

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
HIGHWAY DIVISION 7

PROPOSAL

DATE AND TIME OF BID OPENING: SEPTEMBER 18, 2014 AT 11:00 AM  
DATE OF AVAILABILITY: OCTOBER 13, 2014  
COMPLETION DATE: SEPTEMBER 1, 2015

CONTRACT ID: DG00147  
WBS ELEMENT NO.: 43702.3.1  
COUNTY: CASWELL AND ROCKINGHAM COUNTIES  
TIP NO.: SS-4907AS  
ROUTE NO.: US 29  
TYPE OF WORK: SIGN AND LIGHTING UPGRADES

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 ROADWAY PROJECT.

BID BONDS ARE REQUIRED.

A GENERAL CONTRACTOR'S LICENSE, HIGHWAY CLASSIFICATION IS  
REQUIRED.

\_\_\_\_\_  
NAME OF BIDDER

\_\_\_\_\_  
LICENSE NO.

\_\_\_\_\_  
ADDRESS OF BIDDER

PROPOSAL FOR THE CONSTRUCTION OF  
CONTRACT No. DG00147 IN CASWELL AND ROCKINGHAM COUNTIES, NORTH CAROLINA

Date \_\_\_\_\_ 20 \_\_\_\_\_

DEPARTMENT OF TRANSPORTATION,  
RALEIGH, NORTH CAROLINA

The Bidder has carefully examined the location of the proposed work to be known as Contract No. **DG00147**; 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 the forms of contract payment bond and contract performance bond; and thoroughly understands the stipulations, requirements and provisions. The undersigned bidder agrees to bound upon his execution of the bid and subsequent award to him by the Department of Transportation in accordance with this proposal to provide the necessary contract payment bond and contract performance bond within fourteen days after the written notice of award is received by him. 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 2012 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 State Highway Contract No. **DG00147** in **Caswell 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 2012* 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 the contract.

Accompanying this bid is a bid bond secured by a corporate surety, or certified check payable to the order of the Department of Transportation, for five percent of the total bid price, which deposit is to be forfeited as liquidated damages in case this bid is accepted and the Bidder shall fail to provide the required payment and performance bonds with the Department of Transportation, under the condition of this proposal, within 14 calendar days after the written notice of award is received by him, as provided in the Standard Specifications; otherwise said deposit will be returned to the Bidder.

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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, except that bids may be prepared by electronic means as described elsewhere in the proposal. Failure to comply with any requirement shall cause the bid to be considered irregular and shall be grounds for rejection of the bid.

1. The bid sheet furnished by NCDOT with the proposal shall be used and shall not be altered in any manner. **The contractor shall collate and bind the entire proposal. Staples, binder clips, etc. are sufficient.**
2. All entries on the bid sheet, including signatures, shall be written in ink.
3. The Bidder shall submit the bid generated by "Expedite Bid" and shall sign and submit the certification of authority to bid generated by "Expedite Bid". **\*\*\*Unit Prices shall be rounded off by the bidder to contain no more than FOUR decimal places.\*\*\***
4. Changes in 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.
5. The bid shall be properly executed. All bids shall show the following information:
  - a. Name of individual, firm, corporation, partnership, or joint venture submitting bid.
  - b. Name and signature of individual or representative submitting bid and position or title.
  - c. Name, signature, and position or title of witness.
  - d. Federal Identification Number (or Social Security Number of Individual)
  - e. Contractor's License Number (if Applicable)
8. Bids submitted by corporations shall bear the seal of the corporation.
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. **Contractors who download bid packager SHALL EMAIL [cthuskins@ncdot.gov](mailto:cthuskins@ncdot.gov) a minimum of five (5) days prior to the bid opening to inform NCDOT of your possession of a bid package. BIDS RECEIVED FROM CONTRACTORS WHO HAVE NOT PROVIDED NOTICE OF POSSESSION OF A BID PACKAGE MAY BE REJECTED.**
12. **THE ENTIRE PROPOSAL SHALL BE PLACED IN A SEALED ENVELOPE AND SHALL HAVE BEEN DELIVERED TO AND RECEIVED IN THE DIVISION 7 ENGINEER'S OFFICE AT 1584 YANCEYVILLE STREET, GREENSBORO, NC 27405 BY 11:00 AM ON THURSDAY, SEPTEMBER 18, 2014.**
13. The sealed bid must display the following statement on the front of the sealed envelope:

QUOTATION FOR DG00147  
TO BE OPENED AT 11:00 AM ON Thursday, September 18, 2014.  
CONTRACTOR'S NAME

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: Carolyn T. Huskins  
P.O. Box 14996  
Greensboro, NC 27415-4996

## PROJECT SPECIAL PROVISIONS - GENERAL

### **COMPUTER BID PREPARATION (REQUIRED):**

(7-18-11)

102

SPI 1-18

The bidder shall prepare his bid and MBE/WBE or DBE participation electronically by means of a personal computer. For electronic bid preparation the Contractor shall download the Expedite program from the NCDOT "Project Letting" website. Then download the appropriate .ebs electronic file of line items and quantities unique to each project from the Division Office's website.

The only entries into the program which will be permitted by the Bidder are the appropriate unit or lump sum prices for those items which must be bid in order to provide a complete bid for the project, and any MBE/WBE or DBE participation in the appropriate section of the Expedite program. When these entries have been made, the program will automatically prepare a complete set of itemized proposal sheets which will include the amount bid for the various items and the total amount bid for the project in addition to the unit or lump sum prices bid. The computer generated itemized proposal sheets shall be printed and signed by a duly authorized representative in accordance with Subarticle 102-8(A)(8). This set of itemized proposal sheets, when submitted together with the appropriate proposal, will constitute the bid and shall be delivered to the appropriate Division Office or location specified in the INSTRUCTIONS TO BIDDERS. Bid prices shall not be written on the itemized proposal sheets found in the proposal. The computer generated itemized proposal sheets (.ebs bid file) shall also be copied to a compact disk (CD) furnished by the Contractor and shall be submitted to the Department with the bid.

In the case of a discrepancy between the unit or lump sum prices submitted on the itemized proposal sheets and those contained on the CD furnished by the Contractor, the unit or lump sum prices submitted on the printed and signed itemized proposal sheets shall prevail.

The requirements of the INSTRUCTIONS TO BIDDERS will apply to the preparation of bids except that bids shall be submitted on computer generated itemized proposal sheets therefore the entries on the itemized proposal sheets will not be required. Changes to any entry on the computer generated itemized proposal sheets shall be made in accordance with requirement Number (6) of the INSTRUCTIONS TO BIDDERS. When the computer generated itemized proposal sheets are not signed and received with the proposal, the bid will be considered irregular. The Contractor shall either provide a CD with the Expedite Entry file on it or email the Expedite Entry file to [cthuskins@ncdot.gov](mailto:cthuskins@ncdot.gov). Emailed Expedite Entry files shall be received by 2:00 p.m. the day of the bid opening.

### **CONTRACT TIME AND LIQUIDATED DAMAGES:**

(7-1-95) (Rev. 12-18-07)

108

SPI G10 A

The date of availability for this contract is **October 13, 2014**.

The completion date for this contract is **September 1, 2015**.

Except where otherwise provided by the contract, observation periods required by the contract will not be a part of the work to be completed by the completion date and/or

intermediate contract times stated in the contract. The acceptable completion of the observation periods that extend beyond the final completion date shall be a part of the work covered by the performance and payment bonds.

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

The Contractor shall not install signs or impede traffic in any way more than three weeks prior to actually beginning construction.

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

(2-20-07)

108

SP1 G14 A

The Contractor shall complete the required work of installing, maintaining, and removing the traffic control devices for lane closures and restoring traffic to the existing traffic pattern. The Contractor shall not close or narrow a lane of traffic on **US 29** during the following time restrictions for :

**DAY AND TIME RESTRICTIONS**

**Monday through Friday 6:00 a.m. to 9:00 a.m. and 4:00 p.m. to 7:00 p.m.  
for installation of ground-mounted signs, pavement markings and lighting items.**

**And**

**Monday through Sunday from 6:00 a.m. to 7:00 p.m.  
for installation of overhead signs.**

In addition, the Contractor shall not close or narrow a lane of traffic on **US 29**, 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. to 9:00 a.m.** December 31st and **4:00 p.m. to 7:00 p.m.** January 2nd. If New Year's Day is on a Friday, Saturday, Sunday or Monday, then until **4:00 p.m. to 7:00 p.m.** the following Tuesday.
3. For **Easter**, between the hours of **6:00 a.m. to 9:00 a.m.** Thursday and **4:00 p.m. to 7:00 p.m.** Monday.
4. For Memorial Day, between the hours of 6:00 a.m. to 9:00 a.m. Friday and 4:00 p.m. to 7:00 p.m. Tuesday.

5. For **Independence Day**, between the hours of **6:00 a.m. to 9:00 a.m.** the day before Independence Day and **4:00 p.m. to 7:00 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. to 9:00 a.m.** the Thursday before Independence Day and **4:00 p.m. to 7:00 p.m.** the Tuesday after Independence Day.

6. For Labor Day, between the hours of 6:00 a.m. to 9:00 a.m. Friday and 4:00 p.m. to 7:00 p.m. Tuesday.
7. For Thanksgiving Day, between the hours of 6:00 a.m. to 9:00 a.m. Tuesday and 4:00 p.m. to 7:00 p.m. Monday.
8. For **Christmas**, between the hours of **6:00 a.m. to 9:00 a.m.** the Friday before the week of Christmas Day and **4:00 p.m. to 7:00 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.

**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)

108-6

SP1 G34

None of the items included in this contract will be specialty items (see Article 108-6 of the *2012 Standard Specifications*).

**SCHEDULE OF ESTIMATED COMPLETION PROGRESS:**

(7-15-08) (Rev. 5-20-14)

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:

|      |                     |     |                     |
|------|---------------------|-----|---------------------|
| 2015 | (7/01/14 - 6/30/15) | 75% | of Total Amount Bid |
| 2016 | (7/01/15 - 6/30/16) | 25% | of Total Amount Bid |

The Contractor shall also furnish his own progress schedule in accordance with Article 108-2 of the *2012 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. 12-17-13)

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 either the MBE or WBE goal. No submittal of a Letter of Intent is required.

*Committed MBE/WBE Subcontractor* - Any MBE/WBE submitted at the time of bid that is being used to meet either the MBE or 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 Goals Requirement* - The approved MBE and WBE participation at time of award, but not greater than the advertised contract goals for each.

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

*Manufacturer* - A firm that operates or maintains a factory or establishment that produces on the premises, the materials or supplies obtained by the Contractor.

*MBE Goal* - A portion of the total contract, expressed as a percentage, that is 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, operates, or maintains a store, warehouse, or other establishment in which the materials or supplies required for the performance of the contract are bought, kept in stock, 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, cement, gravel, stone, and petroleum products need not keep such products in stock, if it owns and operates distribution equipment for the products. Brokers and packagers are not regarded as manufacturers or regular dealers within the meaning of this section.

*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 Goal* - A portion of the total contract, expressed as a percentage, that is 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.  
<http://www.ncdot.org/doh/forms/files/DBE-IS.xls>

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

*SAF Subcontract Approval Form* - Form required for approval to sublet the contract.  
<http://connect.ncdot.gov/projects/construction/Construction%20Forms/Subcontract%20Approval%20Form%20Rev.%202012.zip>

*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 amount 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 this MBE and WBE goals. This form is for paper bids only.

[http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/09%20MBE-WBE%20Subcontractors%20\(State\).doc](http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/09%20MBE-WBE%20Subcontractors%20(State).doc)

*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>

### **MBE and WBE Goal**

The following goals for participation by Minority Business Enterprises and Women Business Enterprises are established for this contract:

(A) Minority Business Enterprises **0.0%**

- (1) *If the MBE goal 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 as the MBE goal.
- (2) *If the MBE goal 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 **0.0%**

- (1) *If the WBE goal 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 as the WBE goal.
- (2) *If the WBE goal 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.

### **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 MBE and WBE goals respectively. The Directory can be found at the following link.  
<https://partner.ncdot.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 MBE goal and the 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 submitted at the time of bid will be used toward 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) *If either the MBE or WBE goal is more than zero,*
- (1) 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.
  - (2) 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.
  - (3) 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 corresponding goal.
- (B) *If either the MBE or 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 MBE and WBE goals, the firm is responsible for meeting the goals or making good faith efforts to meet the goals, just like any other bidder. In most cases, a MBE or WBE bidder on a contract will meet one of the goals 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.

For example, on a proposed contract, the WBE goal is 10%, and the MBE goal is 8%. A WBE bidder puts in a bid where they will perform 40% of the contract work and have a WBE subcontractor which will perform another 5% of the work. Together the two WBE firms submit on the *Listing of MBE and WBE Subcontractors* a value of 45% of the contract which fulfills the WBE goal. The 8% MBE goal shall be obtained through MBE participation with MBE certified subcontractors or documented through a good faith effort. It should be noted that you cannot combine the two goals to meet an overall value. The two goals shall remain separate.

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 MBE and WBE goals 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 12:00 noon of the sixth calendar day following opening of bids, unless the sixth 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 12:00 noon 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 MBE and WBE goals, or if the form is incomplete (i.e. both signatures are not present), the MBE/WBE participation will not count toward meeting the MBE/WBE goal. If the lack of this participation drops the commitment below either the MBE or 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 12:00 noon 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 12:00 noon on the next official state business day.

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

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

One complete set and 6 copies of this information shall be received in the office of the Engineer no later than 12:00 noon of the sixth calendar day following opening of bids, unless the sixth 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 12:00 noon 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 MBE/WBE Goals 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 who have the capability to perform the work of the contract. 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 MBE and WBE goals 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 contract MBE/WBE goals 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 MBEs/WBEs 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 contract goals 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 contract MBE or WBE goals, 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 NCDOT's Business Development Manager in the Business Opportunity and Work Force Development Unit 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 MBE and WBE 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 MBE and WBE goals.

- (2) The bidders' past performance in meeting the MBE and WBE goals.
- (3) The performance of other bidders in meeting the MBE and WBE goals. For example, when the apparent successful bidder fails to meet the goals, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts the apparent successful bidder could have met the goals. If the apparent successful bidder fails to meet the MBE and WBE goals, 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 MBE and WBE goals can be met or that an adequate good faith effort has been made to meet the MBE and WBE goals.

### **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 MBE/WBE Goals**

#### **(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 actually 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 MBE contract goal requirement. The same holds for work that a WBE subcontracts to another WBE firm. Work that a MBE subcontracts to a non-MBE firm does not count toward the MBE contract goal

requirement. Again, the same holds true for the work that a WBE subcontracts to a non-WBE firm. 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. The MBE/WBE may present evidence to rebut this presumption to the Department. The Department's decision on the rebuttal of this presumption may be subject to review by the Office of Inspector General, NCDOT.

(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) Suppliers

A contractor may count toward its MBE or WBE requirement 60 percent of its expenditures for materials and supplies required to complete the contract and obtained from a MBE or WBE regular dealer and 100 percent of such expenditures from a MBE or WBE manufacturer.

(F) Manufacturers and Regular Dealers

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

- (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 nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site (but not the cost of the materials and supplies themselves), provided the fees are determined to be reasonable and not excessive as compared with fees customarily allowed for similar services.

**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 actually 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 actually performing and the MBE/WBE credit claimed for its performance of the work, and any other relevant factors.

**(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 MBE or 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 goal requirement. 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 liable for meeting the goal.

- (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 firm (or an approved substitute MBE or WBE firm) to meet all or part of a contract goal requirement, the contractor shall not terminate the MBE/WBE 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. A MBE/WBE may only be terminated after receiving the Engineer's written approval based upon a finding of good cause for the termination.

All requests for replacement of a committed MBE/WBE firm shall be submitted to the Engineer for approval on Form RF-1 (*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.

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

(A) Performance Related Replacement

When a committed MBE is terminated for good cause as stated above, an additional MBE that was submitted at the time of bid may be used to fulfill the MBE commitment. The same holds true if a committed WBE is terminated for good cause, an additional WBE that was submitted at the time of bid may be used to fulfill the WBE goal. A good faith effort will only be required for removing a committed MBE/WBE if there were no additional MBEs/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 MBEs/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 MBEs/WBEs for specific subbids including, at a minimum:
  - (a) The names, addresses, and telephone numbers of MBEs/WBEs who were contacted.
  - (b) A description of the information provided to MBEs/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 MBEs/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.
- (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 similarly certified MBE/WBE subcontractor to perform at least the same amount of work to meet the

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).

### **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 on the Department's DBE-IS (*Subcontractor Payment Information*) with each invoice. Invoices will not be processed for payment until the DBE-IS is received.

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

Failure to meet contract requirements in accordance with Subarticle 102-15(J) of the *2012 Standard Specifications* may be cause to disqualify the Contractor.

### **CONTRACTOR'S LICENSE REQUIREMENTS:**

(7-1-95)

102-14

SP1 G88

If the successful bidder does not hold the proper license to perform any plumbing, heating, air conditioning, or electrical work in this contract, he will be required to sublet such work to a contractor properly licensed in accordance with *Article 2 of Chapter 87 of the General Statutes* (licensing of heating, plumbing, and air conditioning contractors) and *Article 4 of Chapter 87 of the General Statutes* (licensing of electrical contractors).

