

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION 8

PROPOSAL

DATE AND TIME OF BID OPENING: October 13, 2020 AT 2:00 PM

CONTRACT ID: DH00315

WBS ELEMENT NO.: 50217.3.2

FEDERAL AID NO.: N/A

COUNTY: CHATHAM COUNTY

ROUTE NO.: US 64 BUS/US 15-501

LOCATION: PITTSBORO TRAFFIC CIRCLE

TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND PEDESTRIAN IMPROVEMENTS

NOTICE:

ALL BIDDERS SHALL COMPLY WITH ALL APPLICABLE LAWS REGULATING THE PRACTICE OF GENERAL CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA WHICH REQUIRES THE BIDDER TO BE LICENSED BY THE N.C. LICENSING BOARD FOR CONTRACTORS WHEN BIDDING ON ANY NON-FEDERAL AID PROJECT WHERE THE BID IS \$30,000 OR MORE, EXCEPT FOR CERTAIN SPECIALTY WORK AS DETERMINED BY THE LICENSING BOARD. BIDDERS SHALL ALSO COMPLY WITH ALL OTHER APPLICABLE LAWS REGULATING THE PRACTICES OF ELECTRICAL, PLUMBING, HEATING AND AIR CONDITIONING AND REFRIGERATION CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA. NOTWITHSTANDING THESE LIMITATIONS ON BIDDING, THE BIDDER WHO IS AWARDED ANY FEDERAL - AID FUNDED PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF BID OPENING.

THIS IS A ROADWAY PROJECT.

BID BONDS ARE REQUIRED.

NAME OF BIDDER

ADDRESS OF BIDDER

**PROPOSAL FOR THE CONSTRUCTION OF
CONTRACT NO. DH00315
IN CHATHAM COUNTY, NORTH CAROLINA
OCTOBER 13, 2020**

DEPARTMENT OF TRANSPORTATION, RALEIGH, NORTH CAROLINA

The Bidder has carefully examined the location of the proposed work to be known as **CONTRACT DH00315**; has carefully examined the plans and specifications, which are acknowledged to be part of the proposal, the special provisions, the proposal, the form of contract; and thoroughly understands the stipulations, requirements and provisions. The undersigned bidder agrees to bound upon his/her execution of the bid and subsequent award to him/her by the Department of Transportation in accordance with this proposal to provide all necessary machinery, tools, labor, and other means of construction; and to do all the work and to furnish all materials, except as otherwise noted, necessary to perform and complete the said contract in accordance with *the 2018 Standard Specifications for Roads and Structures* by the date(s) specified in the Project Special Provisions and in accordance with the requirements of the Engineer, and at the unit or lump sum prices, as the case may be, for the various items given on the sheets contained herein.

The Bidder shall provide and furnish all the materials, machinery, implements, appliances and tools, and perform the work and required labor to construct and complete **CONTRACT DH00315** in **CHATHAM COUNTY**, for the unit or lump sum prices, as the case may be, bid by the Bidder in his/her bid and according to the proposal, plans and specifications prepared by said Department, which proposal, plans, and specifications show the details covering this project, and hereby become a part of this contract.

The published volume entitled *North Carolina Department of Transportation, 2018 Standard Specifications for Roads and Structures* with all amendments and supplements thereto, is by reference incorporated into and made a part of this contract; that, except as herein modified, all the construction and work included in this contract is to be done in accordance with the specifications contained in said volume, and amendments and supplements thereto, under the direction of the Engineer.

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

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

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

INSTRUCTIONS TO BIDDERS

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

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

For preparing and submitting the bid electronically, refer to Article 102-8(B) of the *2018 Standard Specifications*.

Bidders that bid electronically on Raleigh Central-Let projects will need a separate Digital Signature from the approved electronic bidding provider for Division Contracts.

ELECTRONIC ON-LINE BID:

1. Download entire proposal from Connect NCDOT website. Download the electronic submittal file from the approved electronic bidding provider website.
2. Prepare and submit the electronic submittal file using the approved electronic bidding provider software.
3. Electronic bidding software necessary for electronic bid preparation may be downloaded from the Connect NCDOT website at: <https://connect.ncdot.gov/letting/Pages/Electronic-Bidding.aspx> or from the approved electronic bidding provider website

PROJECT SPECIAL PROVISIONS**GENERAL****SCOPE OF WORK:**

This contract is for grading, paving, drainage, and pedestrian improvements at the Pittsboro Traffic Circle on US 64 Bus/ US 15-501 in CHATHAM County.

This work shall consist of grading; drainage installation; asphalt placement; curb and gutter installation; concrete islands; pedestrian improvements; utility relocations; landscape installation; erosion control; and all other incidental items necessary to complete the project as specified and shown on the plans.

The Contractor will be responsible for Construction Surveying for this project.

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

Wherever reference is given to codes, or standard specifications, or other data published by regulating agencies or accepted organizations, including but not limited to N.C. State Building Codes, Federal Specifications, ASTM Specifications, N.C. Department of Transportation ‘Standard Specifications for Roads and Structures’, and the like, it shall be understood that such reference is to the latest edition including addenda published prior to the date of the contract documents.

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 *Standard Specifications*.

Traffic Control will be performed by the Contractor.

