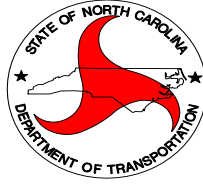


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION



DIVISION ONE BRIDGE MAINTENANCE

CONTRACT PROPOSAL

COUNTY: DIVISION WIDE

CONTRACT#: 11236854

WBS #: VARIOUS

**DESCRIPTION: REPLACEMENT OF BRIDGE EXPANSION JOINTS,
CONCRETE/ASPHALT DECK REPAIRS AND FOAM INJECTIONS AT
VARIOUS SITES WITHIN DIVISION ONE**

DATE: MARCH 8, 2013

BID OPENING: APRIL 3, 2013

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 NC 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.

NAME OF BIDDER

ADDRESS OF BIDDER

RETURN BIDS TO: NC DEPARTMENT OF TRANSPORTATION
Barry Hobbs
Division Project Manager
North Carolina Department of Transportation
113 Airport Drive Suite 100
Edenton, NC 27932

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INSTRUCTIONS TO BIDDERS

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

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

1. The bid form furnished by NCDOT with the proposal shall be used and shall not be altered in any manner. **DO NOT SEPARATE THE BID FORM FROM THE PROPOSAL! RETURN ENTIRE PROPOSAL.**
2. All entries on the bid form, including signatures, shall be written in ink.
3. The Bidder shall submit a unit price for every item on the bid form. The unit prices for the various contract items shall be written in figures. *****Unit prices must be limited to TWO decimal places.*****
4. An amount bid shall be entered on the bid form for every item. The amount bid for each item shall be determined by multiplying each unit bid by the quantity for that item, and shall be written in figures in the "Amount Bid" column of the form.
5. The total amount bid shall be written in figures in the proper place on the bid form. The total amount shall be determined by adding the amounts bid for each item.
6. 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. Do not use "White Out" or similar product to make corrections.
7. 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 of individual or representative submitting bid and position or title.
 - c. Name, signature, and position or title of witness.
 - d. Federal Identification Number
 - e. Contractor's License Number
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. **THE PROPOSAL WITH THE BID FORM STILL ATTACHED SHALL BE PLACED IN A SEALED ENVELOPE AND SHALL HAVE BEEN DELIVERED TO AND RECEIVED IN THE NCDOT DIV. ONE OFFICE, 113 AIRPORT DRIVE, SUITE 100, EDENTON, NC 27932 LOCATED APPROXIMATELY 5 MILES SOUTHEAST OF EDENTON, JUST OFF NC 94 ON AIRPORT DRIVE IN THE NORTHEASTERN REGIONAL AIRPORT BUILDING, BY 2:00 P.M. ON, WEDNESDAY, APRIL 3, 2013.**
12. The sealed bid must display the following statement on the front of the sealed envelope:
QUOTATION FOR 11236854 – REPAIR AND REPLACEMENT OF BRIDGE DECK EXPANSION JOINTS, CONCRETE/ASPHALT DECK REPAIRS AND FOAM INJECTIONS AT VARIOUS SITES IN DIVISION ONE TO BE OPENED AT 2:00 P.M. ON WEDNESDAY, APRIL 3, 2013
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

**Attn: Barry Hobbs, PE
113 Airport Drive, Suite 100
Edenton, NC 27932**

AWARD OF CONTRACT

The award of the contract, if it be awarded, will be made to the lowest responsible Bidder in accordance with Section 102, (excluding section 102-10) of the 2012 Standard Specifications for Roads and Structures. The lowest responsible Bidder will be notified that his bid has been accepted and that he has been awarded the contract. NCDOT reserves the right to reject all bids.

STANDARD PROVISIONS

GENERAL

All work and materials shall be in accordance with the provisions of the General Guidelines of this contract, the Project Special Provisions, the North Carolina Department of Transportation *2012 Standard Specifications for Roads and Structures*, the North Carolina Department of Transportation *2012 Roadway Standards Drawings*, and the current edition of the Manual of Uniform Traffic Control Devices (MUTCD).

The Contractor shall keep himself fully informed of all Federal, State and local laws, ordinances, and regulations, and shall comply with the provisions of Section 107 of the *2012 Standard Specifications*.

PURCHASE ORDER CONTRACT PREQUALIFICATION

Beginning **July 1, 2009**, any firm that wishes to perform work on Division Purchase Order Contracts as either the prime contractor or as a subcontractor on the project must be prequalified for the type of work they wish to perform. Firms that wish to bid on these projects as the prime contractor must be prequalified prior to submitting a bid. Firms that wish to perform as a subcontractor to the prime contractor must be prequalified prior to beginning work on the project.

For the purposes of prequalification, any firm that is currently prequalified as a prime or a subcontractor on central let projects for the appropriate work codes is considered eligible to work and/or bid on Purchase Order Contracts as long as other items such as bonding and license requirements for the contract are met.

Information regarding the requirements to become prequalified as a Purchase Order Contract contractor, including the application to become prequalified if you are not already prequalified, can be found at the following website: <http://www.ncdot.org/business/howtogetstarted/>

BIDS

In accordance with GS 136-28.1(b), if the total bid amount of the contract exceeds \$1.2 million, the bid will not be considered for award.

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*.

CONTRACT PAYMENT AND PERFORMANCE BOND - BRIDGE

REVISED 10/16/12

A performance bond in the amount of one hundred percent (100%) of the contract amount, conditioned upon the faithful performance of the contract in accordance with specifications and conditions of the contract is required on this project if the contract amount exceeds \$300,000. Such bond shall be solely for the protection of the North Carolina Department of Transportation and the State of North Carolina.

A payment bond in the amount of one hundred percent (100%) of the contract amount, conditioned upon the prompt payment for all labor or materials for which the Contractor, or subcontractor, is liable is required on this project if the contract amount exceeds \$300,000. The payment bond shall be solely for the protection of persons or firms furnishing materials or performing labor for this contract for which the Contractor is liable.

The successful bidder, within fourteen (14) days after notice of award, shall provide the Department with a contract payment bond and a contract performance bond each in an amount equal to one hundred percent (100%) of the amount of the contract.

WORKERS COMPENSATION INSURANCE

Pursuant to N.C.G.S. § 97-19, all contractors of the Department of Transportation are required, prior to beginning services, to show 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 stating that it has complied with N.C.G.S. § 97-93 irrespective of whether subcontractors have regularly in service fewer than three employees in the same business within the State of North Carolina, and subcontractors shall be hereinafter liable under the Workers' Compensation Act for payment of compensation and other benefits to its employees for any injury or death due to an accident arising out of and in the course of performance of the work insured by the subcontractor.

EXTENSION OF CONTRACT TIME

Failure on the part of the Contractor to furnish bonds or certifications, or to satisfy preliminary requirements necessary to issue the purchase order will not constitute grounds for extension of the contract time. If the Contractor has fulfilled all preliminary requirements for the issuance of a purchase order, and the purchase order authorization is not available by the date of availability, the Contractor shall be granted an extension equal to the number of calendar days the purchase order authorization is delayed after the date of availability.

MATERIALS AND TESTING

The Engineer reserves the right to perform all sampling and testing in accordance with Section 106 of the *2012 Standard Specifications* and the Department's "Materials and Test Manual." However the Engineer may reduce the frequency of sampling and testing where he deems it appropriate for the project under construction.

The Contractor shall furnish the applicable certifications and documentation for all materials as required by the *2012 Standard Specifications*. Material which is not properly certified will not be accepted.

BANKRUPTCY

The Department of Transportation, at its option, may terminate the contract upon the filing by the contractor of any petition for protection under the provisions of the Federal Bankruptcy Act.

POSTED WEIGHT LIMITS

The Contractor's attention is directed to the fact that many Primary and Secondary Roads and bridges are posted with weight limits less than the legal limit. The Contractor will not be allowed to exceed the posted weight limits in transporting materials and/or equipment to the projects, unless otherwise approved by the Engineer. The Contractor should make a thorough examination of all projects and haul routes.

PLAN, DETAIL AND QUANTITY ADJUSTMENTS

The Department reserves the right to make, at any time during the progress of the work, such alterations in plans or the details of construction as may be found necessary or desirable by the Engineer to complete the project.

APPROVAL OF PERSONNEL

The State shall have the right to approve or reject the project engineer and other supervisory personnel, assigned to a project.

The Engineers or any subcontractor for the Engineers which are employed to provide engineering services for this project shall not engage the services of any person or persons, now in the employment of the State during the time of this Agreement, without written consent of the State.

In the event of engagement, the Engineers or their subcontractors shall restrict such person or persons from working on any of the Engineers' contracted projects in which the person or persons were formerly involved while employed by the State. This restriction period shall be for the duration of the contracted project with which the person or persons was involved. "Involvement" shall be defined as active participation in any of the following activities:

- Drafting the contract;
- Defining the scope of the contract;
- Selection of the Engineers' firm for services;
- Negotiation of the cost of the contract (including calculating man-hours or fees); and
- Administration of the contract.

An exception to these terms may be granted when recommended by the Secretary and approved by the Board of Transportation. Failure to comply with the terms stated above in this section shall be grounds for termination of this contract.

GIFTS FROM VENDORS AND CONTRACTORS

(12-15-09)

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:

- (1) have a contract with a governmental agency; or
- (2) have performed under such a contract within the past year; or
- (3) 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 *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.

SAFETY VESTS

All Contractors' personnel, all subcontractors and their personnel, and any material suppliers and their personnel must wear an OSHA approved reflective vest or outer garment at all times while on the project.

EMPLOYMENT

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

108, 102

RG184

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.

CONTRACTOR CLAIM SUBMITTAL FORM

If the Contractor elects to file a written claim or requests an extension of contract time, it shall be submitted on the *Contractor Claim Submittal Form (CCSF)* available through the Construction Unit or http://ncdot.org/doh/operations/dp_chief_eng/constructionunit/formsmanuals/

SPECIAL PROVISIONS

NOTE TO CONTRACTOR

The Contractor must cooperate with State forces working within the limits of this project as directed by the Engineer. The Department reserves the right to make, at any time during the progress of the work, such alterations in plans or the details of construction as may be found necessary or desirable by the Engineer to complete the project. The Contractor shall maintain access to driveways for all residents and property owners throughout the life of the project. The Contractor shall be responsible for maintaining the project as directed by Section 104-10 in the *2012 Standard Specifications*.

The Contractor shall be responsible for returning any disturbed areas back to its original condition. This work may include, but will not be limited to, grading, seeding and mulching, etc. All materials and labor necessary to perform the above mentioned work will be considered incidental to the various contract items and no direct payment will be made for these activities.

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 any 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.

GENERAL

Joints to be repaired or replaced shall be designated by the Engineer. The Contractor shall begin work within 60 days of notification. Failure to respond within the designated time frame may result in liquidated damages or cancellation of this contract.

All concrete and/or asphalt repairs on decks shall be designated by the Engineer. The Contractor shall begin work within 60 days of notification. Failure to respond within the designated time frame may result in liquidated damages or cancellation of this contract.

All areas of foam injections shall be designated by the Engineer. The Contractor shall begin work within 60 days of notification. Failure to respond within the designated time frame may result in liquidated damages or cancellation of this contract.

All concrete bridge decks to have epoxy overlays installed shall be designated by the Engineer. The Contractor shall begin work within 60 days of notification. Failure to respond within the designated time frame may result in liquidated damages or cancellation of this contract.

The contractor shall notify the Bridge Engineer/Supervisor at the beginning of each week of his intended schedule of work. This will allow the DOT to schedule inspections accordingly.

All existing joint material, concrete and asphalt removed shall become the property of the Contractor and shall be disposed of properly.

CONTRACT TIME AND LIQUIDATED DAMAGES

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

SP1G10

The date of availability for this contract is the date the Purchase Order is issued.