**SUBSURFACE INFORMATION:**

(7-1-95)

450

SP1 G112 A

There is no subsurface information available on this project. The Contractor shall make his own investigation of subsurface conditions.

**LOCATING EXISTING UNDERGROUND UTILITIES:**

(3-20-12)

105

SP1 G115

Revise the 2012 Standard Specifications as follows:

Page 1-43, Article 105-8, line 28, after the first sentence, add the following:

Identify excavation locations by means of pre-marking with white paint, flags, or stakes or provide a specific written description of the location in the locate request.

**RESOURCE CONSERVATION:**

(5-21-13)

104-13

SP1 G118

In accordance with North Carolina Executive Order 156, NCGS 130A-309.14(2), and NCGS 136-28.8, it is the policy of the Department to aid in the reduction of materials that become a part of our solid waste stream, to divert materials from landfills, and to find ways to recycle and reuse materials for the benefit of the Citizens of North Carolina.

Initiate, develop and use products and construction methods that incorporate the use of recycled or solid waste products in accordance with Article 104-13 of the 2012 Standard Specifications. Report the quantities of reused or recycled materials either incorporated in the project or diverted from landfills on the Project Construction Reuse and Recycling Reporting Form.

A location-based tool for finding local recycling facilities and the Project Construction Reuse and Recycling Reporting Form are available at:

<http://connect.ncdot.gov/resources/Environmental/Pages/North-Carolina-Recycling-Locations.aspx>

**DOMESTIC STEEL:**

(4-16-13)

106

SP1 G120

Revise the 2012 Standard Specifications as follows:

Page 1-49, Subarticle 106-1(B) Domestic Steel, lines 2-7, replace the first paragraph with the following:

All steel and iron products that are permanently incorporated into this project shall be produced in the United States except minimal amounts of foreign steel and iron products may be used provided the combined material cost of the items involved does not exceed 0.1% of the total amount bid for the entire project or \$2,500, whichever is greater. If invoices showing the cost of the material are not provided, the amount of the bid item involving the foreign material will be used for calculations. This minimal amount of foreign produced

steel and iron products permitted for use is not applicable to high strength fasteners. Domestically produced high strength fasteners are required.

**MAINTENANCE OF THE PROJECT:**

(11-20-07) (Rev. 1-17-12)

104-10

SP1 G125

Revise the 2012 Standard Specifications as follows:

Page 1-35, Article 104-10 Maintenance of the Project, line 25, add the following after the first sentence of the first paragraph:

All guardrail/guiderail within the project limits shall be included in this maintenance.

Page 1-35, Article 104-10 Maintenance of the Project, line 30, add the following as the last sentence of the first paragraph:

The Contractor shall perform weekly inspections of guardrail and guiderail and shall report damages to the Engineer on the same day of the weekly inspection. Where damaged guardrail or guiderail is repaired or replaced as a result of maintaining the project in accordance with this article, such repair or replacement shall be performed within 7 consecutive calendar days of such inspection report.

Page 1-35, Article 104-10 Maintenance of the Project, lines 42-44, replace the last sentence of the last paragraph with the following:

The Contractor will not be directly compensated for any maintenance operations necessary, except for maintenance of guardrail/guiderail, as this work will be considered incidental to the work covered by the various contract items. The provisions of Article 104-7, Extra Work, and Article 104-8, Compensation and Record Keeping will apply to authorized maintenance of guardrail/guiderail. Performance of weekly inspections of guardrail/guiderail, and the damage reports required as described above, will be considered to be an incidental part of the work being paid for by the various contract items.

**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.

**GIFTS FROM VENDORS AND CONTRACTORS:**

(12-15-09)

107-1

SP1 G152

By Executive Order 24, issued by Governor Perdue, and N.C.G.S. § 133-32, it is unlawful for any vendor or contractor (i.e. architect, bidder, contractor, construction manager, design

professional, engineer, landlord, offeror, seller, subcontractor, supplier, or vendor), to make gifts or to give favors to any State employee of the Governor's Cabinet Agencies (i.e. Administration, Commerce, Correction, Crime Control and Public Safety, Cultural Resources, Environment and Natural Resources, Health and Human Services, Juvenile Justice and Delinquency Prevention, Revenue, Transportation, and the Office of the Governor). This prohibition covers those vendors and contractors who:

- (A) Have a contract with a governmental agency; or
- (B) Have performed under such a contract within the past year; or
- (C) Anticipate bidding on such a contract in the future.

For additional information regarding the specific requirements and exemptions, vendors and contractors are encouraged to review Executive Order 24 and N.C.G.S. § 133-32.

Executive Order 24 also encouraged and invited other State Agencies to implement the requirements and prohibitions of the Executive Order to their agencies. Vendors and contractors should contact other State Agencies to determine if those agencies have adopted Executive Order 24.

**LIABILITY INSURANCE:**

(5-20-14)

SP1 G160

Revise the 2012 Standard Specifications as follows:

Page 1-60, Article 107-15 LIABILITY INSURANCE, line 16, add the following as the second sentence of the third paragraph:

Prior to beginning services, all contractors shall provide proof of coverage issued by a workers' compensation insurance carrier, or a certificate of compliance issued by the Department of Insurance for self-insured subcontractors, irrespective of whether having regularly in service fewer than three employees.

**EMPLOYMENT:**

(11-15-11) (Rev. 1-17-12)

108, 102

SP1 G184

Revise the 2012 Standard Specifications as follows:

Page 1-20, Subarticle 102-15(O), delete and replace with the following:

- (O) Failure to restrict a former Department employee as prohibited by Article 108-5.

Page 1-65, Article 108-5 Character of Workmen, Methods, and Equipment, line 32, delete all of line 32, the first sentence of the second paragraph and the first word of the second sentence of the second paragraph.

**STATE HIGHWAY ADMINISTRATOR TITLE CHANGE:**

(9-18-12)

SP1 G185

Revise the 2012 Standard Specifications as follows:

Replace all references to “State Highway Administrator” with “Chief Engineer”.

## **PROJECT SPECIAL PROVISIONS – ROADWAY**

### **GUARDRAIL ANCHOR UNITS, TYPE M-350:**

(4-20-04) (Rev. 1-17-12)

862

SP8 R60

#### **Description**

Furnish and install guardrail anchor units in accordance with the details in the plans, the applicable requirements of Section 862 of the *2012 Standard Specifications*, and at locations shown in the plans.

#### **Materials**

The Contractor may, at his option, furnish any one of the following guardrail anchor units or approved equal.

The guardrail anchor unit (SRT-350) as manufactured by:

Trinity Industries, Inc.  
2525 N. Stemmons Freeway  
Dallas, Texas 75207  
Telephone: 800-644-7976

The guardrail anchor unit (FLEAT) as manufactured by:

Road Systems, Inc.  
3616 Old Howard County Airport  
Big Springs, Texas 79720  
Telephone: 915-263-2435

The guardrail anchor unit (REGENT) as manufactured by:

Energy Absorption Systems, Inc.  
One East Wacker Drive  
Chicago, Illinois 60601-2076  
Telephone: 888-32-ENERGY

Prior to installation the Contractor shall submit to the Engineer:

(A) FHWA acceptance letter for each guardrail anchor unit certifying it meets the requirements of NCHRP Report 350, Test Level 3, in accordance with Article 106-2 of the 2012 Standard Specifications.

(B) Certified working drawings and assembling instructions from the manufacturer for each guardrail anchor unit in accordance with Article 105-2 of the 2012 Standard Specifications.

No modifications shall be made to the guardrail anchor unit without the express written permission from the manufacturer. Perform installation in accordance with the details in the plans, and details and assembling instructions furnished by the manufacturer.

Construction Methods

Guardrail end delineation shall be required on all approach and trailing end sections for both temporary and permanent installations. Guardrail end delineation consists of yellow reflective sheeting applied to the entire end section of the guardrail in accordance with Article 1088-3 of the 2012 Standard Specifications and is incidental to the cost of the guardrail anchor unit.

Measurement and Payment

Measurement and payment will be made in accordance with Article 862-6 of the 2012 Standard Specifications.

Payment will be made under:

|                                    |          |
|------------------------------------|----------|
| Pay Item                           | Pay Unit |
| Guardrail Anchor Units, Type M-350 | Each     |

**GUARDRAIL ANCHOR UNITS, TYPE 350:**

(4-20-04) (Rev. 8-16-11)

862

SP8 R65

**Description**

Furnish and install guardrail anchor units in accordance with the details in the plans, the applicable requirements of Section 862 of the *2012 Standard Specifications*, and at locations shown in the plans.

**Materials**

The Contractor may at his option, furnish any one of the guardrail anchor units or approved equal.

Guardrail anchor unit (ET-Plus) as manufactured by:

Trinity Industries, Inc.  
2525 N. Stemmons Freeway  
Dallas, Texas 75207  
Telephone: 800-644-7976

The guardrail anchor unit (SKT 350) as manufactured by:

Road Systems, Inc.  
 3616 Old Howard County Airport  
 Big Spring, Texas 79720  
 Telephone: 915-263-2435

Prior to installation the Contractor shall submit to the Engineer:

- (A) FHWA acceptance letter for each guardrail anchor unit certifying it meets the requirements of NCHRP Report 350, Test Level 3, in accordance with Article 106-2 of the *2012 Standard Specifications*.
- (B) Certified working drawings and assembling instructions from the manufacturer for each guardrail anchor unit in accordance with Article 105-2 of the *2012 Standard Specifications*.

No modifications shall be made to the guardrail anchor unit without the express written permission from the manufacturer. Perform installation in accordance with the details in the plans, and details and assembling instructions furnished by the manufacturer.

**Construction Methods**

Guardrail end delineation is required on all approach and trailing end sections for both temporary and permanent installations. Guardrail end delineation consists of yellow reflective sheeting applied to the entire end section of the guardrail in accordance with Article 1088-3 of the *2012 Standard Specifications* and is incidental to the cost of the guardrail anchor unit.

**Measurement and Payment**

Measurement and payment will be made in accordance with Article 862-6 of the *2012 Standard Specifications*.

Payment will be made under:

| <b>Pay Item</b>                  | <b>Pay Unit</b> |
|----------------------------------|-----------------|
| Guardrail Anchor Units, Type 350 | Each            |

**MATERIALS:**

(2-21-12) (Rev. 5-20-14)                      1000, 1002, 1005, 1024, 1050, 1056, 1074, 1078, 1080, 1081, 1086, 1084, 1087, 1092                      SP10 R01

Revise the *2012 Standard Specifications* as follows:

**Page 10-1, Article 1000-1, DESCRIPTION, lines 9-10**, replace the last sentence of the first paragraph with the following:

Type IL, IP, IS or IT blended cement may be used instead of Portland cement.

**Page 10-1, Article 1000-1, DESCRIPTION, line 14,** add the following:

Use materials which do not produce a mottled appearance through rusting or other staining of the finished concrete surface.

**Page 10-5, Table 1000-1, REQUIREMENTS FOR CONCRETE,** replace with the following:

| <b>TABLE 1000-1<br/>REQUIREMENTS FOR CONCRETE</b> |  |                                   |                          |                                   |                          |                                 |                     |                       |              |                     |              |
|---|--|-----------------------------------|--------------------------|-----------------------------------|--------------------------|---------------------------------|---------------------|-----------------------|--------------|---------------------|--------------|
| <b>Class of Concrete</b>                          | <b>Min. Comp. Strength at 28 days</b>            | <b>Maximum Water-Cement Ratio</b> |                          |                                   |                          | <b>Consistency Max. Slump</b>   |                     | <b>Cement Content</b> |              |                     |              |
|   |  | <b>Air-Entrained Concrete</b>     |                          | <b>Non Air-Entrained Concrete</b> |                          | <b>Vibrated</b>                 | <b>Non-Vibrated</b> | <b>Vibrated</b>       |              | <b>Non-Vibrated</b> |              |
|   |  | <b>Rounded Aggregate</b>          | <b>Angular Aggregate</b> | <b>Rounded Aggregate</b>          | <b>Angular Aggregate</b> |                                 |                     | <b>Min.</b>           | <b>Max.</b>  | <b>Min.</b>         | <b>Max.</b>  |
| <i>Units</i>                                      | <i>psi</i>                                       |                                   |                          |                                   |                          | <i>inch</i>                     | <i>inch</i>         | <i>lb/cy</i>          | <i>lb/cy</i> | <i>lb/cy</i>        | <i>lb/cy</i> |
| AA  | 4,500  | 0.381                             | 0.426                    | -                                 | -                        | 3.5                             | -                   | 639                   | 715          | -                   | -            |
| AA Slip Form                                      | 4,500  | 0.381                             | 0.426                    | -                                 | -                        | 1.5                             | -                   | 639                   | 715          | -                   | -            |
| Drilled Pier                                      | 4,500  | -                                 | -                        | 0.450                             | 0.450                    | -                               | 5-7 dry<br>7-9 wet  | -                     | -            | 640                 | 800          |
| A   | 3,000  | 0.488                             | 0.532                    | 0.550                             | 0.594                    | 3.5                             | 4                   | 564                   | -            | 602                 | -            |
| B   | 2,500  | 0.488                             | 0.567                    | 0.559                             | 0.630                    | 2.5                             | 4                   | 508                   | -            | 545                 | -            |
| B Slip Formed                                     | 2,500  | 0.488                             | 0.567                    | -                                 | -                        | 1.5                             | -                   | 508                   | -            | -                   | -            |
| Sand Lightweight                                  | 4,500  | -                                 | 0.420                    | -                                 | -                        | 4                               | -                   | 715                   | -            | -                   | -            |
| Latex Modified                                    | 3,000<br>7 day                                   | 0.400                             | 0.400                    | -                                 | -                        | 6                               | -                   | 658                   | -            | -                   | -            |
| Flowable Fill excavatable                         | 150<br>max. at 56 days                           | as needed                         | as needed                | as needed                         | as needed                | -                               | Flowable            | -                     | -            | 40                  | 100          |
| Flowable Fill non-excavatable                     | 125  | as needed                         | as needed                | as needed                         | as needed                | -                               | Flowable            | -                     | -            | 100                 | as needed    |
| Pavement  | 4,500 design, field<br>650 flexural, design only | 0.559                             | 0.559                    | -                                 | -                        | 1.5 slip form<br>3.0 hand place | -                   | 526                   | -            | -                   | -            |
| Precast   | See Table 1077-1                                 | as needed                         | as needed                | -                                 | -                        | 6                               | as needed           | as needed             | as needed    | as needed           | as needed    |
| Prestress   | per contract                                     | See Table 1078-1                  | See Table 1078-1         | -                                 | -                        | 8                               | -                   | 564                   | as needed    | -                   | -            |

**Page 10-1, Article 1000-2, MATERIALS, line 16; Page 10-8, Subarticle 1000-7(A), MATERIALS, line 8; and Page 10-18, Article 1002-2, MATERIALS, line 9,** add the following to the table of item references:

| <b>Item</b>            | <b>Section</b> |
|------------------------|----------------|
| Type IL Blended Cement | 1024-1         |

Page 10-23, Table 1005-1, AGGREGATE GRADATION-COARSE AGGREGATE, replace with the following:

| <b>TABLE 1005-1<br/>AGGREGATE GRADATION - COARSE AGGREGATE</b> |           |               |           |             |             |             |           |           |            |            |            |                   |  |
|--|-----------|---------------|-----------|-------------|-------------|-------------|-----------|-----------|------------|------------|------------|-------------------|--|
| <b>Percentage of Total by Weight Passing</b>                   |           |               |           |             |             |             |           |           |            |            |            |                   |  |
| <b>Std. Size #</b>   | <b>2"</b> | <b>1 1/2"</b> | <b>1"</b> | <b>3/4"</b> | <b>1/2"</b> | <b>3/8"</b> | <b>#4</b> | <b>#8</b> | <b>#10</b> | <b>#16</b> | <b>#40</b> | <b>#200</b>       | <b>Remarks</b>   |
| 4  | 100       | 90-100        | 20-55     | 0-15        | -           | 0-5         | -         | -         | -          | -          | -          | A                 | Asphalt Plant Mix  |
| 467M   | 100       | 95-100        | -         | 35-70       | -           | 0-30        | 0-5       | -         | -          | -          | -          | A                 | Asphalt Plant Mix  |
| 5  | -         | 100           | 90-100    | 20-55       | 0-10        | 0-5         | -         | -         | -          | -          | -          | A                 | AST, Sediment Control Stone                                |
| 57   | -         | 100           | 95-100    | -           | 25-60       | -           | 0-10      | 0-5       | -          | -          | -          | A                 | AST, Str. Concrete, Shoulder Drain, Sediment Control Stone |
| 57M  | -         | 100           | 95-100    | -           | 25-45       | -           | 0-10      | 0-5       | -          | -          | -          | A                 | AST, Concrete Pavement                                     |
| 6M   | -         | -             | 100       | 90-100      | 20-55       | 0-20        | 0-8       | -         | -          | -          | -          | A                 | AST  |
| 67   | -         | -             | 100       | 90-100      | -           | 20-55       | 0-10      | 0-5       | -          | -          | -          | A                 | AST, Str. Concrete, Asphalt Plant Mix                      |
| 78M  | -         | -             | -         | 100         | 98-100      | 75-100      | 20-45     | 0-15      | -          | -          | -          | A                 | Asphalt Plant Mix, AST, Str. Conc, Weep Hole Drains        |
| 14M  | -         | -             | -         | -           | -           | 100         | 35-70     | 5-20      | -          | 0-8        | -          | A                 | AST, Weep Hole Drains, Str. Concrete                       |
| 9  | -         | -             | -         | -           | -           | 100         | 85-100    | 10-40     | -          | 0-10       | -          | A                 | AST  |
| ABC  | -         | 100           | 75-97     | -           | 55-80       | -           | 35-55     | -         | 25-45      | -          | 14-30      | 4-12 <sup>B</sup> | Aggregate Base Course, Aggregate Stabilization             |
| ABC (M)  | -         | 100           | 75-100    | -           | 45-79       | -           | 20-40     | -         | 0-25       | -          | -          | 0-12 <sup>B</sup> | Maintenance Stabilization                                  |
| Light-weight C   | -         | -             | -         | -           | 100         | 80-100      | 5-40      | 0-20      | -          | 0-10       | -          | 0-2.5             | AST  |

- A. See Subarticle 1005-4(A).
- B. See Subarticle 1005-4(B).
- C. For Lightweight Aggregate used in Structural Concrete, see Subarticle 1014-2(E)(6).