DIVISION LET CONTRACT PREQUALIFICATION:

(07-01-14)(6-1-15)

SPD 01-410

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

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

SITE INVESTIGATION AND REPRESENTATION:

(3-3-2014)

102-6

SPD 01-280

By signing the proposal documents, the Contractor acknowledges that:

- (A) He understands the nature of the work and general and local conditions, particularly those bearing on transportation;
- (B) He is familiar with the availability and cost of labor and materials;
- (C) He will adhere to State regulations for safety and security of property, roads, and facilities;
- (D) He is able to prosecute the work in accordance with all applicable local, state and federal rules and regulations, and;
- (E) He has thoroughly investigated the project site(s).

Any failure on the part of the Contractor to acquaint himself with all available information shall not relieve him from the responsibility any aspect of the contracting process. No adjustment in contract time or contract prices will be made due to the Contractor's negligence in familiarizing himself with the contract or project site(s).

BOND REQUIREMENTS:

(06-01-16)

102-8, 102-10

SPD 01-420A

A Bid Bond is required in accordance with Article 102-10 of the 2018 Standard Specifications for Roads and Structures.

Contract Payment and Performance Bonds are required in accordance with Article 103-7 of the 2018 Standard Specifications for Roads and Structures.

CONTRACT TIME AND LIQUIDATED DAMAGES:

(4-17-12)

108

SP1 G07 C

The date of availability for this contract is **January 11, 2021**.

The completion date for this contract is **one hundred eighty (180) days after completing Intermediate Contract Time Number 1**.

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

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

INTERMEDIATE CONTRACT TIME NUMBER 1 AND LIQUIDATED DAMAGES:

(7-1-95) (Rev. 2-21-12)

108

SP1 G13 A

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

The date of availability for this intermediate contract time is **January 11, 2021**.

The completion date for this intermediate contract time is **October 30, 2021**.

The liquidated damages for this intermediate contract time are **One Thousand Dollars (\$1,000.00)** per calendar day.

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

INTERMEDIATE CONTRACT TIME NUMBER 2 AND LIQUIDATED DAMAGES:

(2-20-07) (Rev. 10-15-13)

108

SP1 G14 E

The Contractor shall complete the required work of installing, maintaining, and removing the traffic control devices for lane closures and restoring traffic to the existing traffic pattern. During Construction Phasing the nighttime road closures associated with phase 3 on plan sheet TMP-3, TMP-6 and TMP-7 shall occur during the following time restrictions:

DAY AND TIME RESTRICTIONS

7:00 PM and 6:00 AM (Monday Thru Sunday)

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

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

The liquidated damages are **One Thousand Dollars (\$1000.00)** per **15-minute** time period.

INTERMEDIATE CONTRACT TIME NUMBER 3 AND LIQUIDATED DAMAGES:

(2-20-07)

108

SP1 G14 A

The Contractor shall complete the required work of installing, maintaining, and removing the traffic control devices for lane closures and restoring traffic to the existing traffic pattern. The Contractor shall not close or narrow a lane of traffic on **US 64 Business (West St), US 64 Business (East St), US 15-501 (Hillsboro St), and US 15-501 (Sanford Rd)** during the following time restrictions:

DAY AND TIME RESTRICTIONS**6:00 AM – 9:00 AM and 4:00 PM – 7:00 PM (Monday Thru Friday)**

In addition, the Contractor shall not close or narrow a lane of traffic on **US 64 Business (West St), US 64 Business (East St), US 15-501 (Hillsboro St), and US 15-501 (Sanford Rd)**, detain and/or alter the traffic flow on or during holidays, holiday weekends, special events, or any other time when traffic is unusually heavy, including the following schedules:

HOLIDAY AND HOLIDAY WEEKEND LANE CLOSURE RESTRICTIONS

1. For **unexpected occurrence** that creates unusually high traffic volumes, as directed by the Engineer.
2. For **New Year's Day**, between the hours of **6:00 AM** December 31st to **7:00 PM** January 2nd. If New Year's Day is on a Friday, Saturday, Sunday, or Monday, then until **7:00 PM** the following Tuesday.
3. For **Easter**, between the hours of **6:00 AM** Thursday and **7:00 PM** Monday.
4. For **Memorial Day**, between the hours of **6:00 AM** Friday and **7:00 PM** Tuesday.
5. For **Independence Day**, between the hours of **6:00 AM** the day before Independence Day and **7:00 PM** the day after Independence Day.

If **Independence Day** is on a Friday, Saturday, Sunday, or Monday, then between the hours of **6:00 AM** the Thursday before Independence Day and **7:00 PM** the Tuesday after Independence Day.

6. For **Labor Day**, between the hours of **6:00 AM** Friday and **7:00 PM** Tuesday.
7. For **Thanksgiving Day**, between the hours of **6:00 AM** Tuesday and **7:00 PM** Monday.
8. For **Christmas**, between the hours of **6:00 AM** the Friday before the week of Christmas Day and **7:00 PM** the following Tuesday after the week of Christmas Day.
9. For Special Events, listed below, but not limited to, coordinate with Town of Pittsboro.