The completion date for this contract is May 2, 2014.

No work will be permitted and no purchase order will be issued until all required bonds and prerequisite conditions and certifications have been satisfied. No extensions will be authorized except as authorized by Article 108-10 of the Standard Specifications.

The Contractor shall submit his/her bid for one year. At the option of the Department, this contract may be extended for two (2) additional one (1) year periods (maximum three (3) Years total). The unit bid prices will be increased by three (3) percent for each one (1) year extension. No changes in the terms, conditions, etc. of this contract will be made when an extension to the contract is implemented. The Engineer will notify the Contractor in writing by March 1st if the contract may be extended. The Contractor must notify the Engineer in writing by March 15th of this acceptance or rejection of this offer. Failure on the part of the Contractor to reply will be perceived as a rejection of the contract extension.

The liquidated damages for this contract are Two Hundred Fifty Dollars \$250.00 per calendar day.

INTERMEDIATE CONTRACT TIME NUMBER 1 AND LIQUIDATED DAMAGES

The Contractor shall begin the work required for each work request.

The date of availability for this intermediate contract time will be the date that the Contractor is notified.

The completion date for this intermediate contract time will be sixty (60) calendar days following the date of availability.

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

INTERMEDIATE CONTRACT TIME NUMBER 2 AND LIQUIDATED DAMAGES

The Contractor shall not perform any work on this project and/or alter the traffic flow during the following time restrictions:

DAY AND TIME RESTRICTIONS

MONDAY-FRIDAY FROM THIRTY (30) MINUTES BEFORE SUNSET
TO THIRTY (30) MINUTES AFTER SUNRISE THE FOLLOWING DAY
AND

FRIDAY FROM THIRTY (30) MINUTES BEFORE SUNSET
TO THIRTY (30) MINUTES AFTER SUNRISE THE FOLLOWING **MONDAY**

In addition, the Contractor shall not perform any work on this project and/or alter the traffic flow on or during holiday weekends, special events, or any other time when traffic is unusually heavy, including the following schedules:

HOLIDAY AND HOLIDAY WEEKEND WORK RESTRICTIONS

1. For **any event** that creates unusually high traffic volumes, as directed by the Engineer.
2. For **New Year's Day**, between the hours of 30 minutes before sunset. December 31st until 30 minutes after sunrise January 2nd. If New Year's Day is on Saturday or Sunday, then until 30 minutes after sunrise the following Tuesday.
3. For **Easter**, between the hours of 30 minutes before sunset Thursday and 30 minutes after sunrise Monday.
4. For **Memorial Day**, between the hours of 30 minutes before sunset Friday and 30 minutes after sunrise Tuesday.
5. For **Independence Day**, between the hours of 30 minutes before sunset the day before Independence Day and 30 minutes after sunrise the day after Independence Day.

If Independence Day is on a Saturday or Sunday, then between the hours of 30 minutes before sunset the Thursday before Independence Day and 30 minutes after sunrise the Tuesday after Independence Day.

6. For **Labor Day**, between the hours of 30 minutes before sunset Friday and 30 minutes after sunrise Tuesday.
7. For **Thanksgiving Day**, between the hours of 30 minutes before sunset Tuesday and 30 minutes after sunrise Monday.

8. For **Christmas**, between the hours of 30 minutes before sunset the Friday **before the week of Christmas Day** and 30 minutes after sunrise the following Monday **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 are not required during these periods, unless otherwise directed by the Engineer.

The time of availability for this intermediate contract time shall be the time the Contractor begins work and/or alters the traffic flow according to the time restrictions listed herein.

The completion time for this intermediate contract time shall be the time the Contractor is required to cease work and/or cease to alter the traffic flow according to the time restrictions stated above.

The liquidated damages are **Two Hundred Dollars (\$200.00)** per hour time period or any portion thereof.

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.

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.

SITE INVESTIGATION AND REPRESENTATION

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

CONSTRUCTION METHODS

The contractor shall perform all construction activities in accordance with the applicable requirements of the *NCDOT 2012 Standard Specifications for Roads and Structures*, except as otherwise specified herein.

Wherever reference is made in the Specifications to information shown in the plans, such information will be furnished by the Engineer.

PROSECUTION OF WORK

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

108

SP1 G15R

The Contractor will be required to prosecute the work in a continuous and uninterrupted manner from the time he begins the work until completion and final acceptance of the project. The Contractor will not be permitted to suspend his operations except for reasons beyond his control or except where the Engineer has authorized a suspension of the Contractor's operations in writing.

In the event that the Contractor's operations are suspended in violation of the above provisions, the sum of **\$ 250.00** will be charged the Contractor for each and every calendar day that such suspension takes place. The said amount is hereby agreed upon as liquidated damages due to extra engineering and maintenance costs and due to increased public hazard resulting from a suspension of the work. Liquidated damages chargeable due to suspension of the work will be additional to any liquidated damages that may become chargeable due to failure to complete the work on time.

MINORITY BUSINESS ENTERPRISE AND WOMEN BUSINESS ENTERPRISE (DIVISIONS)

(10-16-07)(Rev. 1-17-12)

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. https://apps.dot.state.nc.us/_includes/download/external.html?pdf=http%3A//www.ncdot.gov/doh/forms/files/RF-1.pdf

SAF Subcontract Approval Form - Form required for approval to sublet the contract. http://www.ncdot.org/doh/operations/dp_chief_eng/constructionunit/saf.xls

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. https://apps.dot.state.nc.us/_includes/download/external.html?pdf=http%3A//www.ncdot.gov/doh/forms/files/JC-1.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://www.ncdot.org/doh/preconstruct/ps/contracts/letterofintent.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://www.ncdot.gov/doh/preconstruct/ps/word/MISC3.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://www.ncdot.gov/business/ocs/goodfaith/excel/Ex_Subcontractor_Quote_Comparison.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 %**
- (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 %**
- (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:

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.

- (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.

- (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*, bidders, at the time the bid proposal is submitted, shall enter the word "None"; or the number "0"; or if there is participation, add the value on the *Listing of MBE and WBE Subcontractors* contained elsewhere in the contract documents.

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 9 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 and/or written notices 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. This includes, where appropriate, breaking 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.
- (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.

TWELVE MONTH GUARANTEE

(7-15-03)

SP1 G145

- (A) The Contractor shall guarantee materials and workmanship against latent and patent defects arising from faulty materials, faulty workmanship or negligence for a period of twelve months following the date of final acceptance of the work for maintenance and shall replace such defective materials and workmanship without cost to the Department. The Contractor will not be responsible for damage due to faulty design, normal wear and tear, for negligence on the part of the Department, and/or for use in excess of the design.
- (B) Where items of equipment or material carry a manufacturer's guarantee for any period in excess of twelve months, then the manufacturer's guarantee shall apply for that particular piece of equipment or material. The Department's first remedy shall be through the manufacturer although the Contractor is responsible for invoking the warranted repair work with the manufacturer. The Contractor's responsibility shall be limited to the term of the manufacturer's guarantee. NCDOT would be afforded the same warranty as provided by the Manufacturer.

This guarantee provision shall be invoked only for major components of work in which the Contractor would be wholly responsible for under the terms of the contract. Examples would include pavement structures, bridge components, and sign structures. This provision will not be used as a mechanism to force the Contractor to return to the project to make repairs or perform additional work that the Department would normally compensate the Contractor for. In addition, routine maintenance activities (i.e. mowing grass, debris removal, ruts in earth shoulders,) are not parts of this guarantee.

Appropriate provisions of the payment and/or performance bonds shall cover this guarantee for the project.

To ensure uniform application statewide the Division Engineer will forward details regarding the circumstances surrounding any proposed guarantee repairs to the Chief Engineer for review and approval prior to the work being performed.

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.

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”.

MOBILIZATION

Payment for mobilization will be made for each work request. A single work request may consist of work at more than one location within the Division.

Payment shall be made under:

Pay Item	Pay Unit
Mobilization	Each

TRAFFIC CONTROL

(01-17-12) (Rev. 4-16-13)

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 Standard Drawing No. 1101.01 of the *2012 Roadway Standard Drawings* 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 and 1130.01 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. 1101.01, 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, 1170.01 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 may be used instead of drums for lane closures during daylight hours. However, drums are required for the upstream taper portion of lane closures in all applications. The stationary work zone shall be a maximum of 3 miles in length at any given time unless otherwise directed 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 an undivided facility 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* unless the work area is protected by barrier or guardrail. When personnel and/or equipment are working on the shoulder, adjacent to a divided facility and within 10 feet of an open travel lane, close the nearest open travel lane using Standard Drawing No. 1101.02 of the *2012 Roadway Standard Drawings* unless the work area is protected by barrier or guardrail. When personnel and/or equipment are working within a lane of travel of an undivided or divided facility, close the lane 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. Do not perform work involving heavy equipment within 15 feet of the edge of travel way when work is being performed behind a lane closure on the opposite side of the travel way. Perform work only when weather and visibility conditions allow safe operations as directed by the Engineer.

Do not exceed a difference of 2 inches in elevation between open lanes of traffic for nominal lifts of 1.5 inches. Install advance warning UNEVEN LANES signs (W8-11 at 48" X 48") 500 feet in advance and a minimum of once every half mile throughout the uneven area.

Backfill at a 6:1 slope up to the edge and elevation of existing pavement in areas adjacent to an open travel lane that has an edge of pavement drop-off as follows:

- (A) Drop-off that exceeds 2 inches on roadways with posted speed limits of 45 mph or greater.
- (B) Drop-off that exceeds 3 inches on roadways with posted speed limit less than 45 mph.

Backfill the unacceptable drop-off with suitable compacted material, as approved by the Engineer, at no expense to the Department. This work is not considered part of shoulder reconstruction.

When utilizing a slow-moving operation for such items as pavement marking placement, pavement marker installation and pesticide spraying, the slow moving operation caravan shall consist, as a minimum, of the vehicles and devices shown on the Moving Operation Caravan Details as shown on Standard Drawing No. 1101.02, sheets 11, 12 and 13 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.

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

1. Before working on ANY MAP, the Contractor shall submit a written construction sequence for traffic control and construction lighting for ALL MAPS to the Engineer at the first pre-construction meeting and the sequence must be approved before closing a lane of traffic. The Contractor and Engineer will coordinate with the Traffic Management Unit at 919-773-2800 or Traffic Services for additional traffic control guidance, as necessary.
2. Coordinate the installation of items required by the contract documents and resurfacing operations such that these operations are completed in the order as agreed upon with the Engineer at the first pre-construction meeting. Refer to the Provisions, Typicals and Details unless otherwise directed by the Engineer.
3. Once the Contractor has started work at a location, the Contractor should prosecute the work in a continuous and uninterrupted manner from the time he begins the work until completion and final acceptance unless determined otherwise by the Engineer.
4. Obtain written approval of the Engineer before working in more than one location or setting up additional lane closures.
5. Mainline pavement shall not be left milled, unmarked or uneven at the end of a paving season.
6. Contractor shall mill and pave lanes in an order such that water shall not accumulate.

Notify the Engineer 48 hours before milling or resurfacing will interfere with the existing Signal Loops. Loops may need to be placed in milled surface before resurfacing occurs. Coordinate all signal loop operations with the Engineer.

Notify the Engineer 15 consecutive calendar days before resurfacing a bridge or its approaches. Patch and make repairs to the existing asphalt wearing surface on the bridge surface and its approaches before resurfacing occurs. Coordinate all operations on the bridge and its approaches with the Engineer.

Notify the Engineer 48 hours before resurfacing the areas of existing pavement that require patching. Patch these areas before resurfacing occurs. Allow full depth asphalt patching to cool to the point of supporting traffic without displacement or rutting before reopening closed lane. Coordinate the resurfacing operations of the patched areas with the Engineer.