Page 10-46, Article 1024-1, PORTLAND CEMENT, line 33, add the following as the ninth paragraph:

Use Type IL blended cement that meets AASHTO M 240, except that the limestone content is limited to between 5 and 12% by weight and the constituents shall be interground. Class F fly ash can replace a portion of Type IL blended cement and shall be replaced as outlined in Subarticle 1000-4(I) for Portland cement. For mixes that contain cement with alkali content

between 0.6% and 1.0% and for mixes that contain a reactive aggregate documented by the Department, use a pozzolan in the amount shown in Table 1024-1.

**Page 10-65, Article 1050-1, GENERAL, line 41,** replace the first sentence with the following:

All fencing material and accessories shall meet Section 106.

**Page 10-73, Article 1056-1 DESCRIPTION, lines 7-8,** delete the first sentence of the second paragraph and replace with the following:

Use geotextile fabrics that are on the NCDOT Approved Products List.

**Page 10-73, Article 1056-2 HANDLING AND STORING, line 17,** replace “mechanically stabilized earth (MSE) wall faces” with “temporary wall faces”.

**Page 10-74, TABLE 1056-1 GEOTEXTILE REQUIREMENTS,** replace table with the following:

| <b>TABLE 1056-1<br/>GEOTEXTILE REQUIREMENTS</b> |  |                                |                             |                                |   |                    |
|---|--|--------------------------------|-----------------------------|--------------------------------|---|--------------------|
| <b>Property</b>                                 | <b>Requirement (MARV<sup>A</sup>)</b>  |                                |                             |                                |   | <b>Test Method</b> |
|   | <b>Type 1</b>  | <b>Type 2</b>                  | <b>Type 3<sup>B</sup></b>   | <b>Type 4</b>                  | <b>Type 5<sup>C</sup></b>                               |                    |
| <i>Typical Application</i>                      | <i>Shoulder Drains</i>   | <i>Under Rip Rap</i>           | <i>Temporary Silt Fence</i> | <i>Soil Stabilization</i>      | <i>Temporary Walls</i>                                  |                    |
| Elongation (MD & CD)                            | ≥ 50%  | ≥ 50%                          | ≤ 25%                       | < 50%                          | < 50%   | ASTM D4632         |
| Grab Strength (MD & CD)                         | Table 1 <sup>D</sup> , Class 3   | Table 1 <sup>D</sup> , Class 1 | 100 lb                      | Table 1 <sup>D</sup> , Class 3 | -   | ASTM D4632         |
| Tear Strength (MD & CD)                         |  |                                | -                           |                                | -   | ASTM D4533         |
| Puncture Strength                               |  |                                | -                           |                                | -   | ASTM D6241         |
| Ultimate Tensile Strength (MD & CD)             | -  | -                              | -                           | -                              | 2,400 lb/ft (unless required otherwise in the contract) | ASTM D4595         |
| Permittivity                                    | Table 2 <sup>D</sup> , 15% to 50% <i>in Situ</i> Soil Passing No. 200 <sup>E</sup> |                                | Table 7 <sup>D</sup>        | Table 5 <sup>D</sup>           | 0.20 sec <sup>-1</sup>                                  | ASTM D4491         |
| Apparent Opening Size                           |  |                                |                             |                                | No. 30 <sup>E</sup>                                     | ASTM D4751         |
| UV Stability (Retained Strength)                |  |                                |                             |                                | 70%   | ASTM D4355         |

A. MARV does not apply to elongation

- B. Minimum roll width of 36" required
- C. Minimum roll width of 13 ft required
- D. AASHTO M 288
- E. US Sieve No. per AASHTO M 92

**Page 10-115, Subarticle 1074-7(B), Gray Iron Castings, lines 10-11,** replace with the first two sentences with the following:

Supply gray iron castings meeting all facets of AASHTO M 306 excluding proof load. Proof load testing will only be required for new casting designs during the design process, and conformance to M306 loading (40,000 lbs.) will be required only when noted on the design documents.

**Page 10-126, Table 1078-1, REQUIREMENTS FOR CONCRETE,** replace with the following:

| <b>TABLE 1078-1<br/>REQUIREMENTS FOR CONCRETE</b> |   |  |
|---|---|--|
| <b>Property</b>                                   | <b>28 Day Design<br/>Compressive<br/>Strength<br/>6,000 psi or less</b> | <b>28 Day Design<br/>Compressive<br/>Strength<br/>greater than<br/>6,000 psi</b> |
| Maximum Water/Cementitious Material Ratio         | 0.45  | 0.40   |
| Maximum Slump without HRWR                        | 3.5"  | 3.5"   |
| Maximum Slump with HRWR                           | 8"  | 8"   |
| Air Content (upon discharge into forms)           | 5 + 2%  | 5 + 2%   |

**Page 10-151, Article 1080-4 Inspection and Sampling, lines 18-22,** replace (B), (C) and (D) with the following:

(B) At least 3 panels prepared as specified in 5.5.10 of AASHTO M 300, Bullet Hole Immersion Test.

(C) At least 3 panels of 4"x6"x1/4" for the Elcometer Adhesion Pull Off Test, ASTM D4541.

(D) A certified test report from an approved independent testing laboratory for the Salt Fog Resistance Test, Cyclic Weathering Resistance Test, and Bullet Hole Immersion Test as specified in AASHTO M 300.

(E) A certified test report from an approved independent testing laboratory that the product has been tested for slip coefficient and meets AASHTO M253, Class B.

**Page 10-161, Subarticle 1081-1(A) Classifications, lines 29-33,** delete first 3 sentences of the description for Type 2 and replace with the following:

**Type 2** - A low-modulus, general-purpose adhesive used in epoxy mortar repairs. It may be used to patch spalled, cracked or broken concrete where vibration, shock or expansion and contraction are expected.

**Page 10-162, Subarticle 1081-1(A) Classifications, lines 4-7,** delete the second and third sentences of the description for Type 3A. **Lines 16-22,** delete Types 6A, 6B and 6C.

**Page 10-162, Subarticle 1081-1(B) Requirements, lines 26-30,** replace the second paragraph with the following:

For epoxy resin systems used for embedding dowel bars, threaded rods, rebar, anchor bolts and other fixtures in hardened concrete, the manufacturer shall submit test results showing that the bonding system will obtain 125% of the specified required yield strength of the fixture. Furnish certification that, for the particular bolt grade, diameter and embedment depth required, the anchor system will not fail by adhesive failure and that there is no movement of the anchor bolt. For certification and anchorage, use 3,000 psi as the minimum Portland cement concrete compressive strength used in this test. Use adhesives that meet Section 1081.

List the properties of the adhesive on the container and include density, minimum and maximum temperature application, setting time, shelf life, pot life, shear strength and compressive strength.

**Page 10-163, Table 1081-1 Properties of Mixed Epoxy Resin Systems,** replace table with the following:

| Property   | Type 1       | Type 2  | Type 3 | Type 3A      | Type 4A | Type 4B | Type 5 |
|--|--------------|---------|--------|--------------|---------|---------|--------|
| Viscosity-Poises at 77°F ± 2°F                           | Gel          | 10-30   | 25-75  | Gel          | 40-150  | 40-150  | 1-6    |
| Spindle No.  | -            | 3       | 4      | --           | 4       | 4       | 2      |
| Speed (RPM)  | -            | 20      | 20     | --           | 10      | 10      | 50     |
| Pot Life (Minutes)                                       | 20-50        | 30-60   | 20-50  | 5-50         | 40-80   | 40-80   | 20-60  |
| Minimum Tensile Strength at 7 days (psi)                 | 1,500        | 2,000   | 4,000  | 4,000        | 1,500   | 1,500   | 4,000  |
| Tensile Elongation at 7 days (%)                         | 30 min.      | 30 min. | 2-5    | 2-5          | 5-15    | 5-15    | 2-5    |
| Min. Compressive Strength of 2" mortar cubes at 24 hours | 3,000 (Neat) | 4,000-  | 6,000- | 6,000 (Neat) | 3,000   | 3,000   | 6,000  |
| Min. Compressive Strength of 2" mortar cubes at 7 days   | 5,000 (Neat) | -       | -      | -            | -       | 5,000   | -      |
| Maximum Water Absorption (%)                             | 1.5          | 1.0     | 1.0    | 1.5          | 1.0     | 1.0     | 1.0    |
| Min. Bond Strength Slant Shear Test at 14 days (psi)     | 1,500        | 1,500   | 2,000  | 2,000        | 1,500   | 1,500   | 1,500  |

**Page 10-164, Subarticle 1081-1(E) Prequalification, lines 31-33,** replace the second sentence of the first paragraph with the following:

Manufacturers choosing to supply material for Department jobs must submit an application through the Value Management Unit with the following information for each type and brand name:

**Page 10-164, Subarticle 1081-1(E)(3), line 37,** replace this subarticle with the following:

(3) Type of the material in accordance with Articles 1081-1 and 1081-4,

**Page 10-165, Subarticle 1081-1(E)(6), line 1,** in the first sentence of the first paragraph replace “AASHTO M 237” with “the specifications”.

**Page 10-165, Subarticle 1081-1(E) Prequalification, line 9-10,** delete the second sentence of the last paragraph.

**Page 10-165, Subarticle 1081-1(F) Acceptance, line 14,** in the first sentence of the first paragraph replace “Type 1” with “Type 3”.

**Page 10-169, Subarticle 1081-3(G) Anchor Bolt Adhesives,** delete this subarticle.

**Page 10-170, Article 1081-3 Hot Bitumen, line 9,** add the following at the end of Section 1081:

#### **1081-4 EPOXY RESIN ADHESIVE FOR BONDING TRAFFIC MARKINGS**

##### **(A) General**

This section covers epoxy resin adhesive for bonding traffic markers to pavement surfaces.

##### **(B) Classification**

The types of epoxies and their uses are as shown below:

**Type I** – Rapid Setting, High Viscosity, Epoxy Adhesive. This type of adhesive provides rapid adherence to traffic markers to the surface of pavement.

**Type II** – Standard Setting, High Viscosity, Epoxy Adhesive. This type of adhesive is recommended for adherence of traffic markers to pavement surfaces when rapid set is not required.

**Type III** – Rapid Setting, Low Viscosity, Water Resistant, Epoxy Adhesive. This type of rapid setting adhesive, due to its low viscosity, is appropriate only for use with embedded traffic markers.

**Type IV** – Standard Set Epoxy for Blade Deflecting-Type Plowable Markers.

##### **(C) Requirements**

Epoxies shall conform to the requirements set forth in AASHTO M 237.

##### **(D) Prequalification**

Refer to Subarticle 1081-1(E).

**(E) Acceptance**

Refer to Subarticle 1081-1(F).

**Page 10-173, Article 1084-2 STEEL SHEET PILES, lines 37-38**, replace first paragraph with the following:

Steel sheet piles detailed for permanent applications shall be hot rolled and meet ASTM A572 or ASTM A690 unless otherwise required by the plans. Steel sheet piles shall be coated as required by the plans. Galvanized sheet piles shall be coated in accordance with Section 1076. Metallized sheet piles shall be metallized in accordance to the Project Special Provision “Thermal Sprayed Coatings (Metallization)” with an 8 mil, 99.9% aluminum alloy coating and a 0.5 mil seal coating. Any portion of the metallized sheet piling encased in concrete shall receive a barrier coat. The barrier coat shall be an approved waterborne coating with a low-viscosity which readily absorbs into the pores of the aluminum thermal sprayed coating. The waterborne coating shall be applied at a spreading rate that results in a theoretical 1.5 mil dry film thickness. The manufacturer shall issue a letter of certification that the resin chemistry of the waterborne coating is compatible with the 99.9% aluminum thermal sprayed alloy and suitable for tidal water applications.

**Page 10-174, Subarticle 1086-1(B)(1) Epoxy, lines 18-24**, replace this subarticle with the following:

The epoxy shall meet Article 1081-4.

The 2 types of epoxy adhesive which may be used are Type I, Rapid Setting, and Type II, Standard Setting. Use Type II when the pavement temperature is above 60°F or per the manufacturer’s recommendations whichever is more stringent. Use Type I when the pavement temperature is between 50°F and 60°F or per the manufacturer’s recommendations whichever is more stringent. Epoxy adhesive Type I, Cold Set, may be used to attach temporary pavement markers to the pavement surface when the pavement temperature is between 32°F and 50°F or per the manufacturer’s recommendations whichever is more stringent.

**Page 10-175, Subarticle 1086-2(E) Epoxy Adhesives, line 27**, replace “Section 1081” with “Article 1081-4”.

**Page 10-177, Subarticle 1086-3(E) Epoxy Adhesives, line 22**, replace “Section 1081” with “Article 1081-4”.

**Page 10-179, Subarticle 1087-4(A) Composition, lines 39-41**, replace the third paragraph with the following:

All intermixed and drop-on glass beads shall not contain more than 75 ppm arsenic or 200 ppm lead.

**Page 10-180, Subarticle 1087-4(B) Physical Characteristics, line 8**, replace the second paragraph with the following:

All intermixed and drop-on glass beads shall comply with NCGS § 136-30.2 and 23 USC § 109(r).

**Page 10-181, Subarticle 1087-7(A) Intermixed and Drop-on Glass Beads, line 24,** add the following after the first paragraph:

Use X-ray Fluorescence for the normal sampling procedure for intermixed and drop-on beads, without crushing, to check for any levels of arsenic and lead. If any arsenic or lead is detected, the sample shall be crushed and repeat the test using X-ray Fluorescence. If the X-ray Fluorescence test shows more than a LOD of 5 ppm, test the beads using United States Environmental Protection Agency Method 6010B, 6010C or 3052 for no more than 75 ppm arsenic or 200 ppm lead.

**Page 10-204, Subarticle 1092-2(A) Performance and Test Requirements,** replace **Table 1092-3 Minimum Coefficient of Retroreflection for NC Grade A** with the following:

| <b>Observation Angle, degrees</b> | <b>Entrance Angle, degrees</b> | <b>White</b> | <b>Yellow</b> | <b>Green</b> | <b>Red</b> | <b>Blue</b> | <b>Fluorescent Yellow Green</b> | <b>Fluorescent Yellow</b> |
|-----------------------------------|--------------------------------|--------------|---------------|--------------|------------|-------------|---------------------------------|---------------------------|
| 0.2                               | -4.0                           | 525          | 395           | 52           | 95         | 30          | 420                             | 315                       |
| 0.2                               | 30.0                           | 215          | 162           | 22           | 43         | 10          | 170                             | 130                       |
| 0.5                               | -4.0                           | 310          | 230           | 31           | 56         | 18          | 245                             | 185                       |
| 0.5                               | 30.0                           | 135          | 100           | 14           | 27         | 6           | 110                             | 81                        |
| 1.0                               | -4.0                           | <b>120</b>   | 60            | 8            | 16         | 3.6         | 64                              | 48                        |
| 1.0                               | 30.0                           | 45           | 34            | 4.5          | 9          | 2           | 36                              | 27                        |

**SURFACE PREPARATION FOR PAVEMENT MARKINGS**

(07-16-2014)

Div. 7

Prepare the pavement prior to applying new pavement markings to insure maximum possible adhesion; this including, but is not limited to, scarifying the existing pavement markings. A minimum of 25% of existing pavement markings shall be removed prior to installing new pavement markings when new markings are to be installed over existing markings. If markings are to be installed in new locations, the now irrelevant pavement markings shall be removed completely..

No direct payment will be made for this work as it is considered incidental to the various contract items.

**SNOWPLOWABLE PAVEMENT MARKERS**

(Div. 7 1/26/2011)

**Description**

Snowplowable pavement markers shall be installed in accordance with Section 1253 of the 2012 *Standard Specifications* and the following provisions:

Existing reflectors shall be removed from the existing casting and the castings shall be cleaned in place in accordance with the manufacturer’s recommendations prior to replacing the reflectors. The old reflectors shall be replaced with new reflectors of the same color(s) or as directed by the Engineer, using adhesive required by the manufacturer.