SPECIAL EVENTS (2020 & 2021) INCLUDING, BUT NOT LIMITED TO:

- 1) FIRST SUNDAY OF EVERY MONTH
- 2) FIRST FRIDAY ART FESTIVAL: APRIL 2021 (TBD)

- 3) SUMMER FEST: JULY 2021 (TBD)
- 4) STREET FAIR: OCTOBER 2020 AND 2021 (TBD)
- 5) TREE LIGHTING: NOVEMBER 2020 AND 2021 (TBD)
- 6) SMALL BUSINESS SATURDAY: NOVEMBER 2020 AND 2021 (TBD)
- 7) HOLIDAY PARADE: DECEMBER 2020 AND 2021 (TBD)
- 8) MIRACLE ON HILLSBORO: DECEMBER 2020 AND 2021 (TBD)

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

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

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

The liquidated damages are **One Thousand Dollars (\$1000.00)** per hour.

PERMANENT VEGETATION ESTABLISHMENT:

(2-16-12) (Rev. 10-15-13)

104

SP1 G16

Establish a permanent stand of the vegetation mixture shown in the contract. During the period between initial vegetation planting and final project acceptance, perform all work necessary to establish permanent vegetation on all erodible areas within the project limits, as well as, in borrow and waste pits. This work shall include erosion control device maintenance and installation, repair seeding and mulching, supplemental seeding and mulching, mowing, and fertilizer topdressing, as directed. All work shall be performed in accordance with the applicable section of the *2018 Standard Specifications*. All work required for initial vegetation planting shall be performed as a part of the work necessary for the completion and acceptance of the Intermediate Contract Time (ICT). Between the time of ICT and Final Project acceptance, or otherwise referred to as the vegetation establishment period, the Department will be responsible for preparing the required National Pollutant Discharge Elimination System (NPDES) inspection records.

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

Payment for *Response for Erosion Control, Seeding and Mulching, Repair Seeding, Supplemental Seeding, Mowing, Fertilizer Topdressing, Silt Excavation, and Stone for Erosion Control* will be made at contract unit prices for the affected items. Work required that is not represented by contract line items will be paid in accordance with Articles 104-7 or 104-3 of the *2018 Standard*

Specifications. No additional compensation will be made for maintenance and removal of temporary erosion control items.

POSTED WEIGHT LIMITS:

(7-1-95) (Rev.9-15-15)

105

SP1 G24R

The Contractor's attention is directed to Article 105-15 of the *2018 Standard Specifications* and to the fact that various Primary and Secondary Roads and bridges may be posted with weight limits less than the legal limit. Do not exceed the posted weight limits in transporting materials and/or equipment to the projects. Make a thorough examination of all projects and haul routes and be prepared to discuss them at the Preconstruction Conference.

MAJOR CONTRACT ITEMS:

(2-19-02)

104

SP1 G28

The following listed items are the major contract items for this contract (see Article 104-5 of the *2018 Standard Specifications*):

Line #	Description
23	Asphalt Conc Base Course, Type B25.0C
46	Generic Paving Item - Brick Paver Sidewalk
47	Generic Paving Item - Brick Vehicular Unit Pavers

SPECIALTY ITEMS:

(7-1-95)(Rev. 1-17-12)

108-6

SP1 G37

Items listed below will be the specialty items for this contract (see Article 108-6 of the *2018 Standard Specifications*).

Line #	Description
53 thru 55	Fencing
56 thru 63	Signing
77 thru 80	Long Life Pavement Markings
85	Permanent Pavement Markers
86 thru 87	Lighting
88 thru 109	Utility Construction
110 thru 126	Erosion Control
127 thru 133	Planting

FUEL PRICE ADJUSTMENT:

(11-15-05) (Rev. 2-18-14)

109-8

SP1 G43

Revise the *2018 Standard Specifications* as follows:

Page 1-83, Article 109-8, Fuel Price Adjustments, add the following:

The base index price for DIESEL #2 FUEL is \$ **1.3433** per gallon. Where any of the following are included as pay items in the contract, they will be eligible for fuel price adjustment.

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

Description	Units	Fuel Usage Factor Diesel
Unclassified Excavation	Gal/CY	0.29
Borrow Excavation	Gal/CY	0.29
Class IV Subgrade Stabilization	Gal/Ton	0.55
Aggregate Base Course	Gal/Ton	0.55
Sub-Ballast	Gal/Ton	0.55
Asphalt Concrete Base Course, Type _____	Gal/Ton	2.90
Asphalt Concrete Intermediate Course, Type _____	Gal/Ton	2.90
Asphalt Concrete Surface Course, Type _____	Gal/Ton	2.90
Open-Graded Asphalt Friction Course	Gal/Ton	2.90
Permeable Asphalt Drainage Course, Type _____	Gal/Ton	2.90
Sand Asphalt Surface Course, Type _____	Gal/Ton	2.90
Aggregate for Cement Treated Base Course	Gal/Ton	0.55
Portland Cement for Cement Treated Base Course	Gal/Ton	0.55
___ " Portland Cement Concrete Pavement	Gal/SY	0.245
Concrete Shoulders Adjacent to ___ " Pavement	Gal/SY	0.245

SCHEDULE OF ESTIMATED COMPLETION PROGRESS:

(7-15-08) (Rev. 5-16-17)

108-2

SP1 G58

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

	<u>Fiscal Year</u>	<u>Progress (% of Dollar Value)</u>
2021	(7/01/20 - 6/30/21)	59% of Total Amount Bid
2022	(7/01/21 - 6/30/22)	41% of Total Amount Bid

The Contractor shall also furnish his own progress schedule in accordance with Article 108-2 of the 2018 Standard Specifications. Any acceleration of the progress as shown by the Contractor's progress schedule over the progress as shown above shall be subject to the approval of the Engineer

MINORITY BUSINESS ENTERPRISE AND WOMEN BUSINESS ENTERPRISE (DIVISIONS):

(10-16-07)(Rev. 2-19-19)

102-15(J)

SP1 G67

Description

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

Definitions

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

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

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

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

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

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

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

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

Regular Dealer - A firm that owns, 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.