During a resurfacing only operation, bring all newly resurfaced lanes to the same elevation within 72 hours for nominal lifts of 1.5 inches or less of asphalt course and by the end of each work day for nominal lifts of greater than 1.5 inches of asphalt course.

For partial or wheel track milling operations on two-way, two-lane facilities, mill and pave back by the end of each work day. For partial or wheel track milling operations on multi-lane facilities, the lane being milled may be left closed and paved back within 72 hours.

The following options are available during Resurfacing and milling operations on two-way, two-lane facilities when the entire roadway or entire lane is to be milled:

- (A) Mill a single lane and pave back by the end of each work day.
- (B) Mill the entire width of roadway and pave back within 72 hours.

The following options are available during Resurfacing and milling operations on multi-lane facilities when all lanes or a single lane in one direction are to be milled:

- (A) Mill a single lane and pave back by the end of each work day.
- (B) Mill the entire width of pavement for all lanes to be milled in any direction daily and pave back within 72 hours.

When resurfacing facilities with ramps, resurface the ramp and gore area of the ramp as agreed upon with the Engineer. Place the transverse joint on the ramp at the terminal point of the gore unless the ramp is being resurfaced beyond this limit.

Slope the pavement at the beginning and ending of the daily milling operation as directed by the Engineer. Sweep and remove all milled material from the roadway as soon as the daily milling operation is completed. Continue milling operations until the particular section of roadway being milled is complete. Remove any existing pavement adjacent to the milled area that has been damaged and replace with patch material as directed by the Engineer.

Maintain vehicular access in accordance with Article 1101-14 of the *2012 Standard Specifications* using suitable backfill material approved by the Engineer.

Operate equipment and conduct operations in the same direction as the flow of traffic. Do not cross medians with equipment, except at properly designated interchanges.

Review and record the existing pavement markings and markers prior to resurfacing. Use the record of existing pavement markings and markers in accordance with the *2012 Roadway Standard Drawings* to re-establish the proposed pavement markings and markers unless otherwise directed by the Engineer.

Provide appropriate lighting in accordance with Section 1413 of the *2012 Standard Specifications*.

Remove existing pavement markers in preparation for paving. Repair any pavement damage due to existing pavement marker removal prior to the end of the work day. Dispose of existing pavement markers as directed by the Engineer. No direct payment will be made for this work, as it will be incidental to the paving operation.

Payment will be made for the traffic control items that have been included in the contract. No direct payment will be made for providing other traffic control as required herein, as the cost of same will be considered incidental to the work being paid for under those various traffic control items that have been included. Where the Contractor maintains traffic as required herein but no specific pay items have been included in the contract, all associated costs will be considered incidental to the work being paid for under the various items in the contract.

WORK ZONE SIGNING

(01-17-12)

RWZ-3

Description

Install and maintain signing in accordance with Divisions 11 and 12 of the *2012 Standard Specifications*, the *2012 Roadway Standard Drawings* and the following provisions:

Furnish, install, maintain and remove advance warning work zone signs and any required lane closure signing.

Furnish, install and maintain general work zone warning signs for resurfacing and milling such as ROUGH ROAD (W8-8 at 48" X 48") (for milling only), UNEVEN LANES (W8-11 at 48" X 48"), LOW SHOULDER (W8-9 at 48" X 48"), LOW / SOFT SHOULDER (DOT No. 16-79860 at 48" X 48"), UNMARKED PAVEMENT AHEAD (DOT No. 116087130 at 48" X 48") and DO NOT PASS (R4-1 at 24" X 30"). When construction is completed in any area of the project, relocate signs to the next work site, as directed by the Engineer. Remove these signs at the completion of the project.

All work zone signs may be portable.

Construction Methods

(A) General

Install all warning work zone signs before beginning work on a particular map. If signs are installed three days prior to the beginning of work on a particular map, cover the signs until the work begins. Install each work zone warning sign separately and not on the same post or stand with any other sign except where an advisory speed plate or directional arrow is used.

(B) Advance Warning Work Zone Signs

Install advance warning work zone signs in accordance with Standard Drawing No. 1101.01, 1101.02 and 1110.01 of the *2012 Roadway Standard Drawings* prior to beginning of work and remove upon final completion of the project. If there is a period of construction inactivity longer than two weeks, remove or cover advance warning work zone signs. Uncover advance warning work zone signs no more than 3 days before work resumes. All other operations could be suspended upon failure to comply with the above requirements. Such suspended operations would not be resumed until the above requirements are fulfilled.

(C) 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*.

(D) General Work Zone Warning Signs

Install general work zone warning signs for resurfacing and milling such as ROUGH ROAD (W8-8 at 48" X 48") (for milling only), UNEVEN LANES (W8-11 at 48" X 48"), LOW SHOULDER (W8-9 at 48" X 48") and LOW / SOFT SHOULDER (W8-9B at 48" X 48") at 1 mile intervals starting at a minimum of 500 feet in advance of the condition for both directions of travel (undivided roadways only) and at any other points determined by the Engineer.

Install the LOW SHOULDER (W8-9 at 48" X 48") or LOW / SOFT SHOULDER (DOT No. 16-79860 at 48" X 48") signs prior to any resurfacing in an area where shoulder construction will be performed.

Install general work zone warning signs such as UNMARKED PAVEMENT AHEAD (DOT No. 116087130 at 48" X 48") and DO NOT PASS (R4-1 at 24" X 30") alternately at 1/2 mile intervals starting at a minimum of 500 feet in advance of the condition for both directions of travel (undivided roadways only) and at any other points determined by the Engineer. Install signs prior to the obliteration of any pavement markings.

Measurement and Payment

Payment will be made for the work zone signing items that have been included in the contract. No direct payment will be made for providing other work zone signing as required herein, as the cost of same will be considered incidental to the work being paid for under those various work zone signing items that have been included. Where the Contractor provides work zone signing as required herein but no specific pay items have been included in the contract, all associated costs will be considered incidental to the work being paid for under the various items in the contract.

LANE CLOSURES & SHIFTS

The Contractor shall maintain traffic in accordance with Division 11 of the 2012 Standard Specifications for Roads and Structures. The Contractor shall furnish, install, maintain, relocate and remove any signs, barricades, drums, cones, flashing arrow boards, truck mounted impact attenuators, etc. in order to comply with the 2012 Specifications.

When closing a lane on a 2-lane, 2-way roadway the Contractor shall install temporary lane closures in accordance with Standard 1101.02 sheet 1 and 2 of 15 of the Highway Design Branch Roadway Standard Drawings. When closing a lane on a multi-lane roadway the Contractor shall install temporary lane closures in accordance with Standard 1101.02 sheets 3, 4, 5, 6, 7, 9 and 10 of 15 of the Highway Design Branch Roadway Standard Drawings.

When a temporary lane closure on a multi-lane roadway is shifted to another lane, the contractor will be paid for a Lane Closure Shift. On 2-lane, 2-way roadways, the contractor will be paid one Temporary Lane Closure for both lanes.

Payments shall be made under:

Pay Item	Pay Unit
Temporary Lane Closure (2-Lane, 2-Way Roadway)	Each
Temporary Lane Closure (Multi-Lane Roadway)	Each
Lane Closure Shift (Multi-Lane Roadway)	Each
Nighttime Temporary Lane Closure (2-Lane, 2-Way Roadway)	Each
Nighttime Temporary Lane Closure (Multi-Lane Roadway)	Each
Nighttime Lane Closure Shift (Multi-Lane Roadway)	Each

SILICON EXPANSION JOINT REPLACEMENT – DECK AND SUBSTRUCTURE

Contractor shall remove the existing expansion joint, clean the area in accordance with the manufacturer’s recommendations, and place the silicon expansion joint in accordance with the manufacturer’s recommendations. The expansion joint shall be replaced with the materials stated in this contract.

All materials shall be delivered unopened in their original containers bearing the manufacturer’s label, date of manufacture, batch number, trade name brand, and quantity. Sufficient material to perform the entire expansion joint shall be “on hand” prior to removing the existing expansion joint. Stored materials may be inspected prior to their use and shall meet the requirements of these provisions. Each shipment of repair material shall be accompanied by Material Safety Data Sheets (MSDS) and a certificate of compliance certifying that the materials conform to the requirements of these provisions.

The repair material shall be one of the following approved products:

Joins less than or equal to one (1) inch in width:

Sealant – Dow 888

Baysilon 960 (silicon based)

Joins greater than one (1) inch in width:

Sealant – Dow 902 (silicon based)

All substructure expansion joints shall be repaired with Dow 902 unless otherwise determined by the Department.

The entire cost for the silicon expansion joint replacement including but not limited to labor, maintenance, equipment, tools, and incidentals will be included in the unit prices for Silicon Joint Replacement.

Payments shall be made under:

Pay Item	Pay Unit
Silicon Joint Replacement (1” wide or less	Linear Feet
Silicon Joint Replacement (1” to 2” wide	Linear Feet

Silicon Joint Replacement (greater than 2" wide)

Linear Feet

EVAZOTE EXPANSION JOINT REPLACEMENT

Contractor shall remove the existing expansion joint, clean the area in accordance with the manufacturer's recommendations, and place the evazote expansion joint in accordance with the manufacturer's recommendations. Contractor shall have a manufacturer's representative present during the installation of the first evazote expansion joint of the project. The expansion joint shall be replaced with the materials stated in this contract.

All materials shall be delivered unopened in their original containers bearing the manufacturer's label, date of manufacture, batch number, trade name brand, and quantity. Sufficient material to perform the entire expansion joint shall be "on hand" prior to removing the existing expansion joint. Stored materials may be inspected prior to their use and shall meet the requirements of these provisions. Each shipment of repair material shall be accompanied by Material Safety Data Sheets (MSDS) and a certificate of compliance certifying that the materials conform to the requirements of these provisions.

Evazote Joint Seal Specifications

Use preformed seals compatible with concrete and resistant to abrasion, oxidation, oils, gasoline, salt and other materials that are spilled on or applied to the surface. Use a low-density closed cell, cross-linked ethylene vinyl acetate polyethylene copolymer nitrogen blown material for the seal. Use seals manufactured with grooves 1/8" (3 mm) ± wide by 1/8" (3 mm) ± deep and spaced between 1/4 (6 mm) and 1/2 inch (13 mm) apart along the bond surface running the length of the joint. Use seals sized so that the depth of the seal meets the manufacturer's recommendation, but is not less than 70% of the uncompressed width. Provide a seal designed so that, when compressed, the center portion of the top does not extend upward above the original height of the seal by more than 1/4 inch (6 mm). Splice the seal using the heat welding method by placing the joint material ends against a Teflon heating iron of 350°F (177°C) for 7 - 10 seconds, then pressing the ends together tightly. Do not test the welding until the material has completely cooled. Use material that resists weathering and ultraviolet rays. Provide a seal that has a working range of 30% tension and 60% compression and is watertight along its entire length including the ends. Have the top of the evazote seal clearly shop marked. Inspect the evazote seals upon receipt to ensure that the marks are clearly visible upon installation.

Provide seals that meet the requirements given below:

TEST	TEST METHOD	REQUIREMENT
Elongation at break	ASTM D3575	210 ± 15%
Tensile strength, psi (kPa)	ASTM D3575	110 ± 15 (755 ± 100)
Compression Recovery (% of original width)	AASHTO T42 50% compr. for 22 hr. @ 73°F (23°C) 1/2 hr. recovery	87 ± 3
Weather/Deterioration	AASHTO T42 Accelerated Weathering	No deterioration for 10 years min.
Compression/Deflection	@ 50% deflection of original width @ 50% deflection of original width	10 psi (69 kPa) min. 60 psi (414 kPa) max.
Tear Strength, psi (kPa)	ASTM D624	16 ± 3 (110 ± 20)
Density	ASTM D545	2.8 to 3.4
Water Absorption (% vol/vol)	ASTM D3575 Total immersion for 3 months	3

Adhesives

Use a two component, 100% solid, modified epoxy adhesive with the seal that meets the requirements of ASTM C881, Type 1, Grade 3, Class B & C and has the following physical properties:

Tensile strength 3500 psi (24.1 MPa) min.