Payment will be made under:

| <b>Item</b>                                     | <b>Unit</b> |
|---|-------------|
| Generic Pavement Marking Item - Relens Existing | EA          |

**TEMPORARY TRAFFIC CONTROL DEVICES:**

(1-17-12) Rev. Div. 7 8-7-14

1105

SP11 R05

Revise the 2012 Standard Specifications as follows:

Page 11-5, Article 1105-6 Measurement and Payment, add the following paragraph after line 24:

Partial payments will be made on each payment estimate based on the following: 50% of the contract lump sum price bid will be paid on the first monthly estimate and the remaining 45% of the contract lump sum price bid will be paid on each subsequent estimate based on the percent of the project completed. **The final 5% payment for Temporary Traffic Control will not be made until all traffic control items have been removed from the right of way.**

Traffic control devices shall not be installed more than three weeks prior to their need for actual work being performed on the project.

**TEMPORARY TRAFFIC CONTROL (TTC):**

(7-16-13) (Rev. 7-15-14) (Rev. 8-19-2014, Div. 7)

RWZ-1

Maintain traffic in accordance with Divisions 10, 11 and 12 of the *2012 Standard Specifications* and the following provisions:

Install Work Zone Advance Warning Signs in accordance with the detail drawing provided in these plans prior to beginning any other work. Use a lane closure or slow moving operation to complete the work, as necessary, unless otherwise indicated. Refer to Standard Drawing No. 1101.02, 1101.11, 1110.01, 1110.02, 1130.01 1135.01 and 1180.01 of the *2012 Roadway Standard Drawings*. Use a moving operation only if the minimum speed maintained at all times is 3 mph with no stops that narrow or close a lane of travel. If the moving operation is progressing slower than 3 mph at any time, install a lane closure. Maintain the existing traffic pattern at all times, except in the immediate work zone where lane closures are allowed as determined by the Engineer.

Refer to attached details and Standard Drawing No. 1101.02, 1101.03, 1101.04, 1101.05, 1101.11, 1110.01, 1110.02, 1115.01, 1130.01, 1135.01, 1145.01, 1150.01, 1165.01, and 1180.01 of the *2012 Roadway Standard Drawings* when closing a lane of travel in a stationary work zone such as pavement patching resurfacing, or pavement marking removal. Properly ballasted cones and skinny drums may be used instead of drums. However, drums are required for the upstream taper portion of lane closures in all

applications. The stationary work zone shall be a maximum of 1 mile in length at any given time on 2 Lane, 2 Way facilities unless otherwise approved by the Engineer. A pilot vehicle operation may be used in conjunction with flaggers and the appropriate pilot vehicle warning signing as directed by the Engineer. During periods of construction inactivity, return the traffic pattern to the existing alignment and remove or cover any work zone signs. When covering work zone signs, use an opaque material that prevents reading of the sign at night by a driver using high beam headlights. Use material, which does not damage the sign sheeting. Replace any obliterated markings as required by other sections of the *2012 Standard Specifications* and the Engineer.

When personnel and/or equipment are working on the shoulder adjacent to and within 5 feet of an open travel lane, close the nearest open travel lane using Standard Drawing No. 1101.02 of the *2012 Roadway Standard Drawings*. When personnel and/or equipment are working within a lane of travel of an undivided facility, close the lane according to the traffic control plans, *2012 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. Do not work simultaneously, on both sides of an open travel way, within the same location, on a two-lane, two-way road. Perform work only when weather and visibility conditions allow safe operations as directed by the Engineer.

When utilizing a slow-moving operation for such items as pavement marking and marker placement, as a minimum the slow moving operation caravan shall consist of the vehicles and devices shown on the Moving Operation Caravan Details according to Roadway Standard Drawing No. 1101.02, sheet 11 of the *2012 Roadway Standard Drawings*. Traffic cones may be used when necessary to provide additional protection of wet pavement markings. Ballast all traffic cones so they will not be blown over by traffic.

## **TRAFFIC OPERATIONS:**

### **Sign Removal**

All stationary work zone signs shall be removed once the project is substantially complete. The project is substantially complete when all signs, lighting and pavement markings are installed. The pavement marking doesn't have to be the final marking material to be considered substantially complete. Any remaining punch list items are to be completed with portable work zone signing. There will be no compensation for any portable signing. Sign removal is a condition of final project acceptance.

### **Lane Closure Work Zone Signs**

Install any required lane closure signing needed during the life of the project in accordance with the Standard Drawing No. 1101.02, 1101.11 and 1110.02 of the *2012 Roadway Standard Drawings*. Any required portable signs for lane closures are compensated in the contract pay item for *Temporary Traffic Control*.

**Measurement and Payment:**

Temporary traffic control work, including, but not limited to installation and removal of signs, cones, drums, skinny drums, flaggers, AFAD's, changeable message boards, truck mounted attenuators, flashing arrow boards, and pilot vehicles will be paid at the contract lump sum price for *Temporary Traffic Control*. The cumulative total of the lump sum price for temporary traffic control will be equal to the percent complete (project) as calculated for each partial pay estimate **except that 5% will be held for the final payment to be made after all work zone signs have been removed.** Additional flashing arrow boards and message boards beyond those shown in the contract, or *Roadway Standard Drawings* required by the Engineer will be paid as extra work in accordance with Article 104-7 of the *Standard Specifications*.

The work of satisfactorily installing and removing work zone advance and/or general warning signs, including, but not limited to, furnishing, locating, installing, covering, uncovering and removing stationary signs considered part of Temporary Traffic Control.

Payment will be made under:

|                           |                 |
|---------------------------|-----------------|
| <b>Pay Item</b>           | <b>Pay Unit</b> |
| Temporary Traffic Control | Lump Sum        |

**COORDINATION OF EXISTING LIGHTING WORK:**

(7-1-95) (Rev. 8-21-12)

105

SP14 R02

Maintain operation of the existing lighting systems until such time that it becomes in conflict with the actual construction work, or it becomes a hazard to traffic as determined by the Engineer.

Use care in working around the lights and circuitry and phase operations so that the disruption of existing lighting systems will be minimized. Make repairs or replacements in conformance with the contract. Should the Contractor fail to make such repairs within the time allowed, the Department will cause the necessary repairs to be made by others. The costs of such repairs will be deducted from any monies due the Contractor on the next subsequent monthly or final payment.

**TRUCK MOUNTED CHANGEABLE MESSAGE SIGNS:**

(8-21-12)

1101.02

SP11 R10

Revise the *2012 Roadway Standard Drawings* as follows:

**Drawing No. 1101.02, Sheet 12, TEMPORARY LANE CLOSURES,** replace General Note #11 with the following:

11- TRUCK MOUNTED CHANGEABLE MESSAGE SIGNS (TMCMS) USED ON SHADOW VEHICLES FOR "IN LANE" ACTIVITIES SHALL BE A MINIMUM OF 43" X 73". THE DISPLAY PANEL SHALL HAVE FULL MATRIX CAPABILITY WITH THE CAPABILITY TO PROVIDE 2 MESSAGE LINES WITH 7 CHARACTERS PER

LINE WITH A MINIMUM CHARACTER HEIGHT OF 18". FOR ADDITIONAL MESSAGING, CONTACT THE WORK ZONE TRAFFIC CONTROL SECTION.

12- TMCMS USED FOR ADVANCED WARNING ON VEHICLES LOCATED ON THE SHOULDER MAY BE SMALLER THAN 43" X 73". THE DISPLAY PANEL SHALL HAVE THE CAPABILITY TO PROVIDE 2 MESSAGE LINES WITH 7 CHARACTERS PER LINE WITH A MINIMUM CHARACTER HEIGHT OF 18". FOR ADDITIONAL MESSAGING, CONTACT THE WORK ZONE TRAFFIC CONTROL SECTION.

**Drawing No. 1101.02, Sheet 13, TEMPORARY LANE CLOSURES**, replace General Note #12 with the following:

12- TRUCK MOUNTED CHANGEABLE MESSAGE SIGNS (TMCMS) USED ON SHADOW VEHICLES FOR "IN LANE" ACTIVITIES SHALL BE A MINIMUM OF 43" X 73". THE DISPLAY PANEL SHALL HAVE FULL MATRIX CAPABILITY WITH THE CAPABILITY TO PROVIDE 2 MESSAGE LINES WITH 7 CHARACTERS PER LINE WITH A MINIMUM CHARACTER HEIGHT OF 18". FOR ADDITIONAL MESSAGING, CONTACT THE WORK ZONE TRAFFIC CONTROL SECTION.

13- TMCMS USED FOR ADVANCED WARNING ON VEHICLES LOCATED ON THE SHOULDER MAY BE SMALLER THAN 43" X 73". THE DISPLAY PANEL SHALL HAVE THE CAPABILITY TO PROVIDE 2 MESSAGE LINES WITH 7 CHARACTERS PER LINE WITH A MINIMUM CHARACTER HEIGHT OF 18". FOR ADDITIONAL MESSAGING, CONTACT THE WORK ZONE TRAFFIC CONTROL SECTION.

**COORDINATION OF EXISTING LIGHTING WORK:**

(7-1-95) (Rev. 8-21-12)

105

SP14 R02

Maintain operation of the existing lighting systems until such time that it becomes in conflict with the actual construction work, or it becomes a hazard to traffic as determined by the Engineer.

Use care in working around the lights and circuitry and phase operations so that the disruption of existing lighting systems will be minimized. Make repairs or replacements in conformance with the contract. Should the Contractor fail to make such repairs within the time allowed, the Department will cause the necessary repairs to be made by others. The costs of such repairs will be deducted from any monies due the Contractor on the next subsequent monthly or final payment.

**STANDARD SPECIAL PROVISION**

**AVAILABILITY OF FUNDS – TERMINATION OF CONTRACTS**

(5-20-08)

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(E) of the *2012 Standard Specifications*.

### **ERRATA**

(1-17-12) (Rev. 1-21-14)

Z-4

Revise the 2012 Standard Specifications as follows:

#### **Division 2**

Page 2-7, line 31, Article 215-2 Construction Methods, replace “Article 107-26” with “Article 107-25”.

Page 2-17, Article 226-3, Measurement and Payment, line 2, delete “pipe culverts.”

**Page 2-20, Subarticle 230-4(B), Contractor Furnished Sources, change references as follows:** **Line 1**, replace “(4) Buffer Zone” with “(c) Buffer Zone”; **Line 12**, replace “(5) Evaluation for Potential Wetlands and Endangered Species” with “(d) Evaluation for Potential Wetlands and Endangered Species”; and **Line 33**, replace “(6) Approval” with “(4) Approval”.

#### **Division 3**

Page 3-1, after line 15, Article 300-2 Materials, replace “1032-9(F)” with “1032-6(F)”.

#### **Division 4**

Page 4-77, line 27, Subarticle 452-3(C) Concrete Coping, replace “sheet pile” with “reinforcement”.

#### **Division 6**

Page 6-7, line 31, Article 609-3 Field Verification of Mixture and Job Mix Formula Adjustments, replace “30” with “45”.

**Page 6-10, line 42, Subarticle 609-6(C)(2)**, replace “Subarticle 609-6(E)” with “Subarticle 609-6(D)”.

**Page 6-11, Table 609-1 Control Limits**, replace “Max. Spec. Limit” for the Target Source of  $P_{0.075}/P_{be}$  Ratio with “1.0”.

**Page 6-40, Article 650-2 Materials,** replace “Subarticle 1012-1(F)” with “Subarticle 1012-1(E)”

#### **Division 8**

**Page 8-23, line 10, Article 838-2 Materials,** replace “Portland Cement Concrete, Class B” with “Portland Cement Concrete, Class A”.

#### **Division 12**

**Page 12-7, Table 1205-3,** add “FOR THERMOPLASTIC” to the end of the title.

Page 12-8, Subarticle 1205-5(B), line 13, replace “Table 1205-2” with “Table 1205-4”.

**Page 12-8, Table 1205-4 and 1205-5,** replace “THERMOPLASTIC” in the title of these tables with “POLYUREA”.

Page 12-9, Subarticle 1205-6(B), line 21, replace “Table 1205-4” with “Table 1205-6”.

Page 12-11, Subarticle 1205-8(C), line 25, replace “Table 1205-5” with “Table 1205-7”.

#### **Division 15**

**Page 15-4, Subarticle 1505-3(F) Backfilling, line 26,** replace “Subarticle 235-4(C)” with “Subarticle 235-3(C)”.

Page 15-6, Subarticle 1510-3(B), after line 21, replace the allowable leakage formula with the following:  $W = LD\sqrt{P} \div 148,000$

Page 15-6, Subarticle 1510-3(B), line 32, delete “may be performed concurrently or” and replace with “shall be performed”.

Page 15-17, Subarticle 1540-3(E), line 27, delete “Type 1”.

#### **Division 17**

Page 17-26, line 42, Subarticle 1731-3(D) Termination and Splicing within Interconnect Center, delete this subarticle.

Revise the 2012 Roadway Standard Drawings as follows:

1633.01 Sheet 1 of 1, English Standard Drawing for Matting Installation, replace “1633.01” with “1631.01”.

### **PLANT AND PEST QUARANTINES**

(Imported Fire Ant, Gypsy Moth, Witchweed, And Other Noxious Weeds)

(3-18-03) (Rev. 10-15-13)

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, 919-733-6932, or <http://www.ncagr.gov/plantind/> 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 to present a hazard of spreading imported fire ant, gypsy moth, witchweed or other noxious weeds.

**MINIMUM WAGES**

(7-21-09)

Z-5

**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.

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

(10-16-07) (Rev. 5-21-13)

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. A sample agreement is available at [www.ncbowd.com/section/on-the-job-training](http://www.ncbowd.com/section/on-the-job-training).

### **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.

**INSTALLATION OF U-CHANNEL POST REFLECTIVE PANELS**

**Description**

3" x 60" aluminum reflective panels shall be installed by the Contractor on U-channel posts at locations shown on the Signing Plans. The reflective panels will be furnished by the Department (See section 901 of standard Specifications for Roads and Structures).

**Construction Methods**

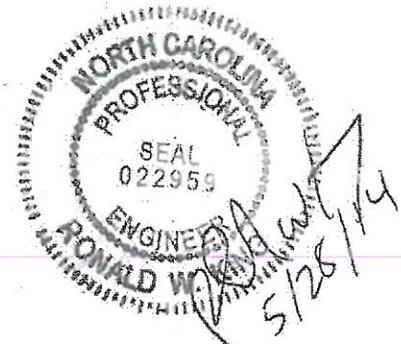
The panel shall be installed on the U-channel post after the post is installed. Before installation of the panel, the sign elevation must be confirmed to meet the requirement specified in the plans. The panel shall be located on the U-channel post with the top of panel flush with the bottom of the sign and with sheeted side of panel facing same as sign face. The Contractor shall attach with 5/16" diameter hex head bolts, nylon washers, aluminum shims, lock washer and nut as shown on roadway standard drawing 904.50, sheet 2 of 2. The attachment bolts and hardware shall be installed in three locations on the panel. The locations for attachment shall be approximately 4 inches from the top and bottom with the third located in the approximate center of the panel. The Contractor shall cut the panels such that the height above the ground will be approximately 4 inches. The panels may be furnished predrilled or slotted; however, the Contractor shall drill or slot holes as required for proper installation.

**Measurement and Payment**

Installation of U-Channel Post Reflective Panels will be measured and paid as the actual number of reflective panels installed and accepted. The price per each is full compensation for providing labor, tools, equipment, bolts, and hardware.

Payment will be made under:

|  |                 |
|--|-----------------|
| <b>Pay Item</b>                                  | <b>Pay Unit</b> |
| Installation of U-channel Post Reflective Panels | Each            |





**OVERHEAD AND DYNAMIC MESSAGE SIGN FOUNDATIONS:**

**Description**

Sign foundations include foundations for overhead and dynamic message signs (DMS) supported by metal poles or upright trusses. Sign foundations consist of footings with pedestals or drilled piers with or without grade beams or wings, conduit and anchor rod assemblies. Construct sign foundations in accordance with the contract and accepted submittals. Define "cantilever sign" as an overhead cantilever sign support in accordance with Figure 1-1 of the *AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals*.

**Materials**

Use sign foundation materials that meet the *Foundations and Anchor Rod Assemblies for Metal Poles* provision.

**Assumed Subsurface Conditions**

Assume the following soil parameters and groundwater elevation for sign foundations unless these subsurface conditions are not applicable to sign locations:

- (A) Unit weight ( $\gamma$ ) = 120 lb/cf,
- (B) Friction angle ( $\phi$ ) = 30°,
- (C) Cohesion ( $c$ ) = 0 lb/sf and
- (D) Groundwater 7 ft below finished grade.

A subsurface investigation is required if the Engineer determines these assumed subsurface conditions do not apply to a sign location and the sign cannot be moved. Subsurface conditions requiring a subsurface investigation include but are not limited to weathered or hard rock, boulders, very soft or loose soil, muck or shallow groundwater. No extension of completion date or time will be allowed for subsurface investigations.

**Subsurface Investigations**

Use a prequalified geotechnical consultant to perform one standard penetration test (SPT) boring in accordance with ASTM D1586 at each sign location requiring a subsurface investigation. Rough grade sign locations to within 2 ft of finished grade before beginning drilling. Drill borings to 2 drilled pier diameters below anticipated pier tip elevations or refusal, whichever is higher.