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

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

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

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

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

Forms and Websites Referenced in this Provision

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

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

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

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

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

Letter of Intent - Form signed by the Contractor and the MBE/WBE subcontractor, manufacturer or regular dealer that affirms that a portion of said contract is going to be performed by the signed MBE/WBE for the estimated amount (based on quantities and unit prices) listed at the time of bid.

<http://connect.ncdot.gov/letting/LetCentral/Letter%20of%20Intent%20to%20Perform%20as%20a%20Subcontractor.pdf>

Listing of MBE and WBE Subcontractors Form - Form for entering MBE/WBE subcontractors on a project that will meet the Combined MBE/WBE goal. This form is for paper bids only.

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

Subcontractor Quote Comparison Sheet - Spreadsheet for showing all subcontractor quotes in the work areas where MBEs and WBEs quoted on the project. This sheet is submitted with good faith effort packages.

<http://connect.ncdot.gov/business/SmallBusiness/Documents/DBE%20Subcontractor%20Quote%20Comparison%20Example.xls>

Combined MBE/WBE Goal

The Combined MBE/WBE Goal for this project is **7%**

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

(A) **Minority Business Enterprises 1%**

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

(B) **Women Business Enterprises 6%**

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

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

Directory of Transportation Firms (Directory)

Real-time information is available about firms doing business with the Department and firms that are certified through NCUCP in the Directory of Transportation Firms. Only firms identified in the

Directory as MBE and WBE certified shall be used to meet the Combined MBE / WBE goal. The Directory can be found at the following link.

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

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

Listing of MBE/WBE Subcontractors

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

(A) Electronic Bids

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

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

(B) Paper Bids

- (1) *If the Combined MBE/ WBE goal is more than zero,*
 - (a) Bidders, at the time the bid proposal is submitted, shall submit a listing of MBE/WBE participation, including the names and addresses on *Listing of MBE and WBE Subcontractors* contained elsewhere in the contract documents in order for the bid to be considered responsive. Bidders shall indicate the total dollar value of the MBE and WBE participation for the contract.

- (b) If bidders have no MBE or WBE participation, they shall indicate this on the *Listing of MBE and WBE Subcontractors* by entering the word “None” or the number “0.” This form shall be completed in its entirety. **Blank forms will not be deemed to represent zero participation.** Bids submitted that do not have MBE and WBE participation indicated on the appropriate form will not be read publicly during the opening of bids. The Department will not consider these bids for award and the proposal will be rejected.
- (c) The bidder shall be responsible for ensuring that the MBE/WBE is certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that MBE’s or WBE’s participation will not count towards achieving the Combined MBE/WBE goal.
- (2) *If the Combined MBE/WBE Goal is zero*, entries on the *Listing of MBE and WBE Subcontractors* are not required for the zero goal, however any MBE or WBE participation that is achieved during the project shall be reported in accordance with requirements contained elsewhere in the special provision.

MBE or WBE Prime Contractor

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

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

Written Documentation – Letter of Intent

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

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

If the bidder fails to submit the Letter of Intent from each committed MBE and WBE to be used toward the Combined MBE/WBE goal, or if the form is incomplete (i.e. both signatures are not present), the MBE/WBE participation will not count toward meeting the Combined MBE/WBE

goal. If the lack of this participation drops the commitment below the Combined MBE/WBE goal, the Contractor shall submit evidence of good faith efforts for the goal not met, completed in its entirety, to the Engineer no later than 2:00 p.m. of the eighth calendar day following opening of bids, unless the eighth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the Engineer no later than 10:00 a.m. on the next official state business day.

Banking MBE/WBE Credit

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

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

Submission of Good Faith Effort

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

One complete set and 6 copies of this information shall be received in the office of the Engineer no later than 2:00 p.m. of the fifth calendar day following opening of bids, unless the fifth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the Engineer no later than 10:00 a.m. on the next official state business day.

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

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

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

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

- (A) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising, written notices, use of verifiable electronic means through the use of the NCDOT Directory of Transportation Firms) the interest of all certified MBEs/WBEs that are also prequalified subcontractors. The bidder must solicit this interest within at least 10 days prior to bid opening to allow the MBEs/WBEs to respond to the solicitation. Solicitation shall provide the opportunity to MBEs/WBEs within the Division and surrounding Divisions where the project is located. The bidder must determine with certainty if the MBEs/WBEs are interested by taking appropriate steps to follow up initial solicitations.
- (B) Selecting portions of the work to be performed by MBEs/WBEs in order to increase the likelihood that the Combined MBE/WBE goal will be achieved.
 - (1) Where appropriate, break out contract work items into economically feasible units to facilitate MBE/WBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.
 - (2) Negotiate with subcontractors to assume part of the responsibility to meet the advertised goal when the work to be sublet includes potential for MBE/WBE participation (2nd and 3rd tier subcontractors).
- (C) Providing interested certified MBEs/WBEs that are also prequalified subcontractors with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- (D)
 - (1) Negotiating in good faith with interested MBEs/WBEs. It is the bidder's responsibility to make a portion of the work available to MBE/WBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available MBE/WBE subcontractors and suppliers, so as to facilitate MBE/WBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of MBEs/WBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for MBEs/WBEs to perform the work.
 - (2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including MBE/WBE subcontractors, and would take a firm's price and capabilities as well as the advertised goal into consideration. However, the fact that there may be some additional costs involved in finding and using MBEs/WBEs is not in itself sufficient reason for a bidder's failure to meet the advertised goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith

efforts. Bidding contractors are not, however, required to accept higher quotes from MBEs/WBEs if the price difference is excessive or unreasonable.