Compressive strength 7000 psi (48.3 MPa) min.

Shore D Hardness 75 psi (0.5 MPa) min.

Water Absorption 0.25% by weight

Use an adhesive that is workable to 40°F (4°C). When installing in temperatures below 40°F (4°C) or for application on moist, difficult to dry concrete surfaces, use an adhesive specified by the manufacturer of the joint material.

Joint Preparation

After removal of existing joint, area must be sand-blasted immediately prior to installation of the new joint. Blasting medium shall be a non-silica product. Blasting medium shall be swept up and removed from the project. Traffic shall be protected from blasting operations. Joint shall be re-cleaned (and re-blasted if necessary), if joint installation is delayed and joint is determined to be unsuitable due to dirt, oils, etc.

Exact size of joint seals to be used where joints have been repaired with elastomeric concrete shall be determined after the elastomeric concrete work is completed.

Seal Installation

Do not install the joint seal if the ambient air temperature is below 45°F (7°C).

Begin installation at the low end of the joint after applying the mixed epoxy to the sides of both the joint material and both sides of the joint, making certain to completely fill the grooves with epoxy. With gloved hands, compress the material and with the help of a blunt probe, push it down into the joint until it is recessed approximately 1/4 inch (6 mm) below the surface. Do not push the seal at an angle that would stretch the material. Once work on a joint begins, do not stop until it is completed. Clean the excess epoxy off the surface of the joint material *quickly* and *thoroughly*. Do not use solvents to remove excess epoxy. Remove excess epoxy in accordance with the joint manufacturer's recommendations.

The entire cost for the Evazote expansion joint replacement including but not limited to labor, maintenance, equipment, tools, and incidentals will be included in the unit prices for Evazote Joint Replacement.

Payments shall be made under:

Pay Item

Evazote Joint Replacement

Pay Unit

Linear Feet

V-Seal Expansion Joints

Contractor shall remove the existing expansion joint, clean the area in accordance with the manufacturer's recommendations, and place the V-Seal expansion joint in accordance with the manufacturer's recommendations. The expansion joint shall be replaced with the materials stated in this contract or an approved equal.

All materials shall be delivered unopened in their original containers bearing the manufacturer's label, date of manufacture, batch number, trade name brand, and quantity. Sufficient material to perform the entire expansion joint shall be "on hand" prior to removing the existing expansion joint. Stored materials may be inspected prior to their use and shall meet the requirements of these provisions. Each shipment of repair material shall be accompanied by Material Safety Data Sheets (MSDS) and a certificate of compliance certifying that the materials conform to the requirements of these provisions.

Joints one (1) inch to two (2) inches in width:

V-Seal 300

Joints two (2) inches to three and a half (3 ½") inches in width:

V-Seal 400

Payments shall be made under:

Pay Item	Pay Unit
V-Seal 300 Expansion Joint Replacement	Linear Feet
V-Seal 400 Expansion Joint Replacement	Linear Feet

ASPHALT JOINT REPAIR AND REPLACEMENT

Joint material shall be hot applied, pre-mixed bituminous material that will provide a smooth riding surface and a waterproof joint. The contractor shall prepare the surface to be repaired by saw cutting to a minimum of 20" wide and 2" in depth, per manufacturer's specifications, or as directed by the Engineer, removing all loose material, and cleaning the area with compressed air.

No repairs shall be made during periods of rain, snow, or sleet. Standing water shall be removed prior to placement of material.

Steel bridging plates shall be used as needed to provide load transfer across the joint opening. Plates shall be plate steel, 1/8" to 1/4" thick, and 4" to 9" wide.

Bulking aggregate shall be chosen from the Basalt, Gritstone, Gabbro, or Granite Family. Only ½" to 1" size stone shall be used.

Material Requirements

All materials shall meet the specifications as approved by the Engineer prior to use. The joint material shall be one of the following approved products:

FibreJoint, A/P Bridge Flex Joint, or other NCDOT approved material.

Payments shall be made under:

Pay Item	Pay Unit
Asphalt Joint Repair/Replacement (18"-24" wide, w/ plate)	Cubic Feet

FIBREJOINT

SPECIFICATION FOR THE INSTALLATION OF THE FibreJoint® ASPHALTIC PLUG EXPANSION JOINT SYSTEM BY MARKETING ASSOCIATES, INC.

SCOPE

This work shall consist of supplying and installing a binder and aggregate system composed of specially blended polymer modified asphalt and specific aggregate placed in layers into a prepared expansion joint block-out. When

properly installed, the **FibreJoint** system by MAI will provide a flexible waterproof bridge joint, which will allow for a joint movement of 1” in expansion and 1” in compression.

MATERIAL

Binder Material

The bridge joint binder shall be a polymer modified asphalt, as manufactured by Fibrecrete Technologies, LLC., and shall meet the following requirements when tested according to ASTM test methods:

	TEST METHOD	TYPICAL VALUES
Softening Point	ASTM D-36.	180° F (82° C)
Tensile Adhesion	ASTM D-3583.	750% Min.
Ductility @ 77°F (25°C)	ASTM D-113	40 cm. Min
Penetration	ASTM D-3407 77°F (25°C) 150g, 5 sec.	90 dmm Max. 0° F (-18°C) 200g, 60 sec.
Flow 5h @ 140° F(60°C)	ASTM D-3407.	3.0 MM Max.
Resilience @ 77° F (25°C)	ASTM D-3407.	40% Min
Asphalt Compatibility	ASTM D-3407.	Pass
Recommended Pouring Temperature.....		390° F (199° C)
Safe Heating Temperature.....		410° F (216° C)

Aggregate

The stone type shall consist of Granite, Basalt, Gabbro, Porphyry or Gritstones. The specified aggregate shall be crushed, double washed, and shall meet the following requirements:

GRADATION

Sieve Size	¾” Percent Passing
7/8	95-100
5/8	30-50
½	10-30
3/8	0-7
¼	-
#8	-

Backer Rod

The backer rod shall be a closed cell, foam expansion joint filler, capable of withstanding the elevated temperature of the polymeric binder. The backer rod shall have the following typical physical properties using a 2” specimen and test method ASTM D-545:

Density:	2.0Lbs/Cu.Ft, min
Tensile Strength:	30 psi, min.
Compression:	5 psi @ 25%, min
Water Absorption:	0.03 g/cc by weight, min
Temperature @ 410°F (210°C)	No Melting

Bridging Plate

The bridging plate shall be a mild steel plate, ¼” thick by 8” wide, cut in 4’ to 5’ lengths. Spike holes shall be drilled on a longitudinal centerline at 1’ intervals.

INSTALLATION CREWS

The Fibrejoint™ System is to be installed only by factory trained and certified installation professionals.

EQUIPMENT

The equipment will consist of:

1. Small self-propelled dry cut saw
2. Pneumatic compressor of 185 CFM capacity.
3. One Hot-Compressed Air Lance (HCA Lance), capable of delivering flame retarded air stream with a temperature of 3,000° F (1648° C), at a speed of 3,000 feet per second.
4. Rotating vented or un-vented drum type mixers each with a Hot-Compressed Air Lance (HCA Lance), or a pressure – air injection torch (PAT torch).
5. Melter unit equipped with agitation and an automatic temperature control which can accurately maintain the material temperature from 100°F - 650°F (38°C - 343°C). A thermometer to monitor the material temperature must be provided. The burner system shall have a safety pilot capable of shutting off the gas supply in the event of a flame-out.
6. 100 lb. Bottles of propane or smaller
7. Vibratory roller or plate capable of compacting up to 1” in one pass.
8. Hand held calibrated digital temperature sensor.
9. Chop-saw with carbide blade, if needed.
10. Sandblasting equipment, required only for installation in a concrete overlay.
11. Safety clothing and equipment as required by OSHA.

INSTALLATION

The following procedures are to be followed to ensure a successful installation:

Note: FibreJoint must be installed at a minimum depth of two inches (2”).

Marking out: FibreJoint™ System shall be located centrally over the deck expansion gap or fixed joint and marked out to the recommended minimum width of 20”.

Excavation: The joint shall be excavated by the use of saws and pneumatic hand tools. Where possible, saws shall be set to cut the full required depth of the wearing surface and any membrane present. Variations in the depth of the wearing surface across the road should be considered to insure, where possible, that the deck is not damaged. All debris from the excavation channel shall be removed to allow the full volume of new joint to be installed.

Cleaning: The entire channel must be thoroughly cleaned and dried. Small debris will be removed by using compressed air. The Hot Compressed Air Lance will then be applied throughout the length of the channel. Installation in concrete overlays requires sandblasting of the concrete vertical walls and adjacent deck area prior to the use of the HCA Lance application.

Repairs: Spalled and defective concrete should be repaired with an approved material as agreed upon by the Project Engineer.

Caulking: The gap shall be caulked with the backer rod, allowing for approximately 1" of binder in the gap on top of the rod. If the previous caulking is intact and will hold the binder, it may be used to take the place of the backer rod. A small amount of hot binder should be placed onto the caulking to insure that the gap is adequately plugged.

Tanking: Immediately after cleaning and caulking, the entire channel shall be coated with a thin layer of hot binder. If significant delay occurs, the channel shall be inspected to determine if re-cleaning is necessary.

Plating: The gap shall be bridged with the steel plates centered over the gap by placing locating pins in the centerline of the plate. There must be at least 2" between the edge of the steel plate and the wall of the channel. Once the locating pins are in place, the top of the plate shall be coated with a thin layer of hot binder.

MATERIAL PREPARATION

Aggregate: The aggregate must be heated in a vented or un-vented rotating drum mixer by the use of a hot compressed air lance (HCA Lance), or a pressure air injection torch (PAT torch). Once the aggregate has been heated to a temperature of 370° - 380° F (188° - 193° C), it is then coated with a small quantity of binder. One gallon of binder per 100 lbs. of stone should be sufficient to coat the stone.

Binder: The binder shall be heated to the recommended pouring temperature, 370° - 385° F (188° - 196° C). At no time shall the recommended safe heating temperature of 400° F (204° C) be exceeded.

Material Installation: Layers of hot pre-coated aggregate not more than 2.5" thick shall be placed in the channel and immediately covered to the level of the coated aggregate. This will ensure that the 3:1 weight ratio of aggregate to binder has been achieved. Layers shall be raked to insure the aggregate is completely coated and that all air pockets are eliminated. This process shall cease approximately three-quarters of an inch (3/4") from the top of the channel.

Surface Layer: The surface layer shall be applied as other layers except that the pre-coated aggregate is not flooded with binder. The pre-coated aggregate shall be transferred to the joint and leveled slightly higher than the adjacent road surface. On a standard 2" deep joint, the topcoat should be one quarter inch (1/4") higher than the road surface. Deeper joints will require higher levels before tamping.

Compaction: Compaction should take place after the joint has cooled to approximately 225° F (107° C). The joint surface shall be made approximately level with the existing road surface by using the vibratory plate or roller.

Top Coating: After compaction, lines of 4" tape are placed one inch beyond the joint width on each side of the joint to insure evenness of appearance. The joint and at least one inch of the road surface shall be top-coated with the hot binder until the surface is smooth and absent of voids.

Note: If it is impossible to topcoat the joint during the same working day/night, it is allowable that the topcoat step be completed on the next working day/night. However, the surface must be cleaned, dried, and heated with the HCA Lance.

Surface Dressing: Immediately after top-coating, an anti-skid material is spread evenly over the joint to eliminate material tracking (Black Beauty Sand, Medium Grade).

Final Preparation: Prior to departure the crew will insure that the entire work area is clean of debris.

Temporary Joint: In the event of a work stoppage while constructing a joint, the following procedure can be used for low ADT roadways (<20,000). Fill the cavity with cold uncoated aggregate to the level of the road surface and top the aggregate with binder to form a temporary riding surface. Roadways with an ADT greater

than 20,000 will require materials similar to a cold patch asphalt. Be sure whatever is used is approved by the state agency.

QUALITY CONTROL

Upon request, certifications of the materials will be provided.

The Project Engineer may require the contractor to provide samples during the course of the work for laboratory test of any or all of the properties specified.

ELASTOMERIC CONCRETE PLACEMENT

Contractor shall repair damaged concrete adjacent to expansion joints as directed by the Engineer with elastomeric concrete.

Contractor shall submit falsework plans for approval. Falsework plans shall take into account expansion of the bridge deck due to changes in temperature.

Do not place elastomeric concrete if the ambient air temperature is below 45°F (7°C). Prepare and apply a primer, as per manufacturer's recommendations, to all vertical concrete faces, all steel components to be in contact with elastomeric concrete, and to areas specified by the manufacturer. Align the angles with the joint opening.

Prepare, batch, and place the elastomeric concrete in accordance with the manufacturer's instructions. Place the elastomeric concrete while the primer is still tacky and within 2 hours after applying the primer. Pay careful attention to properly consolidate the elastomeric concrete around the steel and anchors.

Tarps are to be utilized under the mixing areas, and the bridge deck joint shall be taped off to protect the bridge deck from spills during elastomeric concrete installation.

Provide materials that comply with the following minimum requirements at 14 days.

ELASTOMERIC CONCRETE PROPERTIES	TEST METHOD	MINIMUM REQUIREMENT
Compressive Strength, psi	ASTM D695	2000
5% Deflection Resilience	ASTM D695	95
Splitting Tensile Strength, psi	ASTM D3967	625
Bond Strength to Concrete, psi	ASTM D882 (D882M)	450
Durometer Hardness	ASTM D2240	50

BINDER PROPERTIES (without aggregate)	TEST METHOD	MINIMUM REQUIREMENT
Tensile Strength, psi	ASTM D638	1000
Ultimate Elongation	ASTM D638	150%
Tear Resistance, lb/in	ASTM D624	200

In addition to the requirements above, use elastomeric concrete that also resists water, chemical, UV, and ozone exposure and withstands extreme temperature (freeze-thaw) changes.

Furnish a manufacturer's certification verifying that the materials satisfy the above requirements. Provide samples of elastomeric concrete to the Engineer, if requested, to independently verify conformance with the above requirements.

The entire cost for joint repair using elastomeric concrete including but not limited to labor, maintenance, equipment, tools, and incidentals will be included in the unit prices for Joint Repair using Elastomeric Concrete. Linear feet measurement will include both sides of the joint to be repaired.

Payments shall be made under:

Pay Item

Joint Repair using Elastomeric Concrete

Pay Unit

Cubic Feet

EPOXY OVERLAY SYSTEM

SPECIAL

Description

This work shall consist of furnishing and applying an epoxy overlay system over the concrete bridge deck in accordance with the contract documents and consists of a minimum of two (2) layers of hybrid polymer resins with a special blend of extremely hard aggregate designed to provide a 3/8 inch thick overlay for the purpose of crack treatment, complete waterproofing, and providing a non-skid surface. The overlay system shall be formulated and applied to withstand continuous heavy traffic, extreme changes in weather conditions, and deformations due to structure loading and temperature changes.

Materials

(A) Overlay (Multiple Layers)

This two-part epoxy polymer overlay system shall be free of any fillers or volatile solvents and shall be formulated to provide a simple volumetric mixing ratio of two components such as one to one or two to one by volume. The epoxy polymer overlay system shall be formulated to provide flexibility in the system without any sacrifice of the hardness, chemical resistance or strength of the system. Use of external/conventional flexibilizers will not be accepted. Flexibility shall be by interaction of elastomers to chemically link in the process of curing so that the flexibility of the molecule is least affected during the low temperature conditions that are confronted in actual use.

Physical Requirements of Epoxy Polymer Overlay: When components A and B are mixed in the appropriate ratio, the cured resin shall conform to the requirements for Epoxy, Type 2 in Article 1081-1 of the *Standard Specifications* with the following exceptions:

Property	Requirement	Test Method
Pot life	15-45 minutes @ 75 deg. F	ASTM C881
Min. compressive Strength @ 3 hrs.	1,000 psi @ 75 deg. F	ASTM C109
Min. adhesion strength @ 24 hrs.	250 psi @ 75 deg. F	VTM-92

(B) Aggregate

Aggregate used for all layers shall be non-friable, non-polishing, clean and free from surface moisture. The aggregate shall be flint rock, 100% fractured, thoroughly washed and kiln dried to a maximum moisture content of 0.2% by weight, measured in accordance with ASTM C566. The fracture requirements shall be at least one mechanically fractured face and will apply to materials retained on a U.S. No. 10 sieve.

Aggregate properties shall conform to the properties of Table 1 and Table 2:

TABLE 1		
AGGREGATE PROPERTIES		
Property	Value	Test Method
Moisture Content, max.	0.2% by weight	AASHTO T255

Mohs Hardness, min.	6.5	
Soundness Loss, 5 cycles in Sodium Sulfate, max.	5.4%	AASHTO T104
Micro-Deval, max.	10%	AASHTO TP58

TABLE 2	
AGGREGATE GRADATION	
Sieve	Percent Passing
No. 6	60-100
No. 10	0-20
No. 20	0-10

System Quality Submittals

(1) **Past Performance Submittal:** Prior to beginning work, the selected epoxy polymer overlay system manufacturer shall submit records demonstrating verifiable satisfactory performance under average daily traffic of at least 10,000 for at least five (5) years on at least three (3) bridges in any state.

(2) **Performance Guarantee:** The Contractor shall guarantee materials and workmanship against latent and patent defects arising from faulty materials, faulty workmanship or negligence for a period of five (5) years following the date of final acceptance of the work for maintenance and shall replace such defective materials and workmanship without cost to the Department. The Contractor will not be responsible for damage due to normal wear and tear, for negligence on the part of the Department, and/or for use in excess of the design.

This guarantee provision shall be invoked for the following conditions:

- (a) Any delaminations
- (b) Excessive loss of aggregate
- (c) Skid resistance less than 40 as measured by AASHTO T242

Payment and/or performance bonds shall cover the guarantee period.

Construction Methods

(A) Surface Preparation

Remove all existing asphalt overlays if applicable, and all loose, disintegrated, unsound or contaminated concrete from the bridge deck.

Prepare the bridge deck prior to applying the overlay system, in accordance with the manufacturer's recommendations, the special provision *Concrete Deck Repair for Epoxy or Asphalt Overlay*, and the following.

After deck repairs have been completed, clean the entire deck surface by steel shot blasting and other means to remove asphaltic material, oils, dirt, rubber, curing compounds, paint carbonation, laitance, weak surface mortar and other potentially detrimental materials that may interfere with the bonding or curing of the overlay. Acceptable cleaning is usually recognized by a significant change in the color of the concrete and mortar, and the beginning exposure of coarse aggregate particles. Mortar that is sound and soundly bonded to the coarse aggregate shall have open pores due to cleaning to be considered adequate for bond. Areas of asphalt larger than one inch in diameter, or smaller areas spaced less than six inches apart, shall be removed. Traffic paint lines shall be considered clean when the concrete has exposed aggregate showing through the paint stripe. Remove all dust and other loose material. Care shall be taken and methods used to fully collect the excess material and limit loss to the environment.

Exposed portions of the steel grid decking shall be cleaned to a SSPC-10 (near white) surface preparation.

Epoxy based overlays shall not be placed on hydraulic cement concrete that is less than 28 days old. Patching and cleaning operations shall be inspected and approved prior to placing each layer of the overlay. Any contamination of the deck or intermediate courses, after initial cleaning, shall be removed.

The deck shall be completely dry at the time of application of the epoxy concrete overlay.

(B) Equipment

For mechanical applications, equipment shall consist of no less than an epoxy distribution system, aggregate spreader, application squeegee and vacuum trucks. The distribution system or distributor shall accurately blend the epoxy resin and hardening agent, and shall uniformly and accurately apply the epoxy materials at the specified rate to the bridge deck in such a manner as to cover 100% of the work area. The aggregate spreader shall be propelled in such a manner as to uniformly and accurately apply the aggregate to cover 100% of the epoxy material. The vacuum truck shall be self-propelled.

For hand applications, equipment shall consist of calibrated containers, a paddle type mixer, squeegees, rollers and brooms, which are suitable for mixing the epoxy and applying the epoxy and aggregate.

(C) Application

Handling and mixing of the epoxy resin and hardening agent shall be performed in a safe manner to achieve the desired result in accordance with the manufacturer's recommendations as approved and as directed by the Engineer. Epoxy overlay materials shall not be placed when weather or surface conditions are such that the material cannot be properly handled, placed, spread and cured within the specified requirements of traffic control.

The number of layers and the application rates of the liquid in the various layers shall be as recommended by the manufacturer in order to achieve a minimum overlay thickness of 3/8".

After the epoxy mixture has been prepared for the epoxy and stone overlay, it shall be immediately and uniformly applied to the surface of the bridge deck. The temperature of the bridge deck surface and all epoxy and aggregate components shall be 60°F or above at the time of application. Epoxy shall not be applied if the air temperature is expected to drop below 55°F within 8 hours after application, or when high temperatures would cause the gel time to be less than 10 minutes. The dry aggregate shall be applied in such a manner as to completely cover the epoxy mixture so that no wet spots appear and before it begins to gel. First course applications that do not receive enough aggregate prior to gel shall be removed and replaced. A second course insufficiently covered with aggregate may be left in place, but will require additional applications before opening to traffic. Each course of epoxy overlay shall be cured until vacuuming or brooming can be performed without tearing or damaging the surface. Traffic or equipment shall not be permitted on the overlay surface during the curing period. After the first course curing period, all loose aggregate shall be removed by vacuuming or brooming and the next overlay course(s) applied to completion. The minimum curing periods shall be as follows:

Course: Average temperature of deck, epoxy and aggregate components in °F

	60-64	65-69	70-74	75-79	80-84	85+
1	4 hrs.	3 hrs.	2.5 hrs.	2 hrs.	1.5 hrs.	1 hr.
2	6.5 hrs.*	5 hrs.	4 hrs.	3 hrs.	3 hrs.	3 hrs.

*Course 2 shall be cured for 8 hrs. if the air temperature drops below 60°F during the curing period.

The Contractor shall plan and prosecute the work to provide the curing periods as specified herein, or other longer minimum curing periods as prescribed by the manufacturer prior to opening to public or construction traffic, unless otherwise permitted. Course one applications shall not be opened to traffic unless approved by the Engineer.

Do not apply epoxy concrete overlay courses over modular joints, metal expansion joints, or foam joint seals.

In the event the Contractor's operation damages or mars the epoxy overlay, the Contractor shall remove the damaged areas by saw-cutting in rectangular sections to the top of the concrete deck surface and replacing the various courses in accordance with this Specification at no additional cost to the Department.

Measurement and Payment

Placement of Epoxy Overlay will be measured and paid at the contract unit price per square feet. The price shall include deck preparation, furnishing and placing the overlay system, providing a 5 year guarantee, and all tools, labor, materials, maintenance and incidentals necessary to complete the work.