Use the computer software gINT version V8i or later manufactured by Bentley Systems, Inc. with the current NCDOT gINT library and data template to produce SPT boring logs. Provide boring logs sealed by a geologist or engineer licensed in the state of North Carolina.

**Sign Foundation Designs**

Design sign foundations for the wind zone and clearances shown in the plans and the slope of finished grade at each sign location. Use the assumed soil parameters and groundwater elevation

above for sign foundation designs unless a subsurface investigation is required. For sign locations requiring a subsurface investigation, design sign foundations for the subsurface conditions at each sign location. Design footings, pedestals, drilled piers, grade beams and wings in accordance with the 6<sup>th</sup> Edition of the *AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals*. In some instances, conflicts with drainage structures may dictate sign foundation types.

Design footings in accordance with Section 4.4 of the *AASHTO Standard Specifications for Highway Bridges*. Do not use an allowable bearing pressure of more than 3,000 lb/sf for footings.

Design drilled piers for side resistance only in accordance with Section 4.6 of the *AASHTO Standard Specifications for Highway Bridges* except reduce ultimate side resistance by 25% for uplift. Use the computer software LPILE version 6.0 or later manufactured by Ensoft, Inc. to analyze drilled piers. Provide drilled pier designs with a horizontal deflection of less than 1" at top of piers. For cantilever signs with single drilled pier foundations supporting metal poles, use wings to resist torsion forces. Provide drilled pier designs with a factor of safety of at least 2.0 for torsion.

For drilled pier sign foundations supporting upright trusses, use dual drilled piers connected with a grade beam having a moment of inertia approximately equal to that of either pier. The Broms' method is acceptable to analyze drilled piers with grade beams instead of LPILE. Use a safety factor of at least 3.5 for the Broms' design method in accordance with C13.6.1.1 of the *AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals*.

Submit boring logs, if any, working drawings and design calculations for acceptance in accordance with Article 105-2 of the *2012 Standard Specifications*. Submit working drawings showing plan views, required foundation dimensions and elevations and typical sections with reinforcement, conduit and anchor rod assembly details. Include all boring logs, design calculations and LPILE output for sign foundation design submittals. Have sign foundations designed, detailed and sealed by an engineer licensed in the state of North Carolina.

#### **Construction Methods**

Construct footings, pedestals, drilled piers, grade beams and wings and install anchor rod assemblies for sign foundations in accordance with the *Foundations and Anchor Rod Assemblies for Metal Poles* provision.

#### **Measurement and Payment**

*Overhead Footings* will be measured and paid in cubic yards. Sign foundations will be measured as the cubic yards of foundation concrete for footings, pedestals, drilled piers, grade beams and wings shown on the accepted submittals. The contract unit price for *Overhead Footings* will be full compensation for providing labor, tools, equipment and foundation materials, stabilizing or shoring excavations and supplying concrete, reinforcing steel, conduit, anchor rod assemblies and any incidentals necessary to construct sign foundations. Subsurface investigations required by the Engineer will be paid as extra work in accordance with Article 104-7 of the *2012 Standard Specifications*.

**Project Reference # SS-4907AS**

**Caswell County**

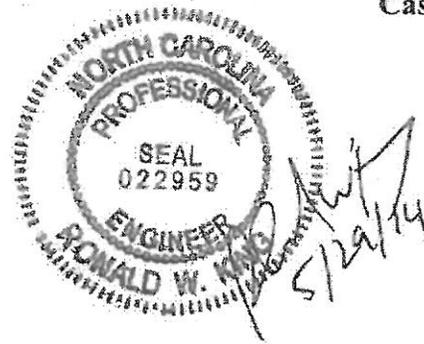
Payment will be made under:

**Pay Item**

Overhead Footings

**Pay Unit**

Cubic Yard



**OVERHEAD SIGN SUPPORTS:**

**Description**

Design, fabricate, furnish and erect various types of overhead sign assemblies. Fabricate supporting structures using tubular members of either aluminum or steel. The types of overhead sign assemblies included in this specification are span structures, cantilever structures and sign structures attached to bridges.

**Materials**

|                           |                       |
|---------------------------|-----------------------|
| Structural Steel          | Section 1072          |
| Overhead Sign Structures  | Section 1096          |
| Signing Materials         | Section 1092          |
| Organic Zinc Repair Paint | Article 1080-9        |
| Reinforcing Steel         | Section 1070          |
| Direct Tension Indicators | Sections 440 and 1072 |

**Construction Methods**

**A. General**

Fabricate overhead sign assemblies in accordance with the details shown in the approved working drawings and the requirements of these specifications.

No welding, cutting or drilling will be permitted in the field, unless approved by the Engineer.

Drill bolt holes and slots to finished size. Holes may also be punched to finished size, provided the diameter of the punched holes is at least twice the thickness of the metal being punched. Flame cutting of bolt holes and slots is not permitted.

Erect sign panels in accordance with the requirements for Type A or B signs as indicated in the plans or Roadway Standard Drawings. Field drill two holes per connection in the Z bars for attaching signs to overhead structures. Provide two U-bolts at each U-bolt connection such as each truss chord to sign hanger and each truss chord to walkway support or light support. Provide two U-bolts at each U-bolt connection where ends of truss chords are supported. The minimum diameter of all U-bolts is ½ inch.

For all U-bolt connections of hanger beams to overhead assembly truss chords, provide all U-bolts with a flat washer and double nuts at each end of the U-bolts. All double nuts that are on any U-bolt shall be the same thickness and weight. When

assembled, the double nuts shall be brought tight against each other by the use of two wrenches.

Use two coats of a zinc-rich paint to touch up minor scars on all galvanized materials.

For high strength bolted connections, use direct tension indicators. Galvanize bolts, nuts and washers in accordance with the Standard Specifications.

**B. Shop Drawings**

Design the overhead sign supports, including foundations, prior to fabrication. Submit design calculations and working drawings of the designs to the Engineer for review and acceptance.

Have a professional engineer registered in the State of North Carolina perform the computations and render a set of sealed, signed and dated drawings detailing the construction of each structure.

Submit to the Engineer for review and acceptance complete design and fabrication details for each overhead sign assembly, including foundations and brackets for supporting the signs and maintenance walkways, if applicable, electrical control boxes, and lighting luminaires. Base design upon the revised structure line drawings, wind load area and the wind speed shown in the plans, and in accordance with the *Standard Specifications for Structural Structures for Highway Signs, Luminaires and Traffic Signals*.

Submit thirteen (13) copies of completely detailed working drawings and one copy of the design calculations including all design assumptions for each overhead sign assembly to the Engineer for approval prior to fabrication. Working drawings shall include complete design and fabrication details (including foundations); provisions for attaching signs, maintenance walkways (when applicable), lighting luminaires to supporting structures, applicable material specifications, and any other information necessary for procuring and replacing any part of the complete overhead sign assembly.

Allow 40 days for initial working drawing review after the Engineer receives them. If revisions to working drawings are required, an additional 40 days shall be required for review and approval of the final working drawings.

Approval of working drawings by the Engineer shall not relieve the Contractor of responsibility for the correctness of the drawings, or for the fit of all shop and field connections and anchors.

**C. Design and Fabrication**

The following criteria govern the design of overhead sign assemblies:

Design shall be in accordance with the Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 5<sup>th</sup> Edition, 2009 and the 2010 and 2011 Interim Revisions.

Within this Specification, there are several design criteria that are owner specified. They include:

- Overhead cantilever sign structures shall include galloping loads (exclude four-chord horizontal trusses).
- The natural wind gust speed in North Carolina shall be assumed to be 11.6 mph.
- The fatigue importance category used in the design, for each type of structure, shall be for:
  - Cantilever structures with span greater than 50 feet – Fatigue Category I.
  - Cantilever structures with span less than or equal to 50 feet – Fatigue Category II.
  - Non-cantilever structures – Fatigue Category II

The following Specification interpretations or criteria shall be used in the design of overhead sign assemblies:

- For design of supporting upright posts or columns, the effective length factor for columns “K”, as provided for in Appendix B, Section B.5, shall be taken as the following, unless otherwise approved by the Engineer:
  - Case 1 For a single upright post of cantilever or span type overhead sign structure, the effective column length factor, “K”, shall be taken as 2.0.
  - Case 2 For twin post truss-type upright post with the post connected to one chord of a horizontal truss, the effective column length factor for that column shall be taken as 2.0.
  - Case 3 For twin post truss-type upright post with the post connected to two truss chords of a horizontal tri-chord or box truss, the effective column length factor for that column shall be taken as 1.65
- For twin post truss-type uprights, the unbraced length of the post shall be from the chord to post connection to the top of base plate

- For twin post truss-type uprights when the post is subject to axial compression, bending moment, shear, and torsion, the post shall satisfy Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals Equations 5-17, 5-18 and 5-19. To reduce the effects of secondary bending, in lieu of Equation 5-18, the following equation may be used:

$$\frac{f_a}{F_a} + \frac{f_b}{\left(1 - \frac{0.6f_a}{F_c}\right)F_b} + \left(\frac{f_v}{F_v}\right)^2 \leq 1.0$$

Where  $f_a$  = Computed axial compression stress at base of post

- The base plate thickness for all uprights and poles shall be a minimum of 2" but not less than that determined by the following criteria and design.

Case 1 Circular or rectangular solid base plates with the upright pole welded to the top surface of base plate with full penetration butt weld, and where no stiffeners are provided. A base plate with a small center hole, which is less than 1/5 of the upright diameter, and located concentrically with the upright pole, may be considered as a solid base plate.

The magnitude of bending moment in the base plate, induced by the anchoring force of each anchor bolt shall be calculated as  $M = (P \times D_1) / 2$ .

Case 2 Circular or rectangular base plate with the upright pole socketed into and attached to the base plate with two lines of fillet weld, and where no stiffeners are provided, or any base plate with a center hole that is larger in diameter than 1/5 of the upright diameter. The magnitude of bending moment induced by the anchoring force of each anchor bolt shall be calculated as  $M = P \times D_2$ .

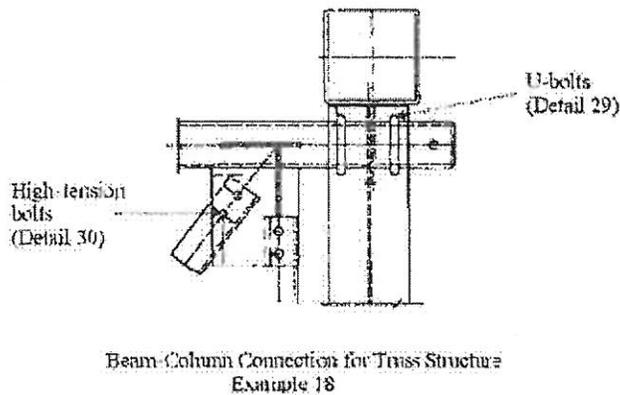
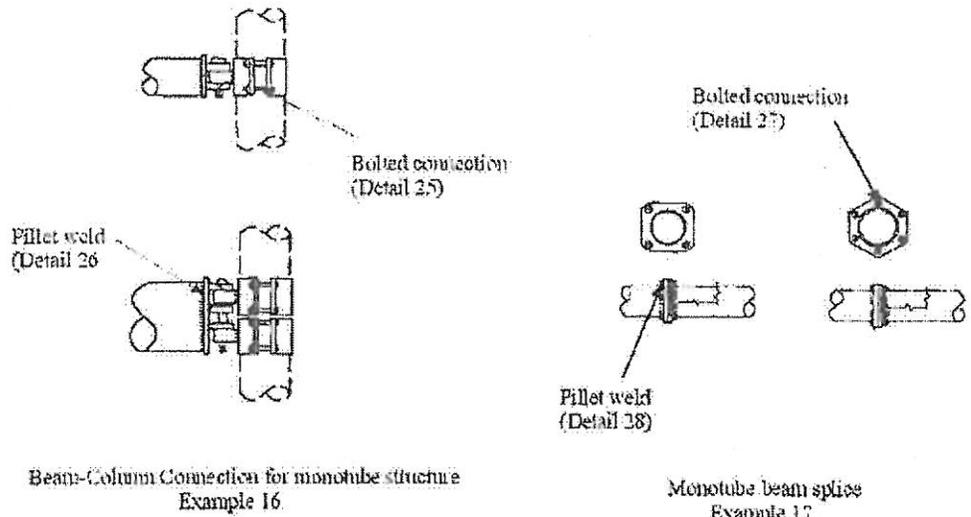
- M - bending moment at the critical section of the base plate induced by one anchor bolt
- P - anchoring force of each anchor bolt
- $D_1$  - horizontal distance between the center of the anchor bolt and the outer face of the upright, or the difference between the radius of the bolt circle and the outside radius of the upright
- $D_2$  - horizontal distance between the face of the upright and the face of the anchor bolt nut

- The critical section shall be located at the face of the anchor bolt and perpendicular to the radius of the bolt circle. The overlapped part of two adjacent critical sections shall be considered ineffective.
- The thickness of Case 1 base plate shall not be less than that calculated based on formula for Case 2.
- Uprights, foundations, and trusses that support overhead signs shall be designed in accordance with the Overhead and Dynamic Message Sign Foundations Project Special Provision for the effects of torsion. Torsion shall be considered from dead load eccentricity of these attachments, as well as for attachments such as walkways, supporting brackets, lights, etc., that add to the torsion in the assembly. Truss vertical and horizontal truss diagonals in particular and any other assembly members shall be appropriately sized for these loads.
- Uprights, foundations, and trusses that support overhead mounted signs shall be designed for the proposed sign wind area and future wind areas. The design shall consider the effect of torsion induced by the eccentric force location of the center of wind force above (or below) the center of the supporting truss. Truss vertical and horizontal truss diagonals in particular and any other assembly members shall be appropriately sized for these loads.

For non-cantilevered monotube sign support structures, the following table and figures are considered as a required addition to the Standard Specifications for Structural Support for Highway Signs, Luminaires and Traffic Signals, 5<sup>th</sup> Edition, 2009:

| <u>Construction</u>               | <u>Detail</u>   | <u>Stress Category</u> | <u>Application</u>                              | <u>Example</u> |
|-----------------------------------|---|------------------------|---|----------------|
| Mechanically Fastened Connections | 25. Bolts in Tension  | D                      | Beam column connection for monotube structures  | 16             |
| Fillet Weld Connections           | 26. Fillet welded with one side normal to applied stress            | E'                     | Beam column connection for monotube structures  | 17             |
| Mechanically Fastened Connections | 27. High strength bolts in tension                                  | D                      | Monotube or truss-chord splice                  | 17             |
| Fillet Weld Connections           | 28. Fillet welded with one side normal to applied stress            | E'                     | Monotube or truss-chord splice                  | 17             |
| Mechanically Fastened Connections | 29. U-bolts tied to transverse truss column to keep chords in place | D                      | Horizontal truss connection with vertical truss | 18             |
| Mechanically Fastened Connections | 30. Net section of full-tightened, high tension bolts in shear      | B                      | Truss bolted joint                              | 18             |

Add to the Specifications, Figure 11-1:



Fabricate all overhead sign assemblies, including but not limited to foundations, in accordance with the details shown on the approved shop drawings and with the requirements of these Specifications.

Fabricate the span and cantilever supporting structures using tubular members of either aluminum or steel, using only one type of material throughout the project. Sign support structures that are to be attached to bridges shall be fabricated using other structural shapes.

Horizontal components of the supporting structures for overhead signs may be of a truss design or a design using singular (monotube) horizontal members to support the sign panels.

Truss or singular member centerline must coincide with the centerline of sign design area shown on the structure line drawing.

Provide permanent camber in addition to dead load camber in accordance with the *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals*. Indicate on the shop drawings the amount of camber provided and the method employed in the fabrication of the support to obtain the camber.

Use cantilever sign structures that meet the following design criteria:

- a. Do not exceed an  $L / 150$  vertical dead load deflection at the end of the arm due to distortions in the arm and vertical support, where  $L$  is the length of the arm from the center of the vertical support to the outer edge of the sign.
- b. Do not exceed an  $L / 40$  horizontal deflection at the end of the arm due to distortions in the arm and vertical support, as a result of design wind load.

Fabricate attachment assemblies for mounting signs in a manner that allows easy removal of sign panels for repair.

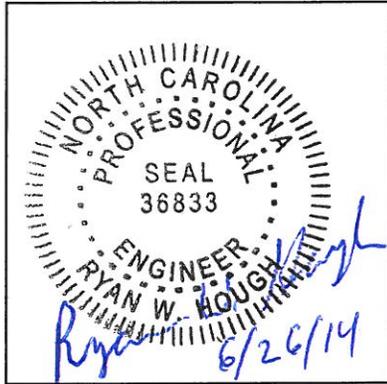
**Compensation**

The work covered by this section will be paid for at the contract lump sum for each *Supports, Overhead Sign Structure @ \_\_\_\_\_*. Such price will be full compensation for all work covered by this specification includes all design, fabrication, construction, transportation, and erection of the complete overhead sign structure, supporting structure, hardware, lighting support brackets, preparing and furnishing shop drawings, and attaching the signs to the overhead assembly.