- (E) Not rejecting MBEs/WBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associates and political or social affiliations (for example, union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
- (F) Making efforts to assist interested MBEs/WBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or bidder.
- (G) Making efforts to assist interested MBEs/WBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
- (H) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; Federal, State, and local minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of MBEs/WBEs. Contact within 7 days from the bid opening the Business Opportunity and Work Force Development Unit at BOWD@ncdot.gov to give notification of the bidder's inability to get MBE or WBE quotes.
- (I) Any other evidence that the bidder submits which shows that the bidder has made reasonable good faith efforts to meet the advertised goal.

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

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

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

Non-Good Faith Appeal

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

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

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

(D) Joint Venture

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

(E) Suppliers

A contractor may count toward its MBE /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 /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. If it is determined that a MBE or WBE is not performing a Commercially Useful Function, the contractor may present evidence to rebut this presumption to the Department.

(B) MBE/WBE Utilization in Trucking

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

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

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

MBE/WBE Replacement

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

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

A committed MBE/WBE subcontractor may only be terminated after receiving the Department's written approval based upon a finding of good cause for the proposed termination and/or substitution. For purposes of this section, good cause shall include the following circumstances:

- (a) The listed MBE/WBE subcontractor fails or refuses to execute a written contract;
- (b) The listed MBE/WBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the MBE/WBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the prime contractor;
- (c) The listed MBE/WBE subcontractor fails or refuses to meet the prime contractor's reasonable, nondiscriminatory bond requirements;
- (d) The listed MBE/WBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- (e) The listed MBE/WBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant to 2 CFR Parts 180, 215 and 1,200 or applicable state law;
- (f) The listed MBE/WBE subcontractor is not a responsible contractor;
- (g) The listed MBE/WBE voluntarily withdraws from the project and provides written notice of withdrawal;
- (h) The listed MBE/WBE is ineligible to receive MBE/WBE credit for the type of work required;
- (i) A MBE/WBE owner dies or becomes disabled with the result that the listed MBE/WBE contractor is unable to complete its work on the contract;
- (j) Other documented good cause that compels the termination of the MBE/WBE subcontractor. Provided, that good cause does not exist if the prime contractor seeks to

terminate a MBE/WBE it relied upon to obtain the contract so that the prime contractor can self-perform the work for which the MBE/WBE contractor was engaged or so that the prime contractor can substitute another MBE/WBE or non-MBE/WBE contractor after contract award.

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

(A) Performance Related Replacement

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

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

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

(B) Decertification Replacement

- (1) When a committed MBE/WBE is decertified by the Department after the SAF (*Subcontract Approval Form*) has been received by the Department, the Department will not require the Contractor to solicit replacement MBE/WBE participation equal to the remaining work to be performed by the decertified firm. The participation equal to the remaining work performed by the decertified firm will count toward the contract goal requirement.
- (2) When a committed MBE/WBE is decertified prior to the Department receiving the SAF (*Subcontract Approval Form*) for the named MBE/WBE firm, the Contractor shall take all necessary and reasonable steps to replace the MBE/WBE subcontractor with another MBE/WBE subcontractor to perform at least the same

amount of work to meet the Combined MBE/WBE goal requirement. If a MBE/WBE firm is not found to do the same amount of work, a good faith effort must be submitted to NCDOT (see A herein for required documentation).

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

Changes in the Work

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

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

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

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

Reports and Documentation

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

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

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

Reporting Minority and Women Business Enterprise Participation

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

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

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

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

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

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

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

Failure to Meet Contract Requirements

Failure to meet contract requirements in accordance with Subarticle 102-15(J) of the *2018 Standard Specifications* may be cause to disqualify the Contractor.

CONTRACTOR'S LICENSE REQUIREMENTS:

(7-1-95)

102-14

SP1 G88

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

USE OF UNMANNED AIRCRAFT SYSTEM (UAS):

(8-20-19)

SP01 G092

The Contractor shall adhere to all Federal, State and Local regulations and guidelines for the use of Unmanned Aircraft Systems (UAS). This includes but is not limited to US 14 CFR Part 107 *Small UAS Rule*, NC GS 15A-300.2 *Regulation of launch and recovery sites*, NC GS 63-95 *Training required for the operation of unmanned aircraft systems*, NC GS 63-96 *Permit required for commercial operation of unmanned aircraft system*, and NCDOT UAS Policy. The required operator certifications include possessing a current Federal Aviation Administration (FAA) Remote Pilot Certificate, a NC UAS Operator Permit as well as operating a UAS registered with the FAA.

Prior to beginning operations, the Contractor shall complete the NCDOT UAS – Flight Operation Approval Form and submit it to the Engineer for approval. All UAS operations shall be approved by the Engineer prior to beginning the operations.

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

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

SUBSURFACE INFORMATION:

(7-1-95)

450

SP1 G112 A

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

ELECTRONIC BIDDING:

(2-19-19)

101, 102, 103

SP1 G140

Revise the *2018 Standard Specifications* as follows:

Page 1-4, Article 101-3, DEFINITIONS, BID (OR PROPOSAL) *Electronic Bid*, line 1, replace “Bid Express®” with “the approved electronic bidding provider”.

Page 1-15, Subarticle 102-8(B), *Electronic Bids*, lines 39-40, replace “to Bid Express®” with “via the approved electronic bidding provider”.

Page 1-15, Subarticle 102-8(B)(1), *Electronic Bids*, line 41, delete “from Bid Express®”

Page 1-17, Subarticle 102-9(C)(2), *Electronic Bids*, line 21, replace “Bid Express® miscellaneous folder within the .ebs” with “electronic submittal”.

Page 1-29, Subarticle 103-4(C)(2), *Electronic Bids*, line 32, replace “.ebs miscellaneous data file of Expedite” with “electronic submittal file”

TWELVE MONTH GUARANTEE:

(7-15-03)

108

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.

EROSION AND SEDIMENT CONTROL/STORMWATER CERTIFICATION:

(1-16-07) (Rev 04-01-19)

105-16, 225-2, 16

SP1 G180

General

Schedule and conduct construction activities in a manner that will minimize soil erosion and the resulting sedimentation and turbidity of surface waters. Comply with the requirements herein regardless of whether or not a National Pollution discharge Elimination System (NPDES) permit for the work is required.

Establish a chain of responsibility for operations and subcontractors' operations to ensure that the *Erosion and Sediment Control/Stormwater Pollution Prevention Plan* is implemented and maintained over the life of the contract.

- (A) *Certified Supervisor* - Provide a certified Erosion and Sediment Control/Stormwater Supervisor to manage the Contractor and subcontractor operations, insure compliance with Federal, State and Local ordinances and regulations, and manage the Quality Control Program.
- (B) *Certified Foreman* - Provide a certified, trained foreman for each construction operation that increases the potential for soil erosion or the possible sedimentation and turbidity of surface waters.
- (C) *Certified Installer* - Provide a certified installer to install or direct the installation for erosion or sediment/stormwater control practices.
- (D) *Certified Designer* - Provide a certified designer for the design of the erosion and sediment control/stormwater component of reclamation plans and, if applicable, for the design of the project erosion and sediment control/stormwater plan.

Roles and Responsibilities

- (A) *Certified Erosion and Sediment Control/Stormwater Supervisor* - The Certified Supervisor shall be Level II and responsible for ensuring the erosion and sediment control/stormwater plan is adequately implemented and maintained on the project and for conducting the quality control program. The Certified Supervisor shall be on the project within 24 hours notice from initial exposure of an erodible surface to the project's final acceptance. Perform the following duties:
 - (1) *Manage Operations* - Coordinate and schedule the work of subcontractors so that erosion and sediment control/stormwater measures are fully executed for each operation and in a timely manner over the duration of the contract.
 - (a) Oversee the work of subcontractors so that appropriate erosion and sediment control/stormwater preventive measures are conformed to at each stage of the work.
 - (b) Prepare the required National Pollutant Discharge Elimination System (NPDES) Inspection Record and submit to the Engineer.

- (c) Attend all weekly or monthly construction meetings to discuss the findings of the NPDES inspection and other related issues.
 - (d) Implement the erosion and sediment control/stormwater site plans requested.
 - (e) Provide any needed erosion and sediment control/stormwater practices for the Contractor's temporary work not shown on the plans, such as, but not limited to work platforms, temporary construction, pumping operations, plant and storage yards, and cofferdams.
 - (f) Acquire applicable permits and comply with requirements for borrow pits, dewatering, and any temporary work conducted by the Contractor in jurisdictional areas.
 - (g) Conduct all erosion and sediment control/stormwater work in a timely and workmanlike manner.
 - (h) Fully perform and install erosion and sediment control/stormwater work prior to any suspension of the work.
 - (i) Coordinate with Department, Federal, State and Local Regulatory agencies on resolution of erosion and sediment control/stormwater issues due to the Contractor's operations.
 - (j) Ensure that proper cleanup occurs from vehicle tracking on paved surfaces or any location where sediment leaves the Right-of-Way.
 - (k) Have available a set of erosion and sediment control/stormwater plans that are initialed and include the installation date of Best Management Practices. These practices shall include temporary and permanent groundcover and be properly updated to reflect necessary plan and field changes for use and review by Department personnel as well as regulatory agencies.
- (2) Requirements set forth under the NPDES Permit - The Department's NPDES Stormwater permit (NCS000250) outlines certain objectives and management measures pertaining to construction activities. The permit references *NCG010000, General Permit to Discharge Stormwater* under the NPDES, and states that the Department shall incorporate the applicable requirements into its delegated Erosion and Sediment Control Program for construction activities disturbing one or more acres of land. The Department further incorporates these requirements on all contracted bridge and culvert work at jurisdictional waters, regardless of size. Some of the requirements are, but are not limited to:
- (a) Control project site waste to prevent contamination of surface or ground waters of the state, i.e. from equipment operation/maintenance, construction materials, concrete washout, chemicals, litter, fuels, lubricants, coolants, hydraulic fluids, any other petroleum products, and sanitary waste.
 - (b) Inspect erosion and sediment control/stormwater devices and stormwater discharge outfalls at least once every 7 calendar days and within 24 hours after a rainfall event of greater than 1.0 inch that occurs within a 24 hour period. Additional monitoring may be required at the discretion of Division of Water Resources personnel if the receiving stream is 303(d) listed for turbidity and the project has had documented problems managing turbidity.
 - (c) Maintain an onsite rain gauge or use the Department's Multi-Sensor Precipitation Estimate website to maintain a daily record of rainfall amounts and dates.

- (d) Maintain erosion and sediment control/stormwater inspection records for review by Department and Regulatory personnel upon request.
 - (e) Implement approved reclamation plans on all borrow pits, waste sites and staging areas.
 - (f) Maintain a log of turbidity test results as outlined in the Department's Procedure for Monitoring Borrow Pit Discharge.
 - (g) Provide secondary containment for bulk storage of liquid materials.
 - (h) Provide training for employees concerning general erosion and sediment control/stormwater awareness, the Department's NPDES Stormwater Permit NCS000250 requirements, and the applicable requirements of the *General Permit, NCG010000*.
 - (i) Report violations of the NPDES permit to the Engineer immediately who will notify the Division of Water Quality Regional Office within 24 hours of becoming aware of the violation.
- (3) Quality Control Program - Maintain a quality control program to control erosion, prevent sedimentation and follow provisions/conditions of permits. The quality control program shall:
- (a) Follow permit requirements related to the Contractor and subcontractors' construction activities.
 - (b) Ensure that all operators and subcontractors on site have the proper erosion and sediment control/stormwater certification.
 - (c) Notify the Engineer when the required certified erosion and sediment control/stormwater personnel are not available on the job site when needed.
 - (d) Conduct the inspections required by the NPDES permit.
 - (e) Take corrective actions in the proper timeframe as required by the NPDES permit for problem areas identified during the NPDES inspections.
 - (f) Incorporate erosion control into the work in a timely manner and stabilize disturbed areas with mulch/seed or vegetative cover on a section-by-section basis.
 - (g) Use flocculants approved by state regulatory authorities where appropriate and where required for turbidity and sedimentation reduction.
 - (h) Ensure proper installation and maintenance of temporary erosion and sediment control devices.
 - (i) Remove temporary erosion or sediment control devices when they are no longer necessary as agreed upon by the Engineer.
 - (j) The Contractor's quality control and inspection procedures shall be subject to review by the Engineer. Maintain NPDES inspection records and make records available at all times for verification by the Engineer.
- (B) *Certified Foreman* - At least one Certified Foreman shall be onsite for each type of work listed herein during the respective construction activities to control erosion, prevent sedimentation and follow permit provisions:
- (1) Foreman in charge of grading activities
 - (2) Foreman in charge of bridge or culvert construction over jurisdictional areas
 - (3) Foreman in charge of utility activities

The Contractor may request to use the same person as the Level II Supervisor and Level II Foreman. This person shall be onsite whenever construction activities as described above are taking place. This request shall be approved by the Engineer prior to work beginning.

The Contractor may request to name a single Level II Foreman to oversee multiple construction activities on small bridge or culvert replacement projects. This request shall be approved by the Engineer prior to work beginning.

(C) *Certified Installers* - Provide at least one onsite, Level I Certified Installer for each of the following erosion and sediment control/stormwater crew:

- (1) Seeding and Mulching
- (2) Temporary Seeding
- (3) Temporary Mulching
- (4) Sodding
- (5) Silt fence or other perimeter erosion/sediment control device installations
- (6) Erosion control blanket installation
- (7) Hydraulic tackifier installation
- (8) Turbidity curtain installation
- (9) Rock ditch check/sediment dam installation
- (10) Ditch liner/matting installation
- (11) Inlet protection
- (12) Riprap placement
- (13) Stormwater BMP installations (such as but not limited to level spreaders, retention/detention devices)
- (14) Pipe installations within jurisdictional areas

If a Level I *Certified Installer* is not onsite, the Contractor may substitute a Level II Foreman for a Level I Installer, provided the Level II Foreman is not tasked to another crew requiring Level II Foreman oversight.

(D) *Certified Designer* - Include the certification number of the Level III-B Certified Designer on the erosion and sediment control/stormwater component of all reclamation plans and if applicable, the certification number of the Level III-A Certified Designer on the design of the project erosion and sediment control/stormwater plan.

Preconstruction Meeting

Furnish the names of the *Certified Erosion and Sediment Control/Stormwater Supervisor*, *Certified Foremen*, *Certified Installers* and *Certified Designer* and notify the Engineer of changes in certified personnel over the life of the contract within 2 days of change.

Ethical Responsibility

Any company performing work for the North Carolina Department of Transportation has the ethical responsibility to fully disclose any reprimand or dismissal of an employee resulting from improper testing or falsification of records.

Revocation or Suspension of Certification

Upon recommendation of the Chief Engineer to the certification entity, certification for *Supervisor, Certified Foremen, Certified Installers* and *Certified Designer* may be revoked or suspended with the issuance of an *Immediate Corrective Action (ICA), Notice of Violation (NOV)*, or *Cease and Desist Order* for erosion and sediment control/stormwater related issues.

The Chief Engineer may recommend suspension or permanent revocation of certification due to the following:

- (A) Failure to adequately perform the duties as defined within this certification provision.
- (B) Issuance of an ICA, NOV, or Cease and Desist Order.
- (C) Failure to fully perform environmental commitments as detailed within the permit conditions and specifications.
- (D) Demonstration of erroneous documentation or reporting techniques.
- (E) Cheating or copying another candidate's work on an examination.
- (F) Intentional falsification of records.
- (G) Directing a subordinate under direct or indirect supervision to perform any of the above actions.
- (H) Dismissal from a company for any of the above reasons.
- (I) Suspension or revocation of one's certification by another entity.

Suspension or revocation of a certification will be sent by certified mail to the certificant and the Corporate Head of the company that employs the certificant.

A certificant has the right to appeal any adverse action which results in suspension or permanent revocation of certification by responding, in writing, to the Chief Engineer within 10 calendar days after receiving notice of the proposed adverse action.

Chief Engineer
1536 Mail Service Center
Raleigh, NC 27699-1536

Failure to appeal within 10 calendar days will result in the proposed adverse action becoming effective on the date specified on the certified notice. Failure to appeal within the time specified will result in a waiver of all future appeal rights regarding the adverse action taken. The certificant will not be allowed to perform duties associated with the certification during the appeal process.

The Chief Engineer will hear the appeal and make a decision within 7 days of hearing the appeal. Decision of the Chief Engineer will be final and will be made in writing to the certificant.

If a certification is temporarily suspended, the certificant shall pass any applicable written examination and any proficiency examination, at the conclusion of the specified suspension period, prior to having the certification reinstated.

Measurement and Payment

Certified Erosion and Sediment Control/Stormwater Supervisor, Certified Foremen, Certified Installers and Certified Designer will be incidental to the project for which no direct compensation will be made.

PROCEDURE FOR MONITORING BORROW PIT DISCHARGE:

(2-20-07) (Rev. 4-5-19)

105-16, 230, 801

SP1 G181

Water discharge from borrow pit sites shall not cause surface waters to exceed 50 NTUs (nephelometric turbidity unit) in streams not designated as trout waters and 10 NTUs in streams, lakes or reservoirs designated as trout waters. For lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTUs. If the turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased.

If during any operating day, the downstream water quality exceeds the standard, the Contractor shall do all of the following:

- (A) Either cease discharge or modify the discharge volume or turbidity levels to bring the downstream turbidity levels into compliance, or
- (B) Evaluate the upstream conditions to determine if the exceedance of the standard is due to natural background conditions. If the background turbidity measurements exceed the standard, operation of the pit and discharge can continue as long as the stream turbidity levels are not increased due to the discharge.
- (C) Measure and record the turbidity test results (time, date and sampler) at all defined sampling locations 30 minutes after startup and at a minimum, one additional sampling of all sampling locations during that 24-hour period in which the borrow pit is discharging.
- (D) Notify DWQ within 24 hours of any stream turbidity standard exceedances that are not brought into compliance.

During the Environmental Assessment required by Article 230-4 of the *2018 Standard Specifications*, the Contractor shall define the point at which the discharge enters into the State's surface waters and the appropriate sampling locations. Sampling locations shall include points upstream and downstream from the point at which the discharge enters these waters. Upstream sampling location shall be located so that it is not influenced by backwater conditions and represents natural background conditions. Downstream sampling location shall be located at the point where complete mixing of the discharge and receiving water has occurred.

The discharge shall be closely monitored when water from the dewatering activities is introduced into jurisdictional wetlands. Any time visible sedimentation (deposition of sediment) on the wetland surface is observed, the dewatering activity will be suspended until turbidity levels in the stilling basin can be reduced to a level where sediment deposition does not occur. Staining of wetland surfaces from suspended clay particles, occurring after evaporation or infiltration, does not constitute sedimentation. No activities shall occur in wetlands that adversely affect the functioning of a wetland. Visible sedimentation will be considered an indication of possible adverse impacts on wetland use.

The Engineer will perform independent turbidity tests on a random basis. These results will be maintained in a log within the project records. Records will include, at a minimum, turbidity test results, time, date and name of sampler. Should the Department's test results exceed those of the Contractor's test results, an immediate test shall be performed jointly with the results superseding the previous test results of both the Department and the Contractor.

The Contractor shall use the *NCDOT Turbidity Reduction Options for Borrow Pits Matrix*, available at <https://connect.ncdot.gov/resources/roadside/FieldOperationsDocuments/TurbidityReductionOptionSheet.pdf> to plan, design, construct, and maintain BMPs to address water quality standards. Tier I Methods include stilling basins which are standard compensatory BMPs. Other Tier I methods are noncompensatory and shall be used when needed to meet the stream turbidity standards. Tier II Methods are also noncompensatory and are options that may be needed for protection of rare or unique resources or where special environmental conditions exist at the site which have led to additional requirements being placed in the DWQ's 401 Certifications and approval letters, Isolated Wetland Permits, Riparian Buffer Authorization or a DOT Reclamation Plan's Environmental Assessment for the specific site. Should the Contractor exhaust all Tier I Methods on a site exclusive of rare or unique resources or special environmental conditions, Tier II Methods may be required by regulators on a case by case basis per supplemental agreement.

The Contractor may use cation exchange capacity (CEC) values from proposed site borings to plan and develop the bid for the project. CEC values exