer at the first pre-construction meeting and the sequence must be approved before closing a lane of traffic.
2. Obtain written approval of the Engineer before working in more than one location or setting up additional lane closures. The maximum length of any one lane closure is 1 mile unless otherwise directed by the Engineer.
3. If Lane Closure Restrictions apply, see Special Provision, "Intermediate Contract Times and Liquidated Damages".
4. Contractor shall conduct operations in an order such that water does not accumulate.
5. The Contractor on this and any adjacent projects, or subcontractors working within this project shall coordinate lane closure location, type, and direction with the Engineer to best maintain lane continuity through the limits of this and adjacent projects.
6. Provide appropriate construction lighting in accordance with Section 1413 of the *NCDOT Standard Specifications*.

### **MEASUREMENT AND PAYMENT**

Temporary traffic control work, including, but not limited to installation and removal of portable signs, cones, drums, skinny drums, flaggers, AFAD's, changeable message boards, truck mounted attenuators, flashing arrow panels, portable lighting and pilot vehicles will be paid at the contract unit price for each type of lane closure. Additional flashing arrow panels and message boards beyond those shown in the *Roadway Standard Drawings* required by the Engineer will be paid as extra work in accordance with Article 104-7 of the Standard Specifications.

All "Lane Closure" items include the work of satisfactorily installing and removing work zone advance and/or general warning signs, including, but not limit to, furnishing, locating, installing, covering, uncovering and removing stationary signs.

Measurement and payment for Traffic Control will be made for each satisfactorily installed "Lane Closure" or "Lane Closure Shift" as described below.

Payment will be made under:

<b>Pay Item</b>	<b>Unit</b>
Traffic Control Lane Closure	Each
Traffic Control Divided Multilane Roadway Single Lane Closure	Each
Traffic Control Divided Multilane Roadway Two or More Lanes	Each
Traffic Control Shoulder Closure	Each

**BASIS OF PAYMENT:**

(2/18/22)(Rev 3/25/25)

DIV 7

The quantities contained herein are estimated only and the quantity to be paid for shall be the actual quantities which were used on the project. All work items, other than those listed on the Bid Form contained in the Contract Proposal, necessary to complete this work will be considered incidental in nature and no further compensation will be made.

The Contractor will submit a request for payment on an interval approved by the Engineer. Compensation for all pay items shall be in accordance with the Standard Specifications. The amount of the payment will be based on the work accomplished and accepted on the last day of the approved pay period.

Requests for payment can be made by submitting an **original** invoice and an **original Subcontractor Payment Information form (DBE-IS)**, which includes all subcontractor payments. The form shall be completely and legibly filled out with all appropriate information supplied and shall be signed by an authorized representative of the Contractor.

The invoice for work performed shall contain the following:

- 1) Company Name and Address
- 2) DUE UPON REQUEST
- 3) REMIT TO address (place REMIT TO above the address)

The invoice shall also be subdivided by worksite location and include at each location of work:

- 1) Contract and WBS number
- 2) Unique location identifier given by the Project Inspector or Engineer. This identifier is the Work Order Number assigned by the Engineer or Project Inspector.
- 3) General location of work site
- 4) Dates worked at location, including the start and end dates
- 5) Line Code for contract pay item
- 6) Quantity of line items, including Unit of Measurement, per the contract
- 7) Sub-total cost at each location of work

**RESUBMITTALS: If an invoice has been sent in for correction, the original invoice number must be shown. Do not renumber the invoice. Label the invoice as a resubmittal.**

If the request for payment is made by Contractor's Invoice, the Invoice shall be submitted to **Jeff Brown, Bridge Maintenance Engineer** by mail at the following address:

**Jeff Brown, Bridge Maintenance Engineer  
4261 Camp Burton Road  
McLeansville, NC 27301**

**FAXED INVOICES WILL NOT BE PROCESSED**

All invoice items and unit costs shall correspond to contract pay items. In the event of error or discrepancy in items or unit costs, the Department may return the invoice to the contractor for correction. When the Engineer has determined the quantities submitted for payment by the Contractor are correct, the invoice will be processed for payment. Invoices must be "electronically scanned" and the image is transmitted to the Purchasing Unit to verify payment. To avoid confusion and delay of payments, the invoice should be positively identified and associated with the Purchase Order by including the Purchase Order Number, an invoice sequence number and the invoice date on the Invoice.

**STANDARD SPECIAL PROVISION****AVAILABILITY OF FUNDS – TERMINATION OF CONTRACTS**

(5-20-08)(Rev. 1-16-24)

Z-2

*General Statute 143C-6-11. (h) Highway Appropriation* is hereby incorporated verbatim in this contract as follows:

(h) Amounts Encumbered. – Transportation project appropriations may be encumbered in the amount of allotments made to the Department of Transportation by the Director for the estimated payments for transportation project contract work to be performed in the appropriation fiscal year. The allotments shall be multiyear allotments and shall be based on estimated revenues and shall be subject to the maximum contract authority contained in *General Statute 143C-6-11(c)*. Payment for transportation project work performed pursuant to contract in any fiscal year other than the current fiscal year is subject to appropriations by the General Assembly. Transportation project contracts shall contain a schedule of estimated completion progress, and any acceleration of this progress shall be subject to the approval of the Department of Transportation provided funds are available. The State reserves the right to terminate or suspend any transportation project contract, and any transportation project contract shall be so terminated or suspended if funds will not be available for payment of the work to be performed during that fiscal year pursuant to the contract. In the event of termination of any contract, the contractor shall be given a written notice of termination at least 60 days before completion of scheduled work for which funds are available. In the event of termination, the contractor shall be paid for the work already performed in accordance with the contract specifications.

Payment will be made on any contract terminated pursuant to the special provision in accordance with Subarticle 108-13(D) of the *Standard Specifications*.

**ERRATA**

(1-16-24)(Rev. 9-16-25)

Z-4

Revise the *2024 Standard Specifications* as follows:

**Division 3**

**Page 3-5, Article 305-2 MATERIALS, after line 16,** replace " 1032-3(A)(7)" with "1032-3" and add the item "Galvanized Corrugated Steel Pipe" with Section "1032-3".