Payment will be made under:

Supports, Overhead Sign Structure @ \_\_\_\_\_

Lump Sum



**Project Special Provisions  
(Version 12.3)  
Signals and Intelligent Transportation Systems**

*Prepared By: R. W. Hough  
26-Jun-14*

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**1. 2012 STANDARD SPECIFICATIONS FOR ROADS & STRUCTURES**

*The 2012 Standard Specifications are revised as follows:*

**1.1. Junction Boxes (1098-5)**

Page 10-212, sub-Section 1098-5(C) Oversized Junction Boxes

Revise sentence to read, "Provide oversized junction boxes and covers with minimum inside dimensions of 28"(l) x 15"(w) x 22"(h)."

**2. SIGNAL HEADS****2.1. MATERIALS****A. General:**

Fabricate vehicle signal head housings and end caps from die-cast aluminum. Fabricate 12-inch and 16-inch pedestrian signal head housings and end caps from die-cast aluminum. Fabricate 9-inch pedestrian signal head housings, end caps, and visors from virgin polycarbonate material. Provide visor mounting screws, door latches, and hinge pins fabricated from stainless steel. Provide interior screws, fasteners, and metal parts fabricated from stainless steel or corrosion resistant material.

Fabricate tunnel and traditional visors from sheet aluminum.

Paint all surfaces inside and outside of signal housings and doors. Paint outside surfaces of tunnel and traditional visors, messenger cable mounting assemblies, pole and pedestal mounting assemblies, and pedestrian pushbutton housings. Have electrostatically-applied, fused-polyester paint in highway yellow (Federal Standard 595C, Color Chip Number 13538) a minimum of 2.5 to 3.5 mils thick. Do not apply paint to the latching hardware or rigid vehicle signal head mounting brackets for mast-arm attachments.

Have the interior surfaces of tunnel and traditional visors painted an alkyd urea black synthetic baking enamel with a minimum gloss reflectance and meeting the requirements of MIL-E-10169, "Enamel Heat Resisting, Instrument Black."

Where required, provide polycarbonate signal heads and visors that comply with the provisions pertaining to the aluminum signal heads listed on the QPL with the following exceptions:

Fabricate signal head housings, end caps, and visors from virgin polycarbonate material. Provide UV stabilized polycarbonate plastic with a minimum thickness of  $0.1 \pm 0.01$  inches that is highway yellow (Federal Standard 595C, Color Chip 13538). Ensure the color is incorporated into the plastic material before molding the signal head housings and end caps. Ensure the plastic formulation provides the following physical properties in the assembly (tests may be performed on separately molded specimens):

| Test   | Required           | Method     |
|--|--------------------|------------|
| Specific Gravity                                   | 1.17 minimum       | ASTM D 792 |
| Flammability                                       | Self-extinguishing | ASTM D 635 |
| Tensile Strength, yield, PSI                       | 8500 minimum       | ASTM D 638 |
| Izod impact strength, ft-lb/in [notched, 1/8 inch] | 12 minimum         | ASTM D 256 |

For pole mounting, provide side of pole mounting assemblies with framework and all other hardware necessary to make complete, watertight connections of the signal heads to the poles and pedestals. Fabricate the mounting assemblies and frames from aluminum with all necessary hardware, screws, washers, etc. to be stainless steel. Provide mounting fittings that match the

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positive locking device on the signal head with the serrations integrally cast into the brackets. Provide upper and lower pole plates that have a 1 ¼-inch vertical conduit entrance hubs with the hubs capped on the lower plate and 1 ½-inch horizontal hubs. Ensure that the assemblies provide rigid attachments to poles and pedestals so as to allow no twisting or swaying of the signal heads. Ensure that all raceways are free of sharp edges and protrusions, and can accommodate a minimum of ten Number 14 AWG conductors.

For pedestal mounting, provide a post-top slipfitter mounting assembly that matches the positive locking device on the signal head with serrations integrally cast into the slipfitter. Provide stainless steel hardware, screws, washers, etc. Provide a minimum of six 3/8 X 3/4-inch long square head bolts for attachment to pedestal. Provide a center post for multi-way slipfitters.

For light emitting diode (LED) traffic signal modules, provide the following requirements for inclusion on the Department's Qualified Products List for traffic signal equipment.

1. Sample submittal,
2. Third-party independent laboratory testing results for each submitted module with evidence of testing and conformance with all of the Design Qualification Testing specified in section 6.4 of each of the following Institute of Transportation Engineers (ITE) specifications:
  - Vehicle Traffic Control Signal Heads – Light Emitting Diode (LED) Circular Signal Supplement
  - Vehicle Traffic Control Signal Heads – Light Emitting Diode (LED) Vehicle Arrow Traffic Signal Supplement
  - Pedestrian Traffic Control Signal Indications –Light Emitting Diode (LED) Signal Modules.

(Note: The Department currently recognizes two approved independent testing laboratories. They are Intertek ETL Semko and Light Metrics, Incorporated with Garwood Laboratories. Independent laboratory tests from other laboratories may be considered as part of the QPL submittal at the discretion of the Department,

3. Evidence of conformance with the requirements of these specifications,
4. A manufacturer's warranty statement in accordance with the required warranty, and
5. Submittal of manufacturer's design and production documentation for the model, including but not limited to, electrical schematics, electronic component values, proprietary part numbers, bill of materials, and production electrical and photometric test parameters.
6. Evidence of approval of the product to bear the Intertek ETL Verified product label for LED traffic signal modules.

In addition to meeting the performance requirements for the minimum period of 60 months, provide a written warranty against defects in materials and workmanship for the modules for a period of 60 months after installation of the modules. During the warranty period, the manufacturer must provide new replacement modules within 45 days of receipt of modules that have failed at no cost to the State. Repaired or refurbished modules may not be used to fulfill the manufacturer's warranty obligations. Provide manufacturer's warranty documentation to the Department during evaluation of product for inclusion on Qualified Products List (QPL).

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**B. Vehicle Signal Heads:**

Comply with the ITE standard "Vehicle Traffic Control Signal Heads". Provide housings with provisions for attaching backplates.

Provide visors that are 8 inches in length for 8-inch vehicle signal head sections. Provide visors that are 10 inches in length for 12-inch vehicle signal heads.

Provide a termination block with one empty terminal for field wiring for each indication plus one empty terminal for the neutral conductor. Have all signal sections wired to the termination block. Provide barriers between the terminals that have terminal screws with a minimum Number 8 thread size and that will accommodate and secure spade lugs sized for a Number 10 terminal screw.

Mount termination blocks in the yellow signal head sections on all in-line vehicle signal heads. Mount the termination block in the red section on five-section vehicle signal heads.

Furnish vehicle signal head interconnecting brackets. Provide one-piece aluminum brackets less than 4.5 inches in height and with no threaded pipe connections. Provide hand holes on the bottom of the brackets to aid in installing wires to the signal heads. Lower brackets that carry no wires and are used only for connecting the bottom signal sections together may be flat in construction.

For messenger cable mounting, provide messenger cable hangers, wire outlet bodies, balance adjusters, bottom caps, wire entrance fitting brackets, and all other hardware necessary to make complete, watertight connections of the vehicle signal heads to the messenger cable. Fabricate mounting assemblies from malleable iron or steel and provide serrated rings made of aluminum. Provide messenger cable hangers and balance adjusters that are galvanized before being painted. Fabricate balance adjuster eyebolt and eyebolt nut from stainless steel or galvanized malleable iron. Provide messenger cable hangers with U-bolt clamps. Fabricate washers, screws, bolts, clevis pins, cotter pins, nuts, and U-bolt clamps from stainless steel.

For mast-arm mounting, provide rigid vehicle signal head mounting brackets and all other hardware necessary to make complete, watertight connections of the vehicle signal heads to the mast arms and to provide a means for vertically adjusting the vehicle signal heads to proper alignment. Fabricate the mounting assemblies from aluminum, and provide serrated rings made of aluminum. Provide stainless steel cable attachment assemblies to secure the brackets to the mast arms. Ensure all fastening hardware and fasteners are fabricated from stainless steel.

Provide LED vehicular traffic signal modules (hereafter referred to as modules) that consist of an assembly that uses LEDs as the light source in lieu of an incandescent lamp for use in traffic signal sections. Use LEDs that are aluminum indium gallium phosphorus (AlInGaP) technology for red and yellow indications and indium gallium nitride (InGaN) for green indications. Install the ultra bright type LEDs that are rated for 100,000 hours of continuous operation from -40°F to +165°F. Design modules to have a minimum useful life of 60 months and to meet all parameters of this specification during this period of useful life.

For the modules, provide spade terminals crimped to the lead wires and sized for a #10 screw connection to the existing terminal block in a standard signal head. Do not provide other types of crimped terminals with a spade adapter.

Ensure the power supply is integral to the module assembly. On the back of the module, permanently mark the date of manufacture (month & year) or some other method of identifying date of manufacture.

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Tint the red, yellow and green lenses to correspond with the wavelength (chromaticity) of the LED. Transparent tinting films are unacceptable. Provide a lens that is integral to the unit with a smooth outer surface.

**1. LED Circular Signal Modules:**

Provide modules in the following configurations: 12-inch circular sections, and 8-inch circular sections. All makes and models of LED modules purchased for use on the State Highway System shall appear on the current NCDOT Traffic Signal Qualified Products List (QPL).

Provide the manufacturer’s model number and the product number (assigned by the Department) for each module that appears on the 2012 or most recent Qualified Products List. In addition, provide manufacturer’s certification in accordance with Article 106-3 of the *Standard Specifications*, that each module meets or exceeds the ITE “Vehicle Traffic Control Signal Heads – Light Emitting Diode (LED) Circular Signal Supplement” dated June 27, 2005 (hereafter referred to as VTCSH Circular Supplement) and other requirements stated in this specification.

Provide modules that meet the following requirements when tested under the procedures outlined in the VTCSH Circular Supplement:

| Module Type            | Max. Wattage at 165° F | Nominal Wattage at 77° F |
|------------------------|------------------------|--------------------------|
| 12-inch red circular   | 17                     | 11                       |
| 8-inch red circular    | 13                     | 8                        |
| 12-inch green circular | 15                     | 15                       |
| 8-inch green circular  | 12                     | 12                       |

For yellow circular signal modules, provide modules tested under the procedures outlined in the VTCSH Circular Supplement to insure power required at 77° F is 22 Watts or less for the 12-inch circular module and 13 Watts or less for the 8-inch circular module.

Note: Use a wattmeter having an accuracy of ±1% to measure the nominal wattage and maximum wattage of a circular traffic signal module. Power may also be derived from voltage, current and power factor measurements.

**C. Signal Cable:**

Furnish 16-4 and 16-7 signal cable that complies with IMSA specification 20-1 except provide the following conductor insulation colors:

- For 16-4 cable: white, yellow, red, and green
- For 16-7 cable: white, yellow, red, green, yellow with black stripe tracer, red with black stripe tracer, and green with black stripe tracer. Apply continuous stripe tracer on conductor insulation with a longitudinal or spiral pattern.

Provide a ripcord to allow the cable jacket to be opened without using a cutter. IMSA specification 19-1 will not be acceptable. Provide a cable jacket labeled with the IMSA specification number and provide conductors constructed of stranded copper.

PROJECT SPECIAL PROVISIONS



**1.00 GENERAL**

**1.10 DESCRIPTION**

The work covered by this section consists of furnishing, installing, connecting, and placing into satisfactory operating condition roadway lighting at locations shown on the plans. The work also involves providing power to truck warning sign's flashing beacon lights along the US 29 north bound lanes preceding the Right Exit Ramp to the state of Virginia.

Perform all work in accordance with these Special Provisions, the Plans, the National Electrical Code, and North Carolina Department of Transportation "Standard Specifications for Roads and Structures" (Standard Specifications).

Use Division 14 of the Standard Specifications for materials, construction methods and payment for all work, except as modified or added to by these Special Provisions. Specific sections of the Standard Specifications applicable to the work on this project are listed below:

|              |                                     |
|--------------|-------------------------------------|
| Section 1404 | Light Standards                     |
| Section 1405 | Standard Foundation                 |
| Section 1407 | Electrical Service Pole and Lateral |
| Section 1408 | Light Control System                |
| Section 1409 | Electrical Duct                     |
| Section 1410 | Feeder Circuits                     |
| Section 1411 | Electrical Junction Boxes           |

**2.00 LIGHT CONTROL SYSTEM**

**2.10 DESCRIPTION**

Work covered in this section shall be in conformance with Section 1408 of the Standard Specification except as modified below.

**2.20 MATERIALS**

All materials for Control System "A", which is rated 120/240 Volts, shall be in conformance with Section 1408-2 and Standard Drawings 1408.01 except as modified below and noted on the plans.

The control relay shall be 120 Volts and shall have an amperage rating of 10 A. The electrically operated, mechanically held contactors shall be 4 pole, 240 Volts with a current rating of 60 A. Both the control relay and the electrically operated, mechanically held contactors shall have 120

VAC coils in lieu of 240 VAC coils. The feeder circuit breakers for circuit A2 & A3 shall be 2 pole, 240 Volts and have an amperage rating for 15 A. The service circuit breaker shall be 2 pole, 240 Volts and have an amperage rating of 150 A. The control circuit breaker shall be 1 pole, 120 Volts and have an amperage rating of 15 A.

Provide one feeder circuit (A1), which is not switched by the photo-control, to be used for beacon lights for truck warning sign.

### 2.30 MEASUREMENT AND PAYMENT

The measurement and payment for each lighting control system installed shall be in accordance with Section 1408-4 of the Standard Specifications.

## 3.00 LED LUMINAIRES

### 3.10 DESCRIPTION

The work covered by this section consists of furnishing and installing LED roadway on new metal single arm light standards. Mounting height for roadway standards is 35' with a 15' bracket arm.

For LED roadway luminaires installed on the single arm standards, Contractor shall include all LEDs/light bars, drivers, wiring inside the standard from the circuit conductors to the LED luminaire, in-line breakaway fuseholders with fuses and ground wiring at the pole on the light standards. Third party certified photometric files in IES format are required to be submitted with the catalog cuts for the proposed LED roadway luminaire. Photometric files must show that proposed luminaire will meet or exceed the design shown in the plans.

### 3.20 MATERIALS

The Contractor shall supply luminaires conforming to the standards below.

### 3.21 LUMINAIRE REQUIREMENTS

Unless otherwise stated, the requirements below apply to the Roadway LED luminaire.

#### A. General Requirements

- LM-79 photometric test reports shall be provided for LED luminaires. LM-79 luminaire photometric reports shall be produced by an independent test laboratory and include the following:
  - Name of test laboratory. The test laboratory must hold National Voluntary Laboratory Accreditation Program (NVLAP) accreditation for the IES LM-79 test procedure or must be qualified, verified, and recognized through the U.S. Department of Energy's CALiPER program.

- Report number
  - Date
  - Complete luminaire catalog number. Catalog number tested must match the catalog number of the luminaire submitted, except for variations which do not affect performance.
  - Description of luminaire, LED light source(s), and LED driver(s)
  - Goniophotometry
  - Colorimetry
- 
- LM-80 lumen maintenance test report shall be provided for LED light source.
  - The luminaire shall be constructed of a single piece die cast aluminum housing and finished gray in color unless otherwise noted.
  - Luminaire shall have a minimum L70 rating of 70,000 hours at 25°C. Provide a summary of reliability testing performed for LED driver.
  - Roadway luminaires shall have a maximum total power consumption of 215W, at 240VAC. Nominal luminaire input wattage shall account for nominal applied voltage and any reduction in driver efficiency due to sub-optimal driver loading.
  - Roadway luminaire shall have an IESNA distribution Type III.
  - Luminaires shall meet dust and moisture rating of IP-65, minimum.
  - Roadway luminaire shall have an external label per ANSI C136.15
  - Luminaires shall have an internal label per ANSI C136.22.
  - Luminaires shall start and operate in -20°C to +40°C ambient.
  - Electrically test fully assembled luminaires before shipment from factory.
  - Effective Projected Area (EPA) and weight of the roadway luminaire shall not exceed 0.75 square feet and 30 lbs., respectively.
  - Luminaires shall be designed for ease of electrical component replacement.
  - Luminaires shall be rated for minimum 2G vibration per ANSI C136.31-2010
  - LED light sources and drivers shall be RoHS compliant.
  - Transmissive optical components shall be applied in accordance with OEM design guidelines to ensure suitability for the thermal/mechanical/chemical environment.
  - The luminaire manufacturer shall have no less than five (5) years of experience in manufacturing LED-based lighting products and the manufacturing facility must be ISO 9001 certified. Proof of certification shall be provided at the request of the Department.
  - Roadway luminaire shall have a 1.625" to 2.375" adjustable tenon mount for connection to luminaire arm assembly.
  - Pole hardware, nuts, bolts, and washers, etc. shall be made from 18-8 stainless steel, or steel conforming to ASTM A307 galvanized in accordance with ASTM A153.
- B. Driver
- Rated case temperature shall be suitable for operation in the luminaire operating in the ambient temperature range of -20°C to +40°C.

- Shall be configured to operate at 240 VAC at 50/60 Hz, and shall operate normally for input voltage fluctuations of  $\pm 10\%$ .
- Shall have a minimum Power Factor (PF) of 0.90 at full input power and across specified voltage range.
  - Roadway luminaire shall have maximum 600mA driver operating current.