Payment will be made under:

Pay Item
Epoxy Overlay

Pay Unit
Square Feet

CONCRETE/ASPHALT REPAIR – FIBRECRETE B

Concrete/asphalt repairs shall be made using the following approved Hot Applied Flexible Repair Material:

Fibrecrete B or approved equal.

The Contractor shall prepare areas by removing any loose debris using a pavement breaker, by using a mechanical planer or as directed by the Engineer. The recess is then cleaned and dried using hot compressed air to thoroughly prepare the surface, removing all debris and loose material. The Hot Applied Flexible Repair Material is immediately poured and screeded to fill the recess flush with the surrounding area and overlap the edges. While the material is still molten, a preheated high P.S.V. aggregate is applied to the surface.

When repairing pot holes from 1-1/2” to full depth, the Contractor will include 1/2” – 1” washed aggregate at the rate of no more than 30% of volume as directed by the Engineer. The balance of the repair will be completed as previously stated.

All materials shall be delivered unopened in their original containers bearing the manufacturer’s label, specifying date of manufacture, batch number, trade name or brand and quantity.

Sufficient material to perform the entire repair application shall be in storage at the site or at the Contractors facility prior to any field preparation, so that there shall be no delay in procuring the material for each day’s application.

Stored materials may be inspected prior to their use and shall meet the requirements of these Special Provisions at the time of use.

Any material which is rejected because of failure to meet the required tests or that has been damaged so as to cause rejections shall be immediately replaced by the Contractor at no additional cost to the Department.

Each shipment of the Hot Applied Flexible Repair Material shall be accompanied by Material Safety Data Sheets (MSDS) and a Certificate of Compliance certifying that the materials conform to the requirements as approved by NCDOT Materials and Test Unit.

The quantity of Hot Applied Flexible Repair Material for which payment will be made will be the actual pounds of material used. Payment shall be in full compensation for all labor, tools, equipment and incidentals necessary for the completion of the work.

Payment shall be made as follows:

Pay Item	Pay Unit
Concrete/asphalt repair – Fibrecrete B	Lbs.

MANUFACTOR’S SPECIFICATIONS

Fibrecrete “B” - FLEXIBLE REPAIR MATERIALS

DESCRIPTION

Fibrecrete B is a flexible repair material for joint/large crack, spalls and pot- hole repairs in asphalt and concrete. It is a hot-applied mastic asphalt binder with 36% bitumen content, polymers mixed with graded fillers, recycled steel fibers (less than 1%total weight), aggregates and recycled tire rubber (no less than 3% of total weight).

APPLICATIONS

Fibrecrete is designed to replace traditional asphaltic repairs, which are prone to failure due to their stiffness. Fibrecrete exceed the requirements of most asphaltic joint seals due to its flexibility. The installed product is a load-bearing repair that has superior tensile strength and flexibility to accommodate limited thermal expansion and

contraction. Fibrecrete has exceptional resistance to water intrusion and to a broad range of salts, bases and organic materials, making the repair a long-term solution for highway maintenance projects.

MATERIAL SPECIFICATIONS

Fibrecrete is an electrometric polymer modified binder. Installed in accordance with the manufacturer's specifications, the installed product will conform to the following properties:

<u>BINDER PROPERTIES</u>	<u>METHOD</u>	<u>REQUIREMENT</u>
Bond	ASTM D 1190	Pass, 3 cycles @ -20°C, 50%
Penetration	ASTM D 5329	1 mm min @ -18°C, 200 g, 60 sec 9 mm max @ 25°C, 150 g, 5 sec
Ductility	ASTM D113	40 cm min @ 25°C
Flexibility	ASTM D5329	Pass @ -12°C
Flow	ASTM D5329	3 mm max @ 60° @ 5 hours
Resilience	ASTM D5329	40% min @ 25°C
Softening Point	ASTM D36	82°C min
Elongation		500% min
Wheel tracking@ 122°F	BS598	4.8mm/h
Safe Heating Temperature		230°C (440°F)
Recommended Pouring Temperature		185°C to 199°C (365°F-390°F)

SITE PREPARATION

The joint/crack shall be milled with a mechanical planer to the specified width and depth (if required) all spalls and pot holes shall be milled or saw cut or jack hammered at the engineers discretion. The repair surfaces will be cleaned and dried with a hot air lance capable of producing temperatures in excess of 1400°C and directional velocities exceeding 750 meters per second. The recessed area and vertical walls will be treated with a primer agent to promote adhesion and prevent moisture intrusion (for concrete applications only).

INSTALLATION

Installation of the Fibrecrete material shall be by factory trained and certified installation professionals. The Fibrecrete material will be heated in a thermostatically controlled mixer, having a horizontal agitator that ensures complete mixing. Once the material has reached approximately 300°F, the molten Fibrecrete will be introduced into the prepared repair area, sealing the bottom of the repair from water intrusion. For depths greater than 1 inch heated ¾" granite aggregate shall be added at a rate of 25% - 35% by volume. The final ¾" of the repair will be Fibrecrete material for optimum flexibility of the repair. Once this top layer has been screeded to a level grade, a high PSV aggregate will be applied to the top of the repair to ensure proper skid resistance. Depending on the depth of the repair, the Fibrecrete material will be ready for traffic return between 30 minutes to 1 hour.

All removed materials and residual repair materials will be recovered and disposed of away from the site according to the client's specifications.

MANUFACTURER'S WARRANTY

Fibrecrete Technologies, LLC. warrants that Fibrecrete products meet applicable specifications provided they are installed in accordance with the manufacturer's guidance and specifications. The supplier shall warrant that the materials furnished shall perform for 2 years from date of installation when installed by the materials supplier's certified applicator and installed to the manufacturers specifications.

CONCRETE/ASPHALT REPAIR – FIBRECRETE G

Concrete/asphalt repairs shall be made using the following approved Hot Applied Flexible Repair Material:

Fibrecrete G or approved equal

The Contractor shall prepare areas by removing any loose debris using a pavement breaker, by using a mechanical planer or as directed by the Engineer. The recess is then cleaned and dried using hot compressed air to thoroughly prepare the surface, removing all debris and loose material. The Hot Applied Flexible Repair Material is immediately poured or screeded to fill the recess and overlap the edges. While the material is still molten, a preheated high P.S.V. aggregate is applied and then compacted to ensure that the finished repair is flush with the surrounding area.

When repairing pot holes from 1-1/2” to full depth, that are not adjacent to or spanning a joint, the Contractor will include 1/2” – 1” washed aggregate at the rate of no more than 30% of volume as directed by the Engineer. The balance of the repair will be completed as previously stated.

All materials shall be delivered unopened in their original containers bearing the manufacturer’s label, specifying date of manufacture, batch number, trade name or brand and quantity.

Sufficient material to perform the entire repair application shall be in storage at the site or at the Contractor’s facility prior to any field preparation, so that there shall be no delay in procuring the material for each day’s application.

Stored materials may be inspected prior to their use and shall meet the requirements of these Special Provisions at the time of use.

Any material which is rejected because of failure to meet the required tests or that has been damaged so as to cause rejections shall be immediately replaced by the Contractor at no additional cost to the Department.

Each shipment of the Hot Applied Flexible Repair Material shall be accompanied by Material Safety Data Sheets (MSDS) and a Certificate of Compliance certifying that the materials conform to the requirements as approved by NCDOT Materials and Test Unit.

The quantity of Hot Applied Flexible Repair Material for which payment will be made will be the actual pounds of material used. Payment shall be in full compensation for all labor, tools, equipment and incidentals necessary for the completion of the work.

Payment shall be made as follows:

Pay Item	Pay Unit
Concrete/asphalt repair – Fibrecrete G	Lbs.

MANUFACTOR’S SPECIFICATIONS

Fibrecrete “G” - FLEXIBLE REPAIR MATERIALS

DESCRIPTION

Fibrecrete “G” is a flexible repair material for joint/ large cracks, spalls and pot holes in concrete. It is a hot-applied, synthetic polymer modified resin compound containing mineral fillers, chopped fibers, and graded aggregates.

APPLICATIONS

Fibrecrete ‘G’ is designed to replace traditional cementitious repairs, which are prone to failure due to their stiffness. Fibrecrete capabilities exceed the requirements of most asphaltic joint seals due to its flexibility. The installed product is a color-matched, load-transferring repair that has superior tensile strength and flexibility to accommodate limited joint/crack movement. Fibrecrete has exceptional resistance to water intrusion and to a broad range of salts, bases and organic materials, making the repair a long-term solution for highway maintenance projects.

MATERIAL SPECIFICATIONS

Fibrecrete “G” is a synthetic polymer modified resin binder. Installed in accordance with the manufacturer’s specifications, the installed product will conform to the following properties:

<u>BINDER PROPERTIES</u>	<u>METHOD</u>	<u>REQUIREMENT</u>
Bond	ASTM D 1190	Pass, 3 cycles @ -20°C, 50%
Penetration	ASTM D 5329	1 mm min @ -18°C, 200 g, 60 sec 9 mm max @ 25°C, 150 g, 5 sec
Ductility	ASTM D113	40 cm min @ 25°C
Flexibility	ASTM D5329	Pass @ -12°C
Flow	ASTM D5329	3 mm max @ 60° @ 5 hours
Resilience	ASTM D5329	40% min @ 25°C
Softening Point	ASTM D36	82°C min
Elongation	FTL	500% min
Wheel tracking@ 122°F	BS598	4.8mm/h
Safe Heating Temperature		230°C
Recommended Pouring Temperature		185°C to 199°C

SITE PREPARATION

The joint/crack, spall or pot hole will be saw-cut/milled to the specified width and depth (if required). The joint/crack, spall or pot whole surfaces will be cleaned and dried with a hot air lance capable of producing temperatures in excess of 1400°C and directional velocities exceeding 750 meters per second. The recessed area and vertical walls will be treated with a primer agent to promote adhesion and prevent moisture intrusion (for concrete applications only).

INSTALLATION

The Fibrecrete “G” material will be heated in a thermostatically controlled mixer, having a horizontal agitator that ensures complete mixing. Once the material has reached approximately 195°C, the molten Fibrecrete “G” will be introduced into the prepared repair, sealing the bottom of the repair from water intrusion. The remainder of the repair process will consist of layering coarse hot angular aggregate (cleaned and dried) with the molten Fibrecrete “G” until within ½” of the top of the repair. The final ½” of the repair will be Fibrecrete “G” material for optimum flexibility of the repair. Once this top layer has been screened to a level grade, a high PSV aggregate will be applied to the top of the repair to ensure proper skid resistance. Depending on the depth of the repair, the Fibrecrete “G” material will be ready for traffic return between 30 minutes to 1 hour.

All removed materials and residual repair materials will be recovered and disposed of away from the site according to the client’s specifications.

MANUFATOR’S WARRANTY

Fibrecrete Technologies, LLC. warrants that Fibrecrete products meet applicable specifications provided they are installed in accordance with the manufacturer’s guidance and specifications. The supplier shall warrant that the materials furnished shall perform for 2 years from date of installation when installed by the materials supplier’s certified applicator and installed to the manufacturers specifications.

HDPF (High Density Polyurethane Foam) Processes

Slab Jacking and Undersealing/Void Filling

Material

The medium used for slab leveling, undersealing and void filling shall be blown, high-density polyurethane. The material shall be hydrophobic.