**Page 3-6, Article 310-2 MATERIALS, after line 9,** add the item "Galvanized Corrugated Steel Pipe" with Section "1032-3".

**Division 6**

**Page 6-15, Article 610-1 DESCRIPTION, line 20,** replace "The work includes" with "The work includes, but is not limited to,".

**Page 6-15, Article 610-1 DESCRIPTION, line 22,** replace "applying the tack coat as specified." with "applying the tack coat in accordance with Section 605.".

**Page 6-30, Article 610-14 DENSITY ACCEPTANCE, line 39,** replace “QC process.” with “QC process in accordance with Section 609.”.

**Page 6-31, Article 610-16 MEASUREMENT AND PAYMENT, line 13,** replace "*Hot Mix Asphalt Pavement*" with "*Asphalt Concrete \_\_\_\_\_ Course, Type \_\_\_\_\_*".

**Page 6-50, Subarticle 661-4(A) Equipment, lines 4-7,** replace the first two sentences of the seventh paragraph with the following:

When an erected fixed stringline is utilized for longitudinal profile and cross slope control furnish and erect the necessary guide line for the equipment.

#### **Division 8**

**Page 8-27, Article 846-1 DESCRIPTION, line 8,** delete “4 inch” from the first paragraph.

#### **Division 9**

**Page 9-17, Article 904-4 MEASUREMENT AND PAYMENT, prior to line 1,** replace " Sign Erection, Relocate Type (Ground Mounted)" with “Sign Erection, Relocate Type \_\_\_\_ (Ground Mounted)”.

#### **Division 10**

**Page 10-51, Article 1024-4 WATER, prior to line 1,** delete the “unpopulated blank row” in Table 1024-2 between “Time of set, deviation from control” and “Chloride Ion Content, Max.”.

**Page 10-170, Subarticle 1081-1(C) Requirements, line 4,** replace "maximum" with “minimum”.

#### **Division 11**

**Page 11-15, Article 1160-4 MEASUREMENT AND PAYMENT, line 24,** replace “Where barrier units are moved more than one” with “Where barrier units are moved more than once”.

#### **Division 15**

**Page 15-10, Article 1515-4 MEASUREMENT AND PAYMENT, lines 11,** replace " All piping" with “All labor, the manhole, other materials, excavation, backfilling, piping”.

#### **Division 16**

**Page 16-14, Article 1633-5 MEASUREMENT AND PAYMENT, line 20-24 and prior to line 25,** delete and replace with the following " *Flocculant* will be measured and paid in accordance with Article 1642-5 applied to the temporary rock silt checks.”

**Page 16-3, Article 1609-2 MATERIALS, after line 26,** replace "Type 4" with “Type 4a”.

**Page 16-25, Article 1644-2 MATERIALS, after line 22, replace "Type 4" with "Type 4a".**

### **Division 17**

**Page 17-15, Article 1715-4 MEASUREMENT AND PAYMENT, line 23, delete and replace "1.25" with "1-1/4".**

**Page 17-15, Article 1715-4 MEASUREMENT AND PAYMENT, line 24, delete and replace "(1.25" with "1-1/4".**

### **PLANT AND PEST QUARANTINES**

**(Imported Fire Ant, Guava Root Knot Nematode, Spongy Moth (formerly known as gypsy moth), Witchweed, Cogon Grass, And Any Other Regulated Noxious Weed or Plant Pest)**

(3-18-03)(Rev. 3-18-25)

Z-04a

#### **Within Quarantined Area**

This project may be within a county regulated for plant and/or pests. If the project or any part of the Contractor's operations is located within a quarantined area, thoroughly clean all equipment prior to moving out of the quarantined area. Comply with federal/state regulations by obtaining a certificate or limited permit for any regulated article moving from the quarantined area.

#### **Originating in a Quarantined County**

Obtain a certificate or limited permit issued by the N.C. Department of Agriculture/United States Department of Agriculture. Have the certificate or limited permit accompany the article when it arrives at the project site.

#### **Contact**

Contact the N.C. Department of Agriculture/United States Department of Agriculture at 1-800-206-9333, 919-707-3730, or <https://www.ncagr.gov/divisions/plant-industry/plant-protection/plant-industry-plant-pest-quarantines> to determine those specific project sites located in the quarantined area or for any regulated article used on this project originating in a quarantined county.

#### **Regulated Articles Include**

1. Soil, sand, gravel, compost, peat, humus, muck, and decomposed manure, separately or with other articles. This includes movement of articles listed above that may be associated with cut/waste, ditch pulling, and shoulder cutting.
2. Plants with roots including grass sod.
3. Plant crowns and roots.
4. Bulbs, corms, rhizomes, and tubers of ornamental plants.
5. Hay, straw, fodder, and plant litter of any kind.



6. Clearing and grubbing debris.
7. Used agricultural cultivating and harvesting equipment.
8. Used earth-moving equipment.
9. Any other products, articles, or means of conveyance of any character, if determined by an inspector present a hazard of spreading imported fire ant, guava root knot nematode, spongy moth (formerly known as gypsy moth), witchweed, cogon grass, or other regulated noxious weed or plant pest.

**MINIMUM WAGES**

(7-21-09)

**FEDERAL:** The Fair Labor Standards Act provides that with certain exceptions every employer shall pay wages at the rate of not less than SEVEN DOLLARS AND TWENTY FIVE CENTS (\$7.25) per hour.

**STATE:** The North Carolina Minimum Wage Act provides that every employer shall pay to each of his employees, wages at a rate of not less than SEVEN DOLLARS AND TWENTY FIVE CENTS (\$7.25) per hour.

The minimum wage paid to all skilled labor employed on this contract shall be SEVEN DOLLARS AND TWENTY FIVE CENTS (\$7.25) per hour.

The minimum wage paid to all intermediate labor employed on this contract shall be SEVEN DOLLARS AND TWENTY FIVE CENTS (\$7.25) per hour.

The minimum wage paid to all unskilled labor on this contract shall be SEVEN DOLLARS AND TWENTY FIVE CENTS (\$7.25) per hour.