C. Surge Suppression

- Integral surge protection shall meet ANSI/IEEE C62.45 procedures based on ANSI/IEEE C62.41.2 definitions for standard and optional waveforms for location category C-High 10kV/10kA test, IEC 61000-4-2 (Electrostatic Discharge) 8kV Air/4kV Contact test and IEC 61000-4-4 (Fast Transients).

D. Electromagnetic interference

- Luminaire shall have a maximum Total Harmonic Distortion (THD) of 20% at full input power and across specified voltage range.
- Luminaire shall comply with FCC 47 CFR part 15 non-consumer RFI/EMI standards.

E. Electrical safety testing

- Luminaire shall be listed for wet locations.
- Luminaire shall be UL listed and labeled.

F. Finish

- Luminaire shall be painted with a corrosion resistant polyester powdered paint with a minimum 2.0 mil thickness.
- Shall exceed a rating of six per ASTM D1654 after 1000 hours of salt spray fog testing per ASTM B117.
- The coating shall exhibit no greater than 30% reduction of gloss per ASTM D523, after 500 hours of QUV testing at ASTM G154 Cycle 6.

G. Thermal management

- Mechanical design of protruding external surfaces (heat sink fins) shall facilitate hose-down cleaning and discourage debris accumulation.

H. Color Quality

- Minimum Color Rendering Index (CRI) of 60 with a Correlated Color Temperature (CCT) of 4000K to 5000K

I. The following shall be in accordance with corresponding sections of ANSI C136.37

- All internal components shall be assembled and pre-wired using modular electrical connections.
- Terminal blocks shall be used for incoming AC lines
- Latching and hinging

J. Manufacturer or local sales representative shall provide installation and troubleshooting support via telephone and/or email.

### 3.30 WARRANTY

Provide a minimum five-year "no questions asked" warranty covering maintained integrity and functionality of the luminaire housing, wiring, and connections, LED light source(s) and LED driver. Negligible light output from more than 10 percent of the LED packages constitutes luminaire failure.

Warranty period shall begin 90 days after project completion.

### 3.40 CONSTRUCTION METHODS

Mount luminaires securely to the tenon and connect to the feeder circuit via a pair of fuse holders, accessible in the breakaway transformer base of the standard, in conformance with the plans, other sections of these Special Provisions and the Standard Specifications.

Level luminaires using leveling pads on the luminaire enclosure. Adjust any luminaires, as directed by the Engineer, to give optimum illumination distribution.

### 3.50 MEASUREMENT AND PAYMENT

The quantity of roadway luminaires to be paid for will be the actual number of roadway LED luminaires which have been installed and accepted.

The quantity of Roadway LED luminaires, measured as provided above, will be paid for at the contract unit price each for "Roadway Luminaires, LED, Type III" of the appropriate type and style. Such price and payment will be full compensation for all work of furnishing and installing the luminaire, wiring inside the standard from circuit conductors to luminaire, in-line breakaway fuses and ground wiring at the pole.

Payment will be made under:

LED luminaires, ..... Each

### 4.00 SIGNAL HEADS

#### 4.10 MATERIALS

A. General:

- Fabricate vehicle signal head housings and end caps from die-cast aluminum. Provide visor mounting screws, door latches, and hinge pins fabricated from stainless

steel. Provide interior screws, fasteners, and metal parts fabricated from stainless steel or corrosion resistant material.

- Fabricate tunnel and traditional visors from sheet aluminum.
- Paint all surfaces inside and outside of signal housings and doors. Paint outside surfaces of tunnel and traditional visors, messenger cable mounting assemblies, pole and pedestal mounting assemblies, and pedestrian pushbutton housings. Have electrostatically-applied, fused-polyester paint in highway yellow (Federal Standard 595C, Color Chip Number 13538) a minimum of 2.5 to 3.5 mils thick. Do not apply paint to the latching hardware or rigid vehicle signal head mounting brackets for mast-arm attachments.
- Have the interior surfaces of tunnel and traditional visors painted an alkyd urea black synthetic baking enamel with a minimum gloss reflectance and meeting the requirements of MIL-E-10169, "Enamel Heat Resisting, Instrument Black."
- Where required, provide polycarbonate signal heads and visors that comply with the provisions pertaining to the aluminum signal heads listed on the QPL with the following exceptions:
- Fabricate signal head housings, end caps, and visors from virgin polycarbonate material. Provide UV stabilized polycarbonate plastic with a minimum thickness of  $0.1 \pm 0.01$  inches that is highway yellow (Federal Standard 595C, Color Chip 13538). Ensure the color is incorporated into the plastic material before molding the signal head housings and end caps. Ensure the plastic formulation provides the following physical properties in the assembly (tests may be performed on separately molded specimens):

| Test   | Required           | Method     |
|--|--------------------|------------|
| Specific Gravity                                   | 1.17 minimum       | ASTM D 792 |
| Flammability                                       | Self-extinguishing | ASTM D 635 |
| Tensile Strength, yield, PSI                       | 8500 minimum       | ASTM D 638 |
| Izod impact strength, ft-lb/in [notched, 1/8 inch] | 12 minimum         | ASTM D 256 |

- For pole mounting, provide side of pole mounting assemblies with framework and all other hardware necessary to make complete, watertight connections of the signal heads to the poles and pedestals. Fabricate the mounting assemblies and frames from aluminum with all necessary hardware, screws, washers, etc. to be stainless steel. Provide mounting fittings that match the positive locking device on the signal head with the serrations integrally cast into the brackets. Provide upper and lower pole plates that have a 1 ¼-inch vertical conduit entrance hubs with the hubs capped on the lower plate and 1 ½-inch horizontal hubs. Ensure that the assemblies provide rigid attachments to poles and pedestals so as to allow no twisting or swaying of the signal heads. Ensure that all raceways are free of sharp edges and protrusions, and can accommodate a minimum of ten Number 14 AWG conductors.

- For pedestal mounting, provide a post-top slipfitter mounting assembly that matches the positive locking device on the signal head with serrations integrally cast into the slipfitter. Provide stainless steel hardware, screws, washers, etc. Provide a minimum of six 3/8 X 3/4-inch long square head bolts for attachment to pedestal. Provide a center post for multi-way slipfitters.
- For light emitting diode (LED) traffic signal modules, provide the following requirements for inclusion on the Department's Qualified Products List for traffic signal equipment.

1. Sample submittal.

2. Third-party independent laboratory testing results for each submitted module with evidence of testing and conformance with all of the Design Qualification Testing specified in section 6.4 of each of the following Institute of Transportation Engineers (ITE) specifications:

- Vehicle Traffic Control Signal Heads – Light Emitting Diode (LED) Circular Signal Supplement
- Vehicle Traffic Control Signal Heads – Light Emitting Diode (LED) Vehicle Arrow Traffic Signal Supplement
- Pedestrian Traffic Control Signal Indications –Light Emitting Diode (LED) Signal Modules.

(Note: The Department currently recognizes two approved independent testing laboratories. They are Intertek ETL Semko and Light Metrics, Incorporated with Garwood Laboratories. Independent laboratory tests from other laboratories may be considered as part of the QPL submittal at the discretion of the Department,

3. Evidence of conformance with the requirements of these specifications,
4. A manufacturer's warranty statement in accordance with the required warranty, and
5. Submittal of manufacturer's design and production documentation for the model, including but not limited to, electrical schematics, electronic component values, proprietary part numbers, bill of materials, and production electrical and photometric test parameters.
6. Evidence of approval of the product to bear the Intertek ETL Verified product label for LED traffic signal modules.

In addition to meeting the performance requirements for the minimum period of 60 months, provide a written warranty against defects in materials and workmanship for the modules for a period of 60 months after installation of the modules. During the warranty period, the manufacturer must provide new replacement modules within 45 days of receipt of modules that have failed at no cost to the State. Repaired or refurbished modules may not be used to fulfill the manufacturer's warranty obligations. Provide manufacturer's warranty documentation to the Department during evaluation of product for inclusion on Qualified Products List (QPL).

B. Vehicle Signal Heads:

- Comply with the ITE standard "Vehicle Traffic Control Signal Heads". Provide housings with provisions for attaching backplates.
- Provide visors that are 10 inches in length for 12-inch vehicle signal heads.
- Provide a termination block with one empty terminal for field wiring for each indication plus one empty terminal for the neutral conductor. Have all signal sections wired to the termination block. Provide barriers between the terminals that have terminal screws with a minimum Number 8 thread size and that will accommodate and secure spade lugs sized for a Number 10 terminal screw.
- Mount termination blocks in the yellow signal head sections on all in-line vehicle signal heads. Mount the termination block in the red section on five-section vehicle signal heads.
- Furnish vehicle signal head interconnecting brackets. Provide one-piece aluminum brackets less than 4.5 inches in height and with no threaded pipe connections. Provide hand holes on the bottom of the brackets to aid in installing wires to the signal heads. Lower brackets that carry no wires and are used only for connecting the bottom signal sections together may be flat in construction.
- For mast-arm mounting, provide rigid vehicle signal head mounting brackets and all other hardware necessary to make complete, watertight connections of the vehicle signal heads to the mast arms and to provide a means for vertically adjusting the vehicle signal heads to proper alignment. Fabricate the mounting assemblies from aluminum, and provide serrated rings made of aluminum. Provide stainless steel cable attachment assemblies to secure the brackets to the mast arms. Ensure all fastening hardware and fasteners are fabricated from stainless steel.
- Provide LED vehicular traffic signal modules (hereafter referred to as modules) that consist of an assembly that uses LEDs as the light source in lieu of an incandescent lamp for use in traffic signal sections. Use LEDs that are aluminum indium gallium phosphorus (AlInGaP) technology for red and yellow indications and indium gallium nitride (InGaN) for green indications. Install the ultra bright type LEDs that are rated for 100,000 hours of continuous operation from -40°F to +165°F. Design modules to have a minimum useful life of 60 months and to meet all parameters of this specification during this period of useful life.
- For the modules, provide spade terminals crimped to the lead wires and sized for a #10 screw connection to the existing terminal block in a standard signal head. Do not provide other types of crimped terminals with a spade adapter.
- Ensure the power supply is integral to the module assembly. On the back of the module, permanently mark the date of manufacture (month & year) or some other method of identifying date of manufacture.
- Tint the red, yellow and green lenses to correspond with the wavelength (chromaticity) of the LED. Transparent tinting films are unacceptable. Provide a lens that is integral to the unit with a smooth outer surface.

C. LED Circular Signal Modules:

- Provide modules in the following configurations: 12-inch circular sections. All makes and models of LED modules purchased for use on the State Highway System shall appear on the current NCDOT Traffic Signal Qualified Products List (QPL).
- Provide the manufacturer's model number and the product number (assigned by the Department) for each module that appears on the 2012 or most recent Qualified Products List. In addition, provide manufacturer's certification in accordance with Article 106-3 of the *Standard Specifications*, that each module meets or exceeds the ITE "Vehicle Traffic Control Signal Heads – Light Emitting Diode (LED) Circular Signal Supplement" dated June 27, 2005 (hereafter referred to as VTCSH Circular Supplement) and other requirements stated in this specification.
- Provide modules that meet the following requirements when tested under the procedures outlined in the VTCSH Circular Supplement:

| Module Type            | Max. Wattage at 165° F | Nominal Wattage at 77° F |
|------------------------|------------------------|--------------------------|
| 12-inch red circular   | 17                     | 11                       |
| 12-inch green circular | 15                     | 15                       |

- For yellow circular signal modules, provide modules tested under the procedures outlined in the VTCSH Circular Supplement to insure power required at 77° F is 22 Watts or less for the 12-inch circular module.

Note: Use a wattmeter having an accuracy of  $\pm 1\%$  to measure the nominal wattage and maximum wattage of a circular traffic signal module. Power may also be derived from voltage, current and power factor measurements.

**LISTING OF MBE/WBE SUBCONTRACTORS**

| Firm Name and Address | Circle One     | Item No. | Item Description | * Agreed upon Unit Price | ** Dollar Volume of Item |
|-----------------------|----------------|----------|------------------|--------------------------|--------------------------|
| Name<br><br>Address   | MBE<br><br>WBE |          |                  |                          |                          |
| Name<br><br>Address   | MBE<br><br>WBE |          |                  |                          |                          |
| Name<br><br>Address   | MBE<br><br>WBE |          |                  |                          |                          |
| Name<br><br>Address   | MBE<br><br>WBE |          |                  |                          |                          |
| Name<br><br>Address   | MBE<br><br>WBE |          |                  |                          |                          |
| Name<br><br>Address   | MBE<br><br>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.

| Firm Name and Address | Circle One     | Item No. | Item Description | * Agreed upon Unit Price | ** Dollar Volume of Item |
|-----------------------|----------------|----------|------------------|--------------------------|--------------------------|
| Name<br><br>Address   | MBE<br><br>WBE |          |                  |                          |                          |
| Name<br><br>Address   | MBE<br><br>WBE |          |                  |                          |                          |
| Name<br><br>Address   | MBE<br><br>WBE |          |                  |                          |                          |
| Name<br><br>Address   | MBE<br><br>WBE |          |                  |                          |                          |
| Name<br><br>Address   | MBE<br><br>WBE |          |                  |                          |                          |
| Name<br><br>Address   | MBE<br><br>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 Subcontractor \$ \_\_\_\_\_

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

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

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

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.

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH, NC

**BID BOND**

Contract Number: DG00147 County: Caswell and Rockingham Counties

KNOW ALL MEN BY THESE PRESENTS, That we, the PRINCIPAL CONTRACTOR (hereafter, PRINCIPAL) and SURETY above named, are held and firmly bound unto the Department of Transportation in the full and just sum of five (5) percent of the total amount bid by the Principal for the project stated above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

NOW, THEREFORE, the condition of this obligation is: the Principal shall not withdraw its bid within sixty (60) days after the opening of the bids, or within such other time period as may be provided in the proposal, and if the Board of Transportation shall award a contract to the Principal, the Principal shall, within fourteen (14) calendar days after written notice of award is received by him, provide bonds with good and sufficient surety, as required for the faithful performance of the contract and for the protection of all persons supplying labor, material, and equipment for the prosecution of the work. In the event the Principal requests permission to withdraw his bid due to mistake in accordance with the provisions of Article 103-3 of the *Standard Specifications for Roads and Structures*, the conditions and obligations of this Bid Bond shall remain in full force and effect until the Department of Transportation makes a final determination to either allow the bid to be withdrawn or to proceed with award of the contract. In the event a determination is made to award the contract, the Principal shall have fourteen (14) calendar days to comply with the requirements set forth above. In the event the Principal withdraws its bid after bids are opened except as provided in Article 103-3, or after award of the contract has been made fails to execute such additional documents as may be required and to provide the required bonds within the time period specified above, then the amount of the bid bond shall be immediately paid to the Department of Transportation as liquidated damages.

IN TESTIMONY WHEREOF, the Principal and Surety have caused these presents to be duly signed and sealed.

This the \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_

\_\_\_\_\_  
Surety

By \_\_\_\_\_  
General Agent or Attorney-in-Fact Signature

Seal of Surety \_\_\_\_\_  
Print or type Signer's Name

BID BOND  
CORPORATION

SIGNATURE OF CONTRACTOR (Principal)

---

Full name of Corporation

---

Address as prequalified

By

---

Signature of President, Vice President, Assistant  
Vice President  
Select appropriate title

---

Print or type Signer's name

Affix Corporate Seal

Attest

---

Signature of Secretary, Assistant Secretary  
Select appropriate title

---

Print or type Signer's name

BID BOND  
LIMITED LIABILITY COMPANY

SIGNATURE OF CONTRACTOR (Principal)

Name of Contractor

---

Full name of Firm

---

Address as prequalified

Signature of Member/  
Manager/Authorized Agent

---

Individually

---

Print or type Signer's name

BID BOND  
INDIVIDUAL DOING BUSINESS UNDER A FIRM NAME

SIGNATURE OF CONTRACTOR (Principal)

Name of Contractor

\_\_\_\_\_  
Individual Name

Trading and doing business as

\_\_\_\_\_  
Full name of Firm

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

Signature of Contractor

\_\_\_\_\_  
Individually

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

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

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

BID BOND  
INDIVIDUAL DOING BUSINESS IN HIS OWN NAME

SIGNATURE OF CONTRACTOR (Principal)

Name of Contractor

\_\_\_\_\_

Print or type Individual Name

\_\_\_\_\_

Address as prequalified

Signature of Contractor

\_\_\_\_\_

Individually

\_\_\_\_\_

Print or type Signer's name

\_\_\_\_\_

Signature of Witness

\_\_\_\_\_

Print or type Signer's name

BID BOND  
PARTNERSHIP

SIGNATURE OF CONTRACTOR (Principal)

---

Full name of Partnership

---

Address as prequalified

By

---

Signature of Partner

---

Print or type Signer's name

---

Signature of Witness

---

Print or type Signer's name

BID BOND  
JOINT VENTURE (2 or 3)  
SIGNATURE OF CONTRACTORS (Principal)

Instructions to Bidders: **2 Joint Ventures**, Fill in lines (1), (2) and (3) and execute. **3 Joint Venturers** Fill in lines (1), (2), (3), (4) and execute. Line (1), print or type the name of Joint Venture. On line (2), print or type the name of one of the joint venturers and execute below in the appropriate manner required by Article 102-8 of the *Specifications*. On Line (3), print or type the name of second joint venturer and execute below in the appropriate manner required by said article of the Specifications. On Line (4), print or type the name of the third joint venturer, if applicable and execute below in the appropriate manner required by said article of the Specifications. This form of execution must be strictly followed.

|   |    |                                      |
|---|----|--------------------------------------|
| _____<br>Signature of Witness or Attest | By | _____<br>Signature of Contractor     |
| _____<br>Print or type Signer's name    |    | _____<br>Print or type Signer's name |

and

|   |    |                                      |
|---|----|--------------------------------------|
| _____<br>Signature of Witness or Attest | By | _____<br>Signature of Contractor     |
| _____<br>Print or type Signer's name    |    | _____<br>Print or type Signer's name |

and

|   |    |                                      |
|---|----|--------------------------------------|
| _____<br>Signature of Witness or Attest | By | _____<br>Signature of Contractor     |
| _____<br>Print or type Signer's name    |    | _____<br>Print or type Signer's name |

**ADDENDUM(S)**

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.

County : Rockingham, Caswell

| Line #               | Item Number  | Sec # | Description   | Quantity    | Unit Cost | Amount |
|----------------------|--------------|-------|---|-------------|-----------|--------|
| <b>ROADWAY ITEMS</b> |              |       |   |             |           |        |
| 0001                 | 0000100000-N | 800   | MOBILIZATION  | Lump Sum    | L.S.      |        |
| 0002                 | 3030000000-E | 862   | STEEL BM GUARDRAIL  | 2,475<br>LF |           |        |
| 0003                 | 3195000000-N | 862   | GUARDRAIL ANCHOR UNITS, TYPE AT-1   | 2<br>EA     |           |        |
| 0004                 | 3270000000-N | SP    | GUARDRAIL ANCHOR UNITS, TYPE 350  | 1<br>EA     |           |        |
| 0005                 | 3285000000-N | SP    | GUARDRAIL ANCHOR UNITS, TYPE M-350  | 5<br>EA     |           |        |
| 0006                 | 3360000000-E | 863   | REMOVE EXISTING GUARDRAIL   | 360<br>LF   |           |        |
| 0007                 | 4048000000-E | 902   | REINFORCED CONCRETE SIGN FOUNDATIONS  | 4<br>CY     |           |        |
| 0008                 | 4054000000-E | 902   | PLAIN CONCRETE SIGN FOUNDATIONS   | 3<br>CY     |           |        |
| 0009                 | 4057000000-E | SP    | OVERHEAD FOOTING  | 24<br>CY    |           |        |
| 0010                 | 4060000000-E | 903   | SUPPORTS, BREAKAWAY STEEL BEAM  | 6,304<br>LB |           |        |
| 0011                 | 4072000000-E | 903   | SUPPORTS, 3-LB STEEL U-CHANNEL  | 1,625<br>LF |           |        |
| 0012                 | 4082100000-N | SP    | SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA *****<br>SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA 10+00 RP2B | Lump Sum    | L.S.      |        |
| 0013                 | 4102000000-N | 904   | SIGN ERECTION, TYPE E   | 33<br>EA    |           |        |
| 0014                 | 4109000000-N | 904   | SIGN ERECTION, TYPE *** (OVERHEAD)<br>SIGN ERECTION, TYPE A (OVERHEAD)                                | 6<br>EA     |           |        |
| 0015                 | 4109000000-N | 904   | SIGN ERECTION, TYPE *** (OVERHEAD)<br>SIGN ERECTION, TYPE B (OVERHEAD)                                | 2<br>EA     |           |        |

County : Rockingham, Caswell

| Line # | Item Number  | Sec # | Description   | Quantity     | Unit Cost | Amount |
|--------|--------------|-------|---|--------------|-----------|--------|
| 0016   | 4110000000-N | 904   | SIGN ERECTION, TYPE ***<br>(GROUND MOUNTED)<br>SIGN ERECTION, TYPE A (GR<br>OUND MOUNT<br>ED) | 13<br>EA     |           |        |
| 0017   | 4110000000-N | 904   | SIGN ERECTION, TYPE ***<br>(GROUND MOUNTED)<br>SIGN ERECTION, TYPE B (GR<br>OUND MOUNT<br>ED) | 22<br>EA     |           |        |
| 0018   | 4114000000-N | 904   | SIGN ERECTION, MILEMARKERS  | 28<br>EA     |           |        |
| 0019   | 4116000000-N | 904   | SIGN ERECTION, OVERLAY (GROUND<br>MOUNTED)  | 4<br>EA      |           |        |
| 0020   | 4138000000-N | 907   | DISPOSAL OF SUPPORT, STEEL<br>BEAM  | 1<br>EA      |           |        |
| 0021   | 4151000000-N | 907   | STOCKPILE SIGN SYSTEM, STEEL<br>BEAM  | 2<br>EA      |           |        |
| 0022   | 4152000000-N | 907   | DISPOSAL OF SIGN SYSTEM, STEEL<br>BEAM  | 14<br>EA     |           |        |
| 0023   | 4155000000-N | 907   | DISPOSAL OF SIGN SYSTEM, U-<br>CHANNEL  | 57<br>EA     |           |        |
| 0024   | 4234000000-N | 907   | DISPOSAL OF SIGN, A OR B<br>(OVERHEAD)  | 4<br>EA      |           |        |
| 0025   | 4273000000-N | 907   | GENERIC SIGNING ITEM<br>GENERIC SIGNING ITEM - POST RE<br>FLECTOR PA<br>NEL                   | 58<br>EA     |           |        |
| 0026   | 4399000000-N | 1105  | TEMPORARY TRAFFIC CONTROL   | Lump Sum     | L.S.      |        |
| 0027   | 4688000000-E | 1205  | THERMOPLASTIC PAVEMENT MARKING<br>LINES (6", 90 MILS)   | 16,600<br>LF |           |        |
| 0028   | 4690000000-E | 1205  | THERMOPLASTIC PAVEMENT MARKING<br>LINES (6", 120 MILS)  | 1,950<br>LF  |           |        |
| 0029   | 4700000000-E | 1205  | THERMOPLASTIC PAVEMENT MARKING<br>LINES (12", 90 MILS)  | 1,180<br>LF  |           |        |
| 0030   | 4702000000-E | 1205  | THERMOPLASTIC PAVEMENT MARKING<br>LINES (12", 120 MILS)                                       | 680<br>LF    |           |        |

County : Rockingham, Caswell

| Line # | Item Number  | Sec # | Description  | Quantity    | Unit Cost | Amount |
|--------|--------------|-------|--|-------------|-----------|--------|
| 0031   | 4721000000-E | 1205  | THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)                                      | 54<br>EA    |           |        |
| 0032   | 4725000000-E | 1205  | THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)  | 4<br>EA     |           |        |
| 0033   | 4898000000-N | 1251  | GENERIC PAVEMENT MARKING ITEM RE-LENSE EXISTING SNOW PLOWABLE MARKERS                    | 125<br>EA   |           |        |
| 0034   | 5045000000-N | 1404  | LIGHT STANDARD, TYPE MTLs *****<br>LIGHT STANDARD, TYPE MTLs (35' SA, 1 5' ARM)          | 8<br>EA     |           |        |
| 0035   | 5070000000-N | 1405  | STANDARD FOUNDATION *****<br>STANDARD FOUNDATION (TYPE R1)                               | 6<br>EA     |           |        |
| 0036   | 5070000000-N | 1405  | STANDARD FOUNDATION *****<br>STANDARD FOUNDATION (TYPE R2)                               | 2<br>EA     |           |        |
| 0037   | 5120000000-N | 1407  | ELECTRIC SERVICE POLE *****<br>ELECTRIC SERVICE POLE (30' CLASS 4)                       | 1<br>EA     |           |        |
| 0038   | 5125000000-E | 1407  | ELECTRIC SERVICE LATERAL *****<br>ELECTRIC SERVICE LATERAL ( 3 #1/0 USE )                | 25<br>LF    |           |        |
| 0039   | 5145000000-N | 1408  | LIGHT CONTROL EQUIPMENT, TYPE RW *****<br>LIGHT CONTROL EQUIPMENT, TYPE RW (240/48 0 V)  | 1<br>EA     |           |        |
| 0040   | 5205000000-E | 1410  | ** #8 W/G FEEDER CIRCUIT IN ***** CONDUIT<br>** #8 W/G FEEDER CIRCUIT IN 2, 1.5" CONDUIT | 3,220<br>LF |           |        |
| 0041   | 5240000000-N | 1411  | ELECTRICAL JUNCTION BOXES *****<br>ELECTRICAL JUNCTION BOXES ( PC18)                     | 5<br>EA     |           |        |
| 0042   | 5270000000-N | SP    | GENERIC LIGHTING ITEM<br>GENERIC LIGHTING ITEM - LED LUMINAIRE                           | 8<br>EA     |           |        |

County : Rockingham, Caswell

| Line # | Item Number  | Sec # | Description   | Quantity | Unit Cost | Amount |
|--------|--------------|-------|---|----------|-----------|--------|
| 0043   | 7060000000-E | 1705  | SIGNAL CABLE  | 25       | LF        |        |
| 0044   | 7108000000-E | 1705  | VEHICLE SIGNAL HEAD (12", 1 SECTION)  | 2        | EA        |        |
| 0045   | 7300000000-E | 1715  | UNPAVED TRENCHING (*****)<br>UNPAVED TRENCHING (1 CONDUIT, 2 INCH)                                | 25       | LF        |        |
| 0046   | 7324000000-N | 1716  | JUNCTION BOX (STANDARD SIZE)  | 2        | EA        |        |
| 0047   | 7360000000-N | 1720  | WOOD POLE   | 1        | EA        |        |
| 0048   | 7408000000-E | 1722  | 1" RISER WITH WEATHERHEAD   | 1        | EA        |        |
| 0049   | 7420000000-E | 1722  | 2" RISER WITH WEATHERHEAD   | 1        | EA        |        |
| 0050   | 7912000000-N | 1755  | BEACON CONTROLLER ASSEMBLY & CABINET (*****)<br>BEACON CONTROLLER ASSEMBLY & CABINET (*<br>*****) | 1        | EA        |        |

1500/Aug19/Q34977.0/D237091200000/E50

Total Amount Of Bid For Entire Project :

CONTRACTOR \_\_\_\_\_ FEDERAL ID: \_\_\_\_\_

ADDRESS \_\_\_\_\_

PHONE \_\_\_\_\_

AUTHORIZED AGENT \_\_\_\_\_ TITLE \_\_\_\_\_

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

**EXECUTION OF BID**

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

**CORPORATION**

The person executing the bid, on behalf of the Bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee of the bidder 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 bidder has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the Bidder intends to do the work with its own bonafide employees or subcontractors and is not bidding for the benefit of another contractor.

In addition, execution of this bid in the proper manner also constitutes the Bidder's certification of 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 CONTRACTOR

\_\_\_\_\_  
Full name of Corporation

\_\_\_\_\_  
Address as Prequalified

Attest \_\_\_\_\_  
Secretary/Assistant Secretary  
Select appropriate title

By \_\_\_\_\_  
President/Vice President/Assistant Vice President  
Select appropriate title

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

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

Corporate Seal

AFFIDAVIT MUST BE NOTARIZED

Subscribed and sworn to before me this the  
\_\_\_\_ day of \_\_\_\_\_ 20\_\_.

**NOTARY SEAL**

\_\_\_\_\_  
Signature of Notary Public

of \_\_\_\_\_ County

State of \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

EXECUTION OF BID  
NON-COLLUSION AFFIDAVIT, DEBARMENT CERTIFICATION AND GIFT BAN  
CERTIFICATION

PARTNERSHIP

The person executing the bid, on behalf of the Bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee of the bidder 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 bidder has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the Bidder intends to do the work with its own bonafide employees or subcontractors and is not bidding for the benefit of another contractor.

In addition, execution of this bid in the proper manner also constitutes the Bidder's certification of 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 CONTRACTOR

|                             |    |                             |
|-----------------------------|----|-----------------------------|
|                             | By |                             |
| Signature of Witness        |    | Signature of Partner        |
|                             |    |                             |
| Print or type Signer's name |    | Print or type Signer's name |

AFFIDAVIT MUST BE NOTARIZED

Subscribed and sworn to before me this the  
\_\_\_\_\_ day of \_\_\_\_\_ 20\_\_.

NOTARY SEAL

\_\_\_\_\_  
Signature of Notary Public  
of \_\_\_\_\_ County  
State of \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_

EXECUTION OF BID  
NON-COLLUSION AFFIDAVIT, DEBARMENT CERTIFICATION AND GIFT BAN  
CERTIFICATION

LIMITED LIABILITY COMPANY

The person executing the bid, on behalf of the Bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee of the bidder 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 bidder has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the Bidder intends to do the work with its own bonafide employees or subcontractors and is not bidding for the benefit of another contractor.

In addition, execution of this bid in the proper manner also constitutes the Bidder's certification of 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 CONTRACTOR

\_\_\_\_\_  
Full Name of Firm

\_\_\_\_\_  
Address as Prequalified

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

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

\_\_\_\_\_  
Signature of Member/Manager/Authorized Agent  
Select appropriate title

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

AFFIDAVIT MUST BE NOTARIZED

Subscribed and sworn to before me this the  
\_\_\_\_ day of \_\_\_\_\_ 20\_\_.

NOTARY SEAL

\_\_\_\_\_  
Signature of Notary Public

of \_\_\_\_\_ County

State of \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

EXECUTION OF BID
NON-COLLUSION AFFIDAVIT, DEBARMENT CERTIFICATION AND GIFT BAN
CERTIFICATION

JOINT VENTURE (2) or (3)

The person executing the bid, on behalf of the Bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee of the bidder 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 bidder has not been convicted of violating N.C.G.S. § 133-24 within the last three years, and that the Bidder intends to do the work with its own bonafide employees or subcontractors and is not bidding for the benefit of another contractor.

In addition, execution of this bid in the proper manner also constitutes the Bidder's certification of 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 CONTRACTOR

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.

Signature of Witness or Attest By Signature of Contractor
Print or type Signer's name Print or type Signer's name
If Corporation, affix Corporate Seal and
Signature of Witness or Attest By Signature of Contractor
Print or type Signer's name Print or type Signer's name
If Corporation, affix Corporate Seal and
Signature of Witness or Attest By Signature of Contractor
Print or type Signer's name Print or type Signer's name

If Corporation, affix Corporate Seal
NOTARY SEAL
Affidavit must be notarized for Line (2)
Subscribed and sworn to before me this
day of 20

NOTARY SEAL
Affidavit must be notarized for Line (3)
Subscribed and sworn to before me this
day of 20

NOTARY SEAL
Affidavit must be notarized for Line (4)
Subscribed and sworn to before me this
day of 20

Signature of Notary Public
of County

Signature of Notary Public
of County

Signature of Notary Public
of County

State of

State of

State of

My Commission Expires:

My Commission Expires:

My Commission Expires:

EXECUTION OF BID  
NON-COLLUSION AFFIDAVIT, DEBARMENT CERTIFICATION AND GIFT BAN  
CERTIFICATION

INDIVIDUAL DOING BUSINESS UNDER A FIRM NAME

The person executing the bid, on behalf of the Bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee of the bidder 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 bidder has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the Bidder intends to do the work with its own bonafide employees or subcontractors and is not bidding for the benefit of another contractor.

In addition, execution of this bid in the proper manner also constitutes the Bidder's certification of 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 CONTRACTOR

Name of Contractor \_\_\_\_\_  
Individual name

Trading and doing business as \_\_\_\_\_  
Full name of Firm

\_\_\_\_\_  
Signature of Witness  
\_\_\_\_\_  
Print or type Signer's name

\_\_\_\_\_  
Signature of Contractor, Individually  
\_\_\_\_\_  
Print or type Signer's name

AFFIDAVIT MUST BE NOTARIZED

Subscribed and sworn to before me this the  
\_\_\_\_ day of \_\_\_\_\_ 20\_\_.

NOTARY SEAL

\_\_\_\_\_  
Signature of Notary Public  
of \_\_\_\_\_ County  
State of \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_

EXECUTION OF BID  
NON-COLLUSION AFFIDAVIT, DEBARMENT CERTIFICATION AND GIFT BAN  
CERTIFICATION

INDIVIDUAL DOING BUSINESS IN HIS OWN NAME

The person executing the bid, on behalf of the Bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee of the bidder 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 bidder has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the Bidder intends to do the work with its own bonafide employees or subcontractors and is not bidding for the benefit of another contractor.

In addition, execution of this bid in the proper manner also constitutes the Bidder's certification of 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 CONTRACTOR

Name of Contractor \_\_\_\_\_  
Print or type Individual name

\_\_\_\_\_  
Address as Prequalified

\_\_\_\_\_  
Signature of Contractor, Individually

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

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

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

AFFIDAVIT MUST BE NOTARIZED

Subscribed and sworn to before me this the  
\_\_\_\_ day of \_\_\_\_\_ 20\_\_.

NOTARY SEAL

\_\_\_\_\_  
Signature of Notary Public

of \_\_\_\_\_ County

State of \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

## 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 filed 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: DG00147

County: Caswell and Rockingham Counties

ACCEPTED BY THE DEPARTMENT

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Division Engineer

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Date