The high-density, closed cell, polyurethane system shall exhibit the following physical characteristics and properties:

DENSITY, Lbs/Ft	COMPRESSIVE STRENGTH	
ASTM 1622	ASTM 1621	
3.0		40 psi
3.5		50 psi
4.0		60 psi
6.0	110 psi	

The polyurethane foam system will have a free rise density of 3.0 – 4.2 lb/ft, with a minimum compressive strength of 40 psi. The expansion of the polyurethane foam under pressure increases the foam density above the original free rise density value. The compressive strength is a function of density of the tested material; therefore the foam produced during the lifting process will normally have a higher compressive strength than foam produced without restriction (free rise).

Equipment

A listing of lifting and undersealing equipment shall be submitted to the Engineer prior to commencement of work for review. The minimum list of equipment required shall be as listed below. The listing is a minimum and shall not preclude the use of additional equipment.

- A. A pneumatic drill and an electric drill capable of drilling 5/8”- 3/4” dia. holes.
- B. A truck-mounted pumping unit capable of injecting the high-density polyurethane formulation below the concrete slab or asphalt pavement. This pumping unit will be capable of controlling the rate of rise of the pavement.
- C. Stringlines or dial indicators will be periodically monitored to ensure that the concrete slab or overlay is raised to the required elevation. These devices are not used to constantly monitor or determine the moment movement begins.

Construction Methods

Final elevations shall be within 1/4” of the elevations proposed by profile, to the extent permitted by the structure, existing construction and site conditions. A tight string line may be used to monitor and verify elevations for slab lengths of 50 foot or less. Elevations can also be verified by flooding the area to confirm that the paving has been realigned properly. The Contractor shall be responsible for any pavement blowouts or excessive pavement lifting which may result from process and shall repair the damaged area to the satisfaction of the Engineer without additional cost.

The HDPF shall reach 90% of the full compressive strength in 15 minutes after injection.

HDPF SLAB LEVELING, UNDERSEALING AND VOID-FILLING

The Contractor shall prepare concrete to be leveled, undersealed or void filled by profiling existing pavement and determining where the pavement needs to be raised. A series of 5/8” holes shall be drilled into the pavement 3-6 foot O.C. (exact location and spacing to be determined in the field). Drilled holes shall extend through the pavement and into known voids. Holes shall not extend into the subgrade. The expanding HDPF material shall then be injected under the slab. The amount of rise shall be controlled by regulating the rate of HDPF injected. Injection holes shall be sealed with non-expansive cementitious grout once leveling is complete.

The Contractor will be held responsible for any pavement blowouts, excessive pavement lifting or pavement damage that may occur as a result of the Contractor's work. The Contractor shall repair any such suspect areas to the satisfaction of the Engineer at the Contractor's expense. It will be the Contractor's responsibility to control these operations to make sure excessive raising of the slabs does not occur. Where such does happen, the Contractor shall

be responsible for planing or replacing the existing pavement structure to provide, at the Engineer's discretion, a suitable riding surface.

Measurement

The polyurethane material shall be paid for by the pound, which will include furnishing and injecting material.

Verification of Actual Pounds pumped will be accomplished as follows:

1. A conversion from pump counters to pounds will be provided with a manufacturer's certification of the accurate conversion factor.
2. A visual measurement conversion on the actual totes/barrels of pounds per inches pumped.

Basis of Payment

The quantity of material to be paid for shall be the quantity actual used, based on the contract unit price shown on the bid form. Only those items shown on the bid sheet shall be paid for directly. All other labor, tool, equipment, and incidentals necessary for the completion of the project shall be considered incidental to the contract bid items.

Payment shall be made as follows:

Pay Item	Pay Unit
Slab Leveling, Undersealing and Voidfilling	Lbs

SOIL STABILIZATION

The information contained herein related to material selection, installation techniques and instruction is general in nature and may not be applicable to a particular project. Specific installation procedures, material requirements, and measuring techniques should be determined after careful analysis of the conditions and desired results of the actual project. We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, expressed or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use.

Specification describes pressure injection of soils to permeate, stabilize weak and loose soils and stop water migration through injected soils using a hydrophobic polyurethane injection resin.

Part 1 General

1.01 Purpose

- A. Furnish all materials, labor, tools and equipment to stabilize soils as indicated on drawings or in contract documents.

1.02 Related Work

- A. None

1.03 Quality Assurance

- A. Manufacturer of polyurethane material shall have been in existence for a period of not less than 15 (fifteen) years.
 1. The contractor must provide the engineer with job references where they have successfully completed 10 (ten) projects using moisture activated hydrophobic polyurethane resins for soil stabilization.

1.04 Delivery, Storage, and Handling

- A. Deliver the specified products in original, unopened containers with manufacturer's name, labels, product identification, and batch numbers intact.
- B. Store and condition the specified product as recommended by the manufacturer.

1.05 Job Conditions

- A. Do not apply the material if it is or it appears that it will be raining or snowing unless precautions are taken to protect the material from moisture. If temperature is or will be below 34 degrees F protect grout from freezing. Ice or the formation of ice can prevent grout penetration and travel.
- B. Contractor will take all precautions necessary to insure that no damage will occur to any work zone due to handling or pumping of the polyurethane resin.

Part 2 Materials

2.01 Acceptable Manufacturers

- A. Prime Flex 920, as manufactured by Prime Resins, Inc., Conyers, Georgia (800-321-7212) is considered to conform to the requirements of this specification and has performed satisfactorily for soil stabilization.
- B. The use of a product other than specified will be considered providing the contractor requests its use in writing to the Engineer. The request shall be accompanied by a notarized certification of compliance from an approved independent testing laboratory that the proposed substitute product meets or exceeds the specified performance criteria, tested in accordance with the specified test standards, and documented proof that the proposed product has a proven record of performance of soil stabilization, confirmed by actual field tests and five successful installations that the Engineer can investigate.
- C. The installing contractor must have a minimum of at least ten successful soil stabilization projects utilizing moisture activated hydrophobic polyurethane injection resins and be able to provide project lists and references to the Engineer.

2.02 Performance Criteria

- A. Physical properties of polyurethane resin:
 - 1. Water activated resin.
 - 2. Variable cure rate.
 - 3. Viscosity 110-130 cps. □ - 20 cps
 - 4. Solids Content 100% solids
 - 5. Characteristics Hydrophobic polymer
 - 6. Meets ANSI/NSF 61 Approval
- B. Physical properties of Catalyst:
 - 1. Appearance – Clear liquid
 - 2. Viscosity 15 – 20 cps
 - 3. Solids content 100%
- C. Physical properties of polyurethane resin cured under pressure:
 - 1. Shrinkage - (ASTM D-1042 / D-756) None
 - 2. Tensile Properties (ASTM D-1623)
 - a. Tensile strength: 23 psi
 - b. Elongation 3%
 - 3. ANSI/NSF 61 Approval

2.03 Materials

- A. Polyurethane Resin
 - 1. Polyurethane resin shall be a single component material that requires catalyst. Adjusting the percentage of catalyst to the base resin shall control reaction time of the grout.
 - 2. Material shall be a water reactive grout.
 - 3. Polyurethane resin shall be hydrophobic in nature.

Part 3 Execution

3.01 Preparation

- A. Prior to starting work the Owner shall provide the grouting contractor with detailed drawing of all under ground utilities in the work zone and all utilities shall be properly marked on the site. If a soil analysis report is not part of the original documents the contractor has the right to request one be provided at no additional cost to the contractor. This may be needed to determine proper probe placement, to identify potential problem areas, and natural differences in soil composition.
- B. Contractor shall determine appropriate spacing and depth placement for injection probes to successfully seal and stabilize area as shown in drawings. Test sections may be necessary to

determine best probe spacing depending on soil types and conditions encountered. (Typical spacing will vary between 12" – 60" in each direction and if multiple rows are needed then each row shall be offset ½ the space distance.) Probes: Pipe shall utilize Expendable Drive Point or other acceptable means to keep dirt from clogging pipe during driving. Type and size to be determined by contractor. Probes may be placed by manual driver, pneumatic driver, auger, or water jetting.

- C. Prior to injecting grout contractor shall ensure that the soils contain enough moisture to fully react the grout OR shall use a plural component pump to inject water and grout simultaneously (twin streaming) through injection pipe/probe. When twin streaming is done a ratio of 10 : 1 (grout : water) shall be used. A pump capable of injection pressures from 100 psi – 3300 psi is recommended. Flow rate of pumps shall be 2.0 gpm minimum. Manually operated or "hand pumps" are considered unacceptable and cannot be used.
- D. A grout log shall be maintained recording amount of grout and percentage of catalyst used for inspection by the Engineer at all times. Request for payment of grout shall include a copy of grout log detailing quantities used.

3.02 Application

- A. Contractor shall determine amount of grout to be injected into each probe to ensure all areas with the work area are fully grouted. Grouting shall use the "Lift Grouting Technique" where the pipe is raised or jacked up and grout is injected in 12" - 15" intervals or lifts. The amount of grout to be injected at each lift is to be determined by the contractor based on soil conditions for that particular area. Injection pressures will vary depending on soil conditions.
- B. On below grade structures grouting can also be done via the "through wall" method. This involves drilling holes through a wall (or floor) and grouting via these holes. In some cases it may be necessary to install soil pipes to transfer grout further out into the soils. Contractor to determine appropriate hole spacing to ensure desired results.
- C. Adhere to all limitations and cautions set forth by the manufacturer.

3.03 Safety

- A. Copy of Data sheet and Material Safety Data Sheet (MSDS) of all chemicals used must be on site at all times.
- B. Workers must wear protective rubber gloves, full protection (front and side) safety glasses, chemical goggles or face shield and any other necessary precautions as outlined in product MSDS when handling or pumping grout.

3.04 Cleaning

- A. Flush the pump and hoses with approved pump flush. Do not use solvents to clean off human skin.
- B. Uncured polyurethane resin can be removed from tools with an approved solvent. Cured polyurethane can only be removed mechanically.
- D. Remove all pipes from work area.
- C. Leave work area clean and neat.

4.0 Measurement

A. Basis of Payment

The quantity of material to be paid for shall be the quantity actual used, based on the contract unit price shown on the bid form. Only those items shown on the bid sheet shall be paid for directly. All other labor, tool, equipment, and incidentals necessary for the completion of the project shall be considered incidental to the contract bid items.

Payment shall be made as follows:

Pay Item	Pay Unit
Soil Stabilization	gal

STRUCTURAL FOAM VOID FILL/SLAB STABILIZATION

The information contained herein related to material selection, installation techniques and instruction is general in nature and may not be applicable to a particular project. Specific installation procedures, material requirements, and measuring techniques should be determined after careful analysis of the conditions and desired results of the actual project. We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, expressed or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use.

This specification describes stabilizing slabs / structures with voids to prevent further movement or settling using a structural, two component, polyurethane foam.

Part 1 General

1.01 Purpose

- A. Furnish all material, labor, tools, and equipment to stabilize concrete slabs.

1.02 Related Work

- A. None

1.03 Quality Assurance

- A. Manufacturer of polyurethane resin material shall have been in existence for a period of not less than fifteen (15) years.
- B. The contractor must supply the Engineer with 10 (ten) job references where they successfully injected polyurethane resin for sub-sealing, void filling applications, or soil stabilization.
- C. Contractor shall provide submittals prior to commencement of work that details the material to be used and that it conforms to the project specifications.

1.04 Delivery, Storage, and Handling

- A. Deliver the specified product in original, unopened containers with the manufacturer's name, label, product identification, and batch numbers intact and readable.
- B. Store and condition the specified product as recommended by the manufacturer.

Part 2 Materials

2.01 Acceptable Manufactures

- A. Prime-Flex 985 (LX-10 or LX-20) Structural Foam, as manufactured by Prime Resins, Inc., Conyers, Georgia, (1-800-321-7212) is considered to conform to the requirements of this specification and has performed satisfactorily for the application of void filling and slab stabilization.
- B. Substitutions: The use of other than the specified materials will be considered providing the contractor requests their use in writing to the Engineer. This request shall be accompanied by (a) A certificate of compliance from an approved independent testing laboratory that the proposed substitute products meet or exceed the specified performance criteria, tested in accordance with the specified test standards; and (b) Documented proof that the proposed substitute product has a 5 year proven record of performance, confirmed by actual field tests and five successful installations that the Engineer can investigate. Instant or rapid set (less than 5 minutes) foams will not be approved due to lack of migration time needed for material travel between rock.

2.02 Performance Criteria

- A. Properties of the mixed polyurethane resin for void filling and stabilizing:
- | | | | |
|----|------------------------------------|------------------------------|--------------------------|
| 1. | Mix ratio: | (by volume) | 1:1 (A:B) |
| 2. | Initial reaction time: | | @ 72°F (23°C)
70 sec. |
| 3. | Set Time: | | 8 min. |
| 4. | Expansion (free rise) | | 10:1* |
| 5. | Viscosity: | Part "A" | 270 cps |
| | | Part "B" | 280 cps |
| 6. | Compressive Strength (ASTM D-1621) | LX-10 60 psi @4.5 lb density | 9216 psf* |

* Expansion is affected by field conditions. Actual results may vary depending on temperature, mixing equipment and degree of constraint

2.03 Materials

- A. Polyurethane resin for injection into voids.
1. Material shall be a two (2) component, structural polyurethane foam
 2. Cured foam shall be closed cell.
 3. Minimum compressive strength of cured foam shall be 40-60 psi.
 4. Minimum expansion rate shall be 10:1 by volume (free rise).
 5. Heat shall not be used or required to activated foam.
 6. Maximum exotherm temperature to not exceed 270 degrees F per (10 cu. Ft.)

Part 3 Execution

3.01 Mixing and Application.

- A. Mixing of the polyurethane resin:
1. Automated 1:1 ratio positive displacement bulk pumps such as “The Flowmaster Pump” (Prime Resins, Inc., Conyers, GA. 800-321-7212 or www.primeresins.com) may be used to mix and dispense material.
- B. Placement procedure:
1. Locate and mark areas with voids.
 2. Using drill, drill a series holes as determined by contractor or engineer based on actual site conditions over area to be grouted. Over large areas stagger holes in an offset grid pattern by one half the distance spacing per row. Manufacturer of polyurethane resin can be contacted for assistance in hole pattern.
 3. Use a ¼” (inch) rod, dowel, or other instrument to determine depth of void under slab. After determining amount of void, calculate approximate amount of resin needed.
 4. Using meter-mix, positive displacement pump, inject pre-determined amount (to be based on field conditions) of Prime-Flex 985 Structural Foam into void.
 5. left open for venting of excess foam or plugged of with a wood dowel or other means. Removing plugs will also assist in relieving pressure by allowing excess foam to release out top.
 6. After foam has fully reacted shave excess from slab surface. Holes may be left filled with foam or drilled out and filled as directed by engineer or owner.

3.02 Cleaning

- A. Clean the substrate to produce a finish appearance acceptable to the Engineer and Owner. Shave excess foam from area.
- B. Clean tools and equipment with MEK or Xylene immediately after use. Cured polyurethane foam can only be removed mechanically. Clean skin with soap and water, NEVER solvent.
- C. Leave work area neat, clean, safe and without evidence of spillovers onto adjacent areas.

Basis of Payment

The quantity of material to be paid for shall be the quantity actual used, based on the contract unit price shown on the bid form. Only those items shown on the bid sheet shall be paid for directly. All other labor, tool, equipment, and incidentals necessary for the completion of the project shall be considered incidental to the contract bid items.

Payment shall be made as follows:

Pay Item	Pay Unit
Structural Foam Void Fill/Stabilization	gal

PLANT AND PEST QUARANTINES
(Imported Fire Ant, Gypsy Moth, Witchweed, And Other Noxious Weeds)

(3-18-03)

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.com/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.

DRIVEWAYS AND PRIVATE PROPERTY

The Contractor shall maintain access to driveways for all residents and property owners throughout the life of the project. The Contractor shall not perform work for private citizens or agencies in conjunction with this project or within the project limits of this contract.

MATERIALS

(2-21-12) (Rev. 3-19-13)

1000, 1005, 1078, 1080, 1081, 1087, 1092

SP10 R01

Revise the 2012 Standard Specifications as follows:

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:

TABLE 1000-1 REQUIREMENTS FOR CONCRETE											
Class of Concrete	Min. Comp. Strength at 28 days	Maximum Water-Cement Ratio				Consistency Max. Slump		Cement Content			
		Air-Entrained Concrete		Non Air- Entrained Concrete		Vibrated	Non- Vibrated	Vibrated		Non- Vibrated	
		Rounded Aggrega te	Angul ar Aggre- gate	Rounded Aggrega te	Angul ar Aggre- gate			Min.	Max.	Min.	Max.
<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 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 Light- weight	4,500	-	0.420	-	-	4	-	715	-	-	-
Latex Modified	3,000 7 day	0.400	0.400	-	-	6	-	658	-	-	-
Flowable Fill excavatab le	150 max. at 56 day s	as needed	as needed	as needed	as needed	-	Flow- able	-	-	40	100
Flowable Fill non- excavatab le	125	as needed	as needed	as needed	as needed	-	Flow- able	-	-	100	as need ed
Pavement	4,500 design, field 650 flexura l, design only	0.559	0.559	-	-	1.5 slip for m 3.0 han d plac e	-	526	-	-	-
Precast	See	as	as	-	-	6	as	as	as	as	as

	Table 1077-1	needed	needed				needed	needed	needed	needed	needed
Prestress	per contract	See Table 1078-1	See Table 1078-1	-	-	8	-	564	as needed	-	-

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

AGGREGATE GRADATION - COARSE AGGREGATE													
Percentage of Total by Weight Passing													
Std. Size #	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#10	#16	#40	#200	Remarks
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	AST, Str. Conc., Weep Drains, Str. Concrete
14M	-	-	-	-	-	100	35-70	5-20	-	0-8	-	A	Asphalt Plant Mix, 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 ^B	Aggregate Base Course, Aggregate Stabilization
ABC (M)	-	100	75-100	-	45-79	-	20-40	-	0-25	-	-	0-12 ^B	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 10-126, Table 1078-1, REQUIREMENTS FOR CONCRETE, replace with the following:

TABLE 1078-1 REQUIREMENTS FOR CONCRETE		
Property	28 Day Design Compressive Strength 6,000 psi or less	28 Day Design Compressive Strength greater than 6,000 psi
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 10-162, Subarticle 1081-1(A) Classifications, lines 4-7, delete the second and third sentences of the description for Type 3A.

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

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:

Observation Angle, degrees	Entrance Angle, degrees	White	Yellow	Green	Red	Blue	Fluorescent Yellow Green	Fluorescent Yellow
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	120	60	8	16	3.6	64	48
1.0	30.0	45	34	4.5	9	2	36	27

ON-THE-JOB TRAINING

(10-16-07) (Rev 7-21-09)

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.ncdot.org/business/ocs/ojt/.

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.

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.

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.

ERRATA

(1-17-12)(Rev. 9-18-12)

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 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 10****Page 10-74, Table 1056-1 Geotextile Requirements**, replace “50%” for the UV Stability (Retained Strength) of Type 5 geotextiles with “70%”.**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 15-6, 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”.

Rev 11-1-12	LISTING OF MBE/WBE SUBCONTRACTORS				Sheet _____ of _____	
Firm Name and Address	MBE or WBE	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item	
Name Address						
Name Address						
Name Address						
Name Address						
Name Address						

* 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 \$ _____
 Percentage of Total Contract Bid Price _____ %

** - Must have entry even if figure to be entered is zero.

** Dollar Volume of 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.*

**This form must be completed in order for the Bid to be considered responsive and be publicly read.
 Bidders with no MBE and/or WBE participation must so indicate this on the form by entering the word or number *zero*.**

**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

_____ Full Name of Partnership

_____ Address as Prequalified

_____ 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

Signature of Member/Manager/Authorized Agent
Select appropriate title

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
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.

(1) Name of Joint Venture
(2) Name of Contractor
Address as Prequalified
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

(3) Name of Contractor
Address as Prequalified
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

(4) Name of Contractor (for 3 Joint Venture only)
Address as Prequalified
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
Signature of Notary Public
of County
State of
My Commission Expires:

NOTARY SEAL
Affidavit must be notarized for Line (3)
Subscribed and sworn to before me this
day of 20
Signature of Notary Public
of County
State of
My Commission Expires:

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
State of
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

Address as Prequalified

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 _____ **NOTARY SEAL**

_____ day of _____ 20__.

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.

Contract No: 11236854

County: Division One

ACCEPTED BY THE
DEPARTMENT OF TRANSPORTATION

Contract Officer

Date

Signature Sheet 7 (Bid - Acceptance by Department)

North Carolina Department of Transportation BID FORM

WBS Number: Various

County: Division One

Description: Repair And Replacement Of Bridge Deck Expansion Joints, Concrete/Asphalt Deck Repairs And Foam Injections At Various Sites In Division One

Line No.	Sect. No.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT BID
1	SP	Mobilization	10	EA		
2	SP	Soil Stabilization	400	GAL		
3	SP	Structural Foam Void Fill / Stabilization	200	GAL		
4	SP	Temporary Lane Closure (2-Lane, 2-Way Roadway)	40	EA		
5	SP	Temporary Lane Closure (Multi-Lane Roadway)	40	EA		
6	SP	Lane Closure Shift (Multi-Lane Roadway)	25	EA		
7	SP	Nighttime Temporary Lane Closure (2-Lane, 2-Way Roadway)	25	EA		
8	SP	Nighttime Temporary Lane Closure (Multi-Lane Roadway)	25	EA		
9	SP	Nighttime Lane Closure Shift (Multi-Lane Roadway)	40	EA		
10	SP	Silicon Joint Replacement (1" Or Less)	500	LF		
11	SP	Silicon Joint Replacement (1" To 2" Wide)	500	LF		
12	SP	Silicon Joint Replacement (Greater Than 2" Wide)	500	LF		
13	SP	Evazote Joint Replacement	500	LF		
14	SP	V-Seal 300 Expansion Joint Replacement	400	LF		
15	SP	V-Seal 400 Expansion Joint Replacement	400	LF		
16	SP	Joint Repair Using Elastomeric Concrete	50	CF		
17	SP	Asphalt Joint Repair/Replacement (18"-24" Wide, W/ Plate)	100	CF		
18	SP	Concrete/Asphalt Deck Repair Fibrecrete B	15,000	LB		
19	SP	Concrete/Asphalt Deck Repair Fibrecrete G	15,000	LB		
20	SP	Slab Leveling, Undersealing And Voidfilling	10,000	LB		
21	SP	Epoxy Overlays	30,000	SF		

*****Unit Prices must be limited to TWO decimal places*****

FOR BID TO BE CONSIDERED RESPONSIVE, ANY ADDENDA ISSUED MUST BE ACKNOWLEDGED. PLEASE ACKNOWLEDGE RECEIPT OF ADDENDA BY WRITING IN ADDENDUM NUMBER AND DATING BELOW.

Addendum No. _____ Initial & Date: _____ Addendum No. _____ Initial & Date: _____

Addendum No. _____ Initial & Date: _____ Addendum No. _____ Initial & Date: _____

<i>TOTAL BID FOR PROJECT:</i> _____
--

THIS SECTION TO BE COMPLETED BY N. C. DEPARTMENT OF TRANSPORTATION

This bid has been reviewed in accordance with Article 103-1 of the Standard Specifications for Roads and Structures 2012.

Reviewed by: _____
DATE

Accepted by NCDOT: _____
DATE