This determination of the intent of the application of this act to the contract on this project is the responsibility of the Contractor.

The Contractor shall have no claim against the Department of Transportation for any changes in the minimum wage laws, Federal or State. It is the responsibility of the Contractor to keep fully informed of all Federal and State Laws affecting his contract.

**TITLE VI AND NONDISCRIMINATION:**

(6-28-77)(Rev 1/16/2024)

Z-6

The North Carolina Department of Transportation is committed to carrying out the U.S. Department of Transportation's policy of ensuring nondiscrimination in the award and administration of contracts.

The provisions of this section related to United States Department of Transportation (US DOT) Order 1050.2A, Title 49 Code of Federal Regulations (CFR) part 21, 23 United States Code (U.S.C.) 140 and 23 CFR part 200 (or 49 CFR 303, 49 U.S.C. 5332 or 49 U.S.C. 47123) are applicable to all North Carolina Department of Transportation (NCDOT) contracts and to all

related subcontracts, material supply, engineering, architectural and other service contracts, regardless of dollar amount. Any Federal provision that is specifically required not specifically set forth is hereby incorporated by reference.

**(1) Title VI Assurances (USDOT Order 1050.2A, Appendix A)**

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

**(a) Compliance with Regulations**

The contractor (hereinafter includes consultants) shall comply with the Acts and the Regulations relative to Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

**(b) Nondiscrimination**

The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

**(c) Solicitations for Subcontractors, Including Procurements of Materials and Equipment**

In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Nondiscrimination on the grounds of race, color, or national origin.

**(d) Information and Reports**

The contractor shall provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the FHWA to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor shall so certify to the Recipient or the FHWA, as appropriate, and shall set forth what efforts it has made to obtain the information.

**(e) Sanctions for Noncompliance:**

In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it and/or the FHWA may determine to be appropriate, including, but not limited to:

- (i) Withholding payments to the contractor under the contract until the contractor complies; and/or
- (ii) Cancelling, terminating, or suspending a contract, in whole or in part.

**(f) Incorporation of Provisions**

The contractor shall include the provisions of paragraphs (a) through (f) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor shall take action with respect to any subcontract or procurement as the Recipient or the FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

**(2) Title VI Nondiscrimination Program (23 CFR 200.5(p))**

The North Carolina Department of Transportation (NCDOT) has assured the USDOT that, as a condition to receiving federal financial assistance, NCDOT will comply with Title VI of the Civil Rights Act of 1964 and all requirements imposed by Title 49 CFR part 21 and related nondiscrimination authorities to ensure that no person shall, on the ground of race, color, national origin, limited English proficiency, sex, age, or disability (including religion/creed or income-level, where applicable), be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any programs, activities, or services conducted or funded by NCDOT. Contractors and other organizations under contract or agreement with NCDOT must also comply with Title VI and related authorities, therefore:

(a) During the performance of this contract or agreement, contractors (e.g., subcontractors, consultants, vendors, prime contractors) are responsible for complying with NCDOT's Title VI Program. Contractors are not required to prepare or submit Title VI Programs. To comply with this section, the prime contractor shall:

1. Post NCDOT's Notice of Nondiscrimination and the Contractor's own Equal Employment Opportunity (EEO) Policy in conspicuous locations accessible to all employees, applicants and subcontractors on the jobsite.
2. Physically incorporate the required Title VI clauses into all subcontracts on federally-assisted and state-funded NCDOT projects, and ensure inclusion by subcontractors into all lower-tier subcontracts.
3. Required Solicitation Language. The Contractor shall include the following notification in all solicitations for bids and requests for work or material, regardless of funding source:

"The North Carolina Department of Transportation, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award. In accordance with other related nondiscrimination authorities, bidders and contractors will also not be discriminated against on the grounds of sex, age, disability, low-income level, creed/religion, or limited English proficiency in consideration for an award."

4. Physically incorporate the FHWA-1273, in its entirety, into all subcontracts and subsequent lower tier subcontracts on Federal-aid highway construction contracts only.
  5. Provide language assistance services (i.e., written translation and oral interpretation), free of charge, to LEP employees and applicants. Contact NCDOT OCR for further assistance, if needed.
  6. For assistance with these Title VI requirements, contact the NCDOT Title VI Nondiscrimination Program at 1-800-522-0453.
- (b) Subrecipients (e.g. cities, counties, LGAs, planning organizations) may be required to prepare and submit a Title VI Plan to NCDOT, including Title VI Assurances and/or agreements. Subrecipients must also ensure compliance by their contractors and subrecipients with Title VI. (23 CFR 200.9(b)(7))
- (c) If reviewed or investigated by NCDOT, the contractor or subrecipient agrees to take affirmative action to correct any deficiencies found within a reasonable time period, not to exceed 90 calendar days, unless additional time is granted by NCDOT. (23 CFR 200.9(b)(15))
- (d) The Contractor is responsible for notifying subcontractors of NCDOT's External Discrimination Complaints Process.
1. Applicability  
Title VI and related laws protect participants and beneficiaries (e.g., members of the public and contractors) from discrimination by NCDOT employees, subrecipients and contractors, regardless of funding source.
  2. Eligibility  
Any person—or class of persons—who believes he/she has been subjected to discrimination based on race, color, national origin, Limited English Proficiency (LEP), sex, age, or disability (and religion in the context of employment, aviation, or transit) may file a written complaint. The law also prohibits intimidation or retaliation of any sort.
  3. Time Limits and Filing Options  
Complaints may be filed by the affected individual(s) or a representative and must be filed no later than 180 calendar days after the following:
    - (i) The date of the alleged act of discrimination; or
    - (ii) The date when the person(s) became aware of the alleged discrimination; or
    - (iii) Where there has been a continuing course of conduct, the date on which that conduct was discontinued or the latest instance of the conduct.Title VI and related discrimination complaints may be submitted to the following entities:
    - North Carolina Department of Transportation, Office of Civil Rights, Title VI Program, 1511 Mail Service Center, Raleigh, NC 27699-1511; toll free 1-800-522-0453
    - Federal Highway Administration, North Carolina Division Office, 310 New Bern Avenue, Suite 410, Raleigh, NC 27601, 919-747-7010

- US Department of Transportation, Departmental Office of Civil Rights, External Civil Rights Programs Division, 1200 New Jersey Avenue, SE, Washington, DC 20590; 202-366-4070

4. Format for Complaints

Complaints must be in writing and signed by the complainant(s) or a representative, and include the complainant's name, address, and telephone number. Complaints received by fax or e-mail will be acknowledged and processed. Allegations received by telephone will be reduced to writing and provided to the complainant for confirmation or revision before processing. Complaints will be accepted in other languages, including Braille.

5. Discrimination Complaint Form

Contact NCDOT Civil Rights to receive a full copy of the Discrimination Complaint Form and procedures.

6. Complaint Basis

Allegations must be based on issues involving race, color, national origin (LEP), sex, age, disability, or religion (in the context of employment, aviation or transit). "Basis" refers to the complainant's membership in a protected group category.

**TABLE 103-1  
COMPLAINT BASIS**

Protected Categories	Definition	Examples	Applicable Nondiscrimination Authorities
Race and Ethnicity	An individual belonging to one of the accepted racial groups; or the perception, based usually on physical characteristics that a person is a member of a racial group	Black/African American, Hispanic/Latino, Asian, American Indian/Alaska Native, Native Hawaiian/Pacific Islander, White	Title VI of the Civil Rights Act of 1964; 49 CFR Part 21; 23 CFR 200; 49 U.S.C. 5332(b); 49 U.S.C. 47123. <i>(Executive Order 13166)</i>
Color	Color of skin, including shade of skin within a racial group	Black, White, brown, yellow, etc.	
National Origin <i>(Limited English Proficiency)</i>	Place of birth. Citizenship is not a factor. <i>(Discrimination based on language or a person's accent is also covered)</i>	Mexican, Cuban, Japanese, Vietnamese, Chinese	
Sex	Gender. The sex of an individual. <i>Note: Sex under this program does not include sexual orientation.</i>	Women and Men	1973 Federal-Aid Highway Act; 49 U.S.C. 5332(b); 49 U.S.C. 47123.
Age	Persons of any age	21-year-old person	Age Discrimination Act of 1975 49 U.S.C. 5332(b); 49 U.S.C. 47123.
Disability	Physical or mental impairment, permanent or temporary, or perceived.	Blind, alcoholic, para-amputee, epileptic, diabetic, arthritic	Section 504 of the Rehabilitation Act of 1973; Americans with Disabilities Act of 1990

Religion (in the context of employment) <i>(Religion/ Creed in all aspects of any aviation or transit-related construction)</i>	An individual belonging to a religious group; or the perception, based on distinguishable characteristics that a person is a member of a religious group. In practice, actions taken as a result of the moral and ethical beliefs as to what is right and wrong, which are sincerely held with the strength of traditional religious views. <b>Note:</b> Does not have to be associated with a recognized religious group or church; if an individual sincerely holds to the belief, it is a protected religious practice.	Muslim, Christian, Sikh, Hindu, etc.	Title VII of the Civil Rights Act of 1964; 23 CFR 230; FHWA-1273 Required Contract Provisions. (49 U.S.C. 5332(b); 49 U.S.C. 47123)
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### (3) Pertinent Nondiscrimination Authorities

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest agrees to comply with the following non-discrimination statutes and authorities, including, but not limited to:

- (a) Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- (b) The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- (c) Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
- (d) Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability) and 49 CFR Part 27;
- (e) The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- (f) Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- (g) The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- (h) Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- (i) The Federal Aviation Administration's Nondiscrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

- (j) Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
  - (k) Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
  - (l) Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).
  - (m) Title VII of the Civil Rights Act of 1964 (42 U.S.C. § 2000e et seq., Pub. L. 88-352), (prohibits employment discrimination on the basis of race, color, religion, sex, or national origin).
- (4) **Additional Title VI Assurances**
- \*\*The following Title VI Assurances (Appendices B, C and D) shall apply, as applicable*
- (a) **Clauses for Deeds Transferring United States Property (1050.2A, Appendix B)**  
The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of Assurance 4.

NOW, THEREFORE, the U.S. Department of Transportation as authorized by law and upon the condition that the North Carolina Department of Transportation (NCDOT) will accept title to the lands and maintain the project constructed thereon in accordance with the North Carolina General Assembly, the Regulations for the Administration of the Federal-Aid Highway Program, and the policies and procedures prescribed by the Federal Highway Administration of the U.S. Department of Transportation in accordance and in compliance with all requirements imposed by Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 U.S.C. § 2000d to 2000d-4), does hereby remise, release, quitclaim and convey unto the NCDOT all the right, title and interest of the U.S. Department of Transportation in and to said lands described in Exhibit A attached hereto and made a part hereof.

(HABENDUM CLAUSE)

TO HAVE AND TO HOLD said lands and interests therein unto the North Carolina Department of Transportation (NCDOT) and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which the real property or structures are used for a purpose for which Federal financial assistance is extended or for another

purpose involving the provision of similar services or benefits and will be binding on the NCDOT, its successors and assigns.

The NCDOT, in consideration of the conveyance of said lands and interests in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, that (1) no person will on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located wholly or in part on, over, or under such lands hereby conveyed [,] [and]\* (2) that the NCDOT will use the lands and interests in lands and interests in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations and Acts may be amended [, and (3) that in the event of breach of any of the above-mentioned nondiscrimination conditions, the Department will have a right to enter or re-enter said lands and facilities on said land, and that above described land and facilities will thereon revert to and vest in and become the absolute property of the U.S. Department of Transportation and its assigns as such interest existed prior to this instruction].\*

(\*Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to make clear the purpose of Title VI.)

(b) Clauses for Transfer of Real Property Acquired or Improved Under the Activity, Facility, or Program (1050.2A, Appendix C)

The following clauses will be included in deeds, licenses, leases, permits, or similar instruments entered into by the North Carolina Department of Transportation (NCDOT) pursuant to the provisions of Assurance 7(a):

1. The (grantee, lessee, permittee, etc. as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add "as a covenant running with the land"] that:
  - (i.) In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a U.S. Department of Transportation activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Acts and Regulations (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.
2. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and



facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued. \*

3. With respect to a deed, in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will have the right to enter or re-enter the lands and facilities thereon, and the above described lands and facilities will there upon revert to and vest in and become the absolute property of the NCDOT and its assigns. \*

(\*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

- (c) Clauses for Construction/Use/Access to Real Property Acquired Under the Activity, Facility or Program (1050.2A, Appendix D)

The following clauses will be included in deeds, licenses, permits, or similar instruments/ agreements entered into by the North Carolina Department of Transportation (NCDOT) pursuant to the provisions of Assurance 7(b):

1. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, "as a covenant running with the land") that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the (grantee, licensee, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the Acts and Regulations, as amended, set forth in this Assurance.
2. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above Non- discrimination covenants, the NCDOT will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued. \*
3. With respect to deeds, in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will there upon revert to and vest in and become the absolute property of the NCDOT and its assigns. \*

(\*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

## **ON-THE-JOB TRAINING**

(10-16-07) (Rev. 4-21-15)

Z-10

### **Description**

The North Carolina Department of Transportation will administer a custom version of the Federal On-the-Job Training (OJT) Program, commonly referred to as the Alternate OJT Program. All contractors (existing and newcomers) will be automatically placed in the Alternate Program. Standard OJT requirements typically associated with individual projects will no longer be applied

at the project level. Instead, these requirements will be applicable on an annual basis for each contractor administered by the OJT Program Manager.

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

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.

### **Minorities and Women**

Developing, training and upgrading of minorities and women toward journeyman level status is a primary objective of this special training 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 Manager, will assign training goals for a calendar year based on the contractors' past three years' activity and the contractors' anticipated upcoming year's activity with the Department. At the beginning of each year, all contractors eligible 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 provide a self-imposed on-the-job training program for the calendar year. This agreement will include a specific number of annual training goals agreed to by both parties. The number of training assignments may range from 1 to 15 per contractor per calendar year. The Contractor shall sign an agreement 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. Preference shall be given to providing training in the following skilled work classifications:

Equipment Operators	Office Engineers
Truck Drivers	Estimators
Carpenters	Iron / Reinforcing Steel Workers
Concrete Finishers	Mechanics
Pipe Layers	Welders

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 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 apprentices or trainees in each occupation shall be in their first year of apprenticeship or 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 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 employed by him on the contract work who is 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.

## Fuel Usage Factor Adjustment Form for Paper Bid

Contract Number	
County	
Contractor Name	
HICAMS Vendor Number	

Select a Fuel Usage Factor for each of the Asphalt Material Descriptions to be used on the project. Within the Selected Fuel Usage Factor column, choose either 0.90 or 2.90 Gallons per Ton for the corresponding asphalt material description.

The Selected Fuel Usage Factor chosen will be used for the entire contract duration.

Description	Unit	Selected Fuel Usage Factor	
		0.90	2.90
Asphalt Concrete Base Course, Type B25.0C	Gal/Ton	<input type="checkbox"/>	<input type="checkbox"/>
Asphalt Concrete Intermediate Course, Type I19.0C	Gal/Ton	<input type="checkbox"/>	<input type="checkbox"/>
Asphalt Concrete Surface Course, Type SA-1	Gal/Ton	<input type="checkbox"/>	<input type="checkbox"/>
Asphalt Concrete Surface Course, Type SA-1 (Leveling Course)	Gal/Ton	<input type="checkbox"/>	<input type="checkbox"/>
Asphalt Concrete Surface Course, Type S4.75	Gal/Ton	<input type="checkbox"/>	<input type="checkbox"/>
Asphalt Concrete Surface Course, Type S4.75 (Leveling Course)	Gal/Ton	<input type="checkbox"/>	<input type="checkbox"/>
Asphalt Concrete Surface Course, Type S9.5B	Gal/Ton	<input type="checkbox"/>	<input type="checkbox"/>
Asphalt Concrete Surface Course, Type S9.5B (Leveling Course)	Gal/Ton	<input type="checkbox"/>	<input type="checkbox"/>
Asphalt Concrete Surface Course, Type S9.5C	Gal/Ton	<input type="checkbox"/>	<input type="checkbox"/>
Asphalt Concrete Surface Course, Type S9.5C (Leveling Course)	Gal/Ton	<input type="checkbox"/>	<input type="checkbox"/>
Asphalt Concrete Surface Course, Type S9.5D	Gal/Ton	<input type="checkbox"/>	<input type="checkbox"/>
Asphalt Concrete Surface Course, Type S9.5D (Leveling Course)	Gal/Ton	<input type="checkbox"/>	<input type="checkbox"/>
Open-Graded Asphalt Friction Course	Gal/Ton	<input type="checkbox"/>	<input type="checkbox"/>
Ultra-thin Bonded Wearing Course	Gal/Ton	<input type="checkbox"/>	<input type="checkbox"/>
Permeable Asphalt Drainage Course, Type <input type="text"/>	Gal/Ton	<input type="checkbox"/>	<input type="checkbox"/>
Sand Asphalt Surface Course, Type <input type="text"/>	Gal/Ton	<input type="checkbox"/>	<input type="checkbox"/>

If the Contractor does not mark either Fuel Usage Factor or marks both Fuel Usage Factors for an asphalt item description, the 2.90 Fuel Usage Factor shall be used for that asphalt line item.

\_\_\_\_\_  
Signature, Title

\_\_\_\_\_  
Dated

\_\_\_\_\_  
Print Name, Title

Revised 11-15-2022

**LISTING OF MBE/WBE SUBCONTRACTORS**

Sheet of

Firm Name and Address	Circle One	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item
Name <i>N/A</i> Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				

\* The Dollar Volume shown in this column shall be the Actual Price Agreed Upon by the Prime Contractor and the MBE/WBE subcontractor, and these prices will be used to determine the percentage of the MBE/WBE participation in the contract.

\*\* Dollar Volume of MBE/WBE Subcontractor Percentage of Total Contract Bid Price:

*If firm is a Material Supplier Only, show Dollar Volume as 60% of Agreed Upon Amount from Letter of Intent.*

*If firm is a Manufacturer, show Dollar Volume as 100% of Agreed Upon Amount from Letter of Intent.*

## LISTING OF MBE/WBE SUBCONTRACTORS

Sheet \_\_\_\_\_ of \_\_\_\_\_

Firm Name and Address	Circle One	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item
Name <b>N/A</b> Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				
Name Address	MBE WBE				

\*\* Dollar Volume of MBE Subcontractor \$ \_\_\_\_\_

MBE Percentage of Total Contract Bid Price \_\_\_\_\_%

\*\* Dollar Volume of WBE Subcontractor \$ \_\_\_\_\_

WBE Percentage of Total Contract Bid Price \_\_\_\_\_%

\*The Dollar Volume shown in this column shall be the Actual Price Agreed Upon by the Prime Contractor and the MBE/WBE subcontractor, and these prices will be used to determine the percentage of the MBE/WBE participation in the contract.

\*\* Dollar Volume of MBE/WBE Subcontractor Percentage of Total Contract Bid Price.

If firm is a Material Supplier Only, show Dollar Volume as 60% of Agreed Upon Amount from Letter of Intent.

If firm is a Manufacturer, show Dollar Volume as 100% of Agreed Upon Amount from Letter of Intent.

**ADDENDA**

**ADDENDUM #1**

I, \_\_\_\_\_  
(SIGNATURE)

representing \_\_\_\_\_

Acknowledge receipt of Addendum #1.

**ADDENDUM #2**

I, \_\_\_\_\_  
(SIGNATURE)

representing \_\_\_\_\_

Acknowledge receipt of Addendum #2.

**ADDENDUM #3**

I, \_\_\_\_\_  
(SIGNATURE)

representing \_\_\_\_\_

Acknowledge receipt of Addendum #3.



**\*AWARD LIMITS ON MULTIPLE PROJECTS\***

It is the desire of the Proposer to be awarded contracts, the value of which will not exceed a total of \$ \_\_\_\_\_, for those projects indicated below on which bids are being opened on the same date as shown in the Proposal Form. Individual projects shall be indicated by placing the project number and county in the appropriate place below. Projects not selected will not be subject to an award limit.

\_\_\_\_\_  
(Project Number)\_\_\_\_\_  
(County)\_\_\_\_\_  
(Project Number)\_\_\_\_\_  
(County)\_\_\_\_\_  
(Project Number)\_\_\_\_\_  
(County)\_\_\_\_\_  
(Project Number)\_\_\_\_\_  
(County)

\*If a Proposer desires to limit the total amount of work awarded to him in this letting, he shall state such limit in the space provided above in the second line of this form.

It is agreed that in the event that I am (we are) the successful bidder on indicated projects, the total value of which is more than the above stipulated award limits, the Board of Transportation will award me (us) projects from among those indicated which have a total value not exceeding the award limit and which will result in the best advantage to the Department of Transportation.

\_\_\_\_\_  
\*\*Signature of Authorized Person

\*\*Only those persons authorized to sign bids under Subarticle 102-8(A)(12) shall be authorized to sign this form.

**NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION**  
**CORPORATION**

The prequalified bidder, declares (or certifies, verifies, or states) under penalty of perjury under the laws of the United States that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating *N.C.G.S. §133-24* within the last three years, and that the prequalified bidder intends to do the work with his own bona fide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the prequalified bidder is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

*N.C.G.S. §133-32* and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

**SIGNATURE OF PREQUALIFIED BIDDER**

Applied Polymerics Inc.

Full name of Corporation

131 St. James Way Mt. Airy NC 27030

Address as prequalified

Attest

Kyndal S. Draughn  
Signature of Secretary, Assistant Secretary

Select appropriate title

By

Jonathan Simmons  
Signature of President, Vice President, Assistant Vice President

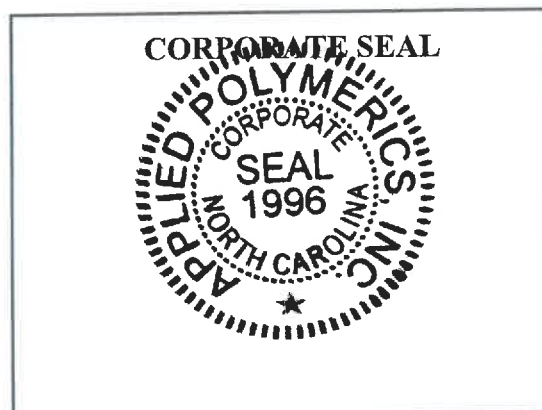
Select appropriate title

Kyndal S. Draughn

Print or type Signer's name

Jonathan Simmons

Print or type Signer's name



**NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION****PARTNERSHIP**

The prequalified bidder, declares (or certifies, verifies, or states) under penalty of perjury under the laws of the United States that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the prequalified bidder intends to do the work with its own bona fide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the prequalified bidder is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

*N.C.G.S. § 133-32* and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

**SIGNATURE OF PREQUALIFIED BIDDER**

---

Full name of  
Partnership

---

Address as  
prequalified

---

Signature of Witness

---

Signature of Partner

---

Print or type Signer's name

---

Print or type Signer's name

**NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION**  
**LIMITED LIABILITY COMPANY**

The prequalified bidder, declares (or certifies, verifies, or states) under penalty of perjury under the laws of the United States that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the prequalified bidder intends to do the work with its own bona fide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the prequalified bidder is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

*N.C.G.S. § 133-32* and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

**SIGNATURE OF PREQUALIFIED BIDDER**

---

Full name of Firm

---

Address as prequalified

---

Signature of Witness

---

Signature of **Member, Manager, Authorized Agent**  
*Select appropriate title*

---

Print or type Signer's Name

---

Print or type Signer's Name

**NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION****JOINT VENTURE (2) or (3)**

The prequalified bidder, declares (or certifies, verifies, or states) under penalty of perjury under the laws of the United States that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating N.C.G.S. § 133-24 within the last three years, and that the prequalified bidder intends to do the work with its own bona fide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the prequalified bidder is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

**SIGNATURE OF PREQUALIFIED BIDDER**

Instructions: **2 Joint Venturers** Fill in lines (1), (2) and (3) and execute. **3 Joint Venturers** Fill in lines (1), (2), (3) and (4) and execute. On Line (1), fill in the name of the Joint Venture Company. On Line (2), fill in the name of one of the joint venturers and execute below in the appropriate manner. On Line (3), print or type the name of the other joint venturer and execute below in the appropriate manner. On Line (4), fill in the name of the third joint venturer, if applicable and execute below in the appropriate manner.

(1)		Name of Joint Venture
(2)		Name of Contractor
	Address as prequalified	
	By	
	Signature of Witness or Attest	Signature of Contractor
	Print or type Signer's Name	Print or type Signer's Name
	<i>If Corporation, affix Corporate Seal</i>	and
(3)		Name of Contractor
	Address as prequalified	
	By	
	Signature of Witness or Attest	Signature of Contractor
	Print or type Signer's Name	Print or type Signer's Name
	<i>If Corporation, affix Corporate Seal</i>	and
(4)		Name of Contractor
	Address as prequalified	
	By	
	Signature of Witness or Attest	Signature of Contractor
	Print or type Signer's Name	Print or type Signer's Name
	<i>If Corporation, affix Corporate Seal</i>	

**CORPORATE SEAL(S)**

**NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION**  
**INDIVIDUAL DOING BUSINESS UNDER A FIRM NAME**

The prequalified bidder, declares (or certifies, verifies, or states) under penalty of perjury under the laws of the United States that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the prequalified bidder intends to do the work with its own bona fide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the prequalified bidder is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

*N.C.G.S. § 133-32* and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

**SIGNATURE OF PREQUALIFIED BIDDER**

Name of Prequalified Bidder

\_\_\_\_\_

Print or type Individual Name

Trading and doing business as

\_\_\_\_\_

Full name of Firm

\_\_\_\_\_

Address as prequalified

\_\_\_\_\_

Signature of Witness

\_\_\_\_\_

Signature of Prequalified Bidder, Individual

\_\_\_\_\_

Print or type Signer's Name

\_\_\_\_\_

Print or type Signer's Name

**NON-COLLUSION, DEBARMENT GIFT BAN CERTIFICATION**  
**INDIVIDUAL DOING BUSINESS IN HIS OWN NAME**

The prequalified bidder, declares (or certifies, verifies, or states) under penalty of perjury under the laws of the United States that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the prequalified bidder intends to do the work with its own bona fide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the prequalified bidder is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

*N.C.G.S. § 133-32* and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

**SIGNATURE OF PREQUALIFIED BIDDER**

Name of Prequalified Bidder \_\_\_\_\_

Print or type Individual Name

\_\_\_\_\_  
Address as prequalified

\_\_\_\_\_  
Signature of Prequalified Bidder, Individually

\_\_\_\_\_  
Print or type Signer's Name

\_\_\_\_\_  
Signature of Witness

\_\_\_\_\_  
Print or type Signer's name

**DEBARMENT CERTIFICATION**

## Conditions for certification:

1. The prequalified bidder shall provide immediate written notice to the Department if at any time the bidder learns that his certification was erroneous when he submitted his debarment certification or explanation that is file with the Department, or has become erroneous because of changed circumstances.
2. The terms *covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded*, as used in this provision, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. A copy of the Federal Rules requiring this certification and detailing the definitions and coverages may be obtained from the Contract Officer of the Department.
3. The prequalified bidder agrees by submitting this form, that he will not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in NCDOT contracts, unless authorized by the Department.
4. For Federal Aid projects, the prequalified bidder further agrees that by submitting this form he will include the Federal-Aid Provision titled *Required Contract Provisions Federal-Aid Construction Contract (Form FHWA PR 1273)* provided by the Department, without subsequent modification, in all lower tier covered transactions.
5. The prequalified bidder may rely upon a certification of a participant in a lower tier covered transaction that he is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless he knows that the certification is erroneous. The bidder may decide the method and frequency by which he will determine the eligibility of his subcontractors.
6. 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 provision. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
7. Except as authorized in paragraph 6 herein, the Department may terminate any contract if the bidder 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 by the Federal Government.



**DEBARMENT CERTIFICATION**

The prequalified bidder certifies to the best of his knowledge and belief, that he and his principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- b. 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;
- c. 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 b. of this certification; and
- d. Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- e. Will submit a revised Debarment Certification immediately if his status changes and will show in his bid proposal an explanation for the change in status.

If the prequalified bidder cannot certify that he is not debarred, he shall provide an explanation with this submittal. An explanation will not necessarily result in denial of participation in a contract.

Failure to submit a non-collusion affidavit and debarment certification will result in the prequalified bidder's bid being considered non-responsive.

☐

Check here if an explanation is attached to this certification.

**EXECUTION OF CONTRACT**

**Contract No: MG00479**

**County: Alamance, Caswell, Guilford, Orange and Rockingham Counties**

ACCEPTED BY THE DEPARTMENT

DocuSigned by:

*Jennifer Sow*

B213233052CA46B

**Proposals Engineer**

10/22/2025

Date

EXECUTION OF CONTRACT AND BONDS  
APPROVED AS TO FORM:

Signed by:

*W. R. Archer III*

A54244BEB57442F

**Division Engineer**

10/22/2025

Date

Signature Sheet (Bid) - ACCEPTANCE SHEET

**ITEMIZED PROPOSAL FOR CONTRACT No. MG00479**

**WBS ELEMENTS:** GMR07.ALA.1PB, GMR07.CAS.1PB, GMR07.GLF.1PB, GMR07.ORA.1PB, GMR07.ROC.1PB, GMR07.ALA.1NB, GMR07.CAS.1NB, GMR07.GLF.1NB, GMR07.ORA.1NB, GMR07.ROC.1NB, GMR07.ALA.2PB, GMR07.CAS.2PB, GMR07.GLF.2PB, GMR07.ORA.2PB, GMR07.ROC.2PB, 7BPR.100111, 7BPR.101711, 7BPR.104111, 7BPR.106811, 7BPR.107911, 7BPR.200111, 7BPR.201711, 7BPR.204111, 7BPR.206811, 7BPR.207911

**COUNTY:** ALAMANCE, CASWELL, GUILFORD, ORANGE, AND ROCKINGHAM COUNTIES

**LOCATION:** STRUCTURES DIVISION WIDE

**DESCRIPTION:** PIPE REPAIR/REHABILITATION FOR BRIDGE MAINTENANCE AS NEEDED

LINE No.	SECT.	DESCRIPTION	QTY	UNIT	UNIT PRICE	BID AMOUNT
10	SP	Dewatering and Cleaning Pipe	75	DAY	\$1,500. <sup>00</sup>	\$112,500. <sup>00</sup>
20	SP	Repair Corrugated Metal Pipe	800	SF	\$55. <sup>00</sup>	\$44,000. <sup>00</sup>
30	SP	Backgrouting/Voidfilling at Pipe Joint	5000	GAL	\$80. <sup>00</sup>	\$400,000. <sup>00</sup>
40	SP	Sealing Pipe Joints	300	LF	\$40. <sup>00</sup>	\$12,000. <sup>00</sup>
50	350	Pipe Cleanout	20	EA	\$5,200. <sup>00</sup>	\$104,000. <sup>00</sup>
60	SP	54"- 66" CIPP Liner <15ft Crown - Bed Depth	100	LF	\$1,438. <sup>56</sup>	\$143,856. <sup>00</sup>
70	SP	54"- 66" CIPP Liner 15-25ft Crown - Bed Depth	100	LF	\$1,421. <sup>13</sup>	\$142,113. <sup>00</sup>
80	SP	54"-66" CIPP Liner>25ft Crown-Bed Depth	100	LF	\$1,213. <sup>17</sup>	\$121,317. <sup>00</sup>
90	SP	Traffic Control Shoulder Closure	20	EA	\$150. <sup>00</sup>	\$3,000. <sup>00</sup>
100	SP	Traffic Control Lane Closure	75	EA	\$1,000. <sup>00</sup>	\$75,000. <sup>00</sup>

110	SP	Traffic Control Divided Multilane Roadway Single Lane Closure	75	EA	\$2,200. <sup>00</sup>	\$165,000. <sup>00</sup>
120	SP	Traffic Control Divided Multilane 2 or more Lane Closure	75	EA	\$2,200. <sup>00</sup>	\$165,000. <sup>00</sup>
TOTAL BID AMOUNT				\$1,487,786. <sup>00</sup>		

Contractor: Applied Polymerics IncAddress: 131 St. James Way Mt. Airy NC 27030Contractor Email: jsimmons@appliedpolymerics.comPhone: (336) 789-6159 Federal ID: 56-2021982Contractor License Number (If Available): 46705Authorized Agent: Jonathan Simmons Title: PresidentSignature: Jonathan Simmons Date: 9/3/25



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
10/17/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must have **ADDITIONAL INSURED** provisions or be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> MARSH USA LLC. 200 Public Square, Suite 3760 Cleveland, OH 44114-1824	<b>CONTACT NAME:</b> <b>PHONE</b> (A/C, No, Ext): <b>E-MAIL</b> <b>ADDRESS:</b>	<b>FAX</b> (A/C, No):
CN102302710-RPMf-Cas-25-26	POLYM	
<b>INSURED</b> RPM International Inc. & Its Subsidiaries (Sub: Applied Polymeric, Inc.) 2628 Pearl Road Medina, OH 44256	<b>INSURER(S) AFFORDING COVERAGE</b>	
	<b>INSURER A:</b> Zurich American Insurance Company	<b>NAIC #</b> 16535
	<b>INSURER B:</b> American Zurich Insurance Company	40142
	<b>INSURER C:</b> N/A	N/A
	<b>INSURER D:</b>	
	<b>INSURER E:</b>	
	<b>INSURER F:</b>	

<b>COVERAGES</b>	<b>CERTIFICATE NUMBER:</b> CLE-007412350-01	<b>REVISION NUMBER:</b> 1
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.		

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> <b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC <input type="checkbox"/> OTHER:	Y		GLO 9258791 18	04/01/2025	04/01/2026	EACH OCCURRENCE \$ 5,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 5,000,000 GENERAL AGGREGATE \$ 10,000,000 PRODUCTS - COMP/OP AGG \$ 10,000,000 \$
A	<input checked="" type="checkbox"/> <b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY			BAP 9258789 18	04/01/2025	04/01/2026	COMBINED SINGLE LIMIT (Ea accident) \$ 5,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	<input type="checkbox"/> <b>UMBRELLA LIAB</b> <input type="checkbox"/> OCCUR <input type="checkbox"/> <b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input type="checkbox"/> RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$ \$
A	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y / N <input checked="" type="checkbox"/> N	N / A	WC 9258790 18 (MA, PR, WI) WC 9258788 18 (AOS) EWS 5965995 17 (XS OH-\$500k SIR) WC 7121392 03 (TX)	04/01/2025 04/01/2025 04/01/2025 04/01/2025	04/01/2026 04/01/2026 04/01/2026 04/01/2026	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 2,000,000 E.L. DISEASE - EA EMPLOYEE \$ 2,000,000 E.L. DISEASE - POLICY LIMIT \$ 2,000,000

**DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)**  
Contract ID: MG00479  
Type of Work: Pipe Repair/Rehabilitation for Division 7 Bridge Maintenance  
The State of North Carolina, NC Department of Transportation Division of Highways Division 7 is/are included as Additional Insured where required by written contract with respect to General Liability.

<b>CERTIFICATE HOLDER</b> NC DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DIVISION 7 PO BOX 14996 GREENSBORO, NC 27415-4996	<b>CANCELLATION</b> SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE  <i>Marsh USA LLC</i>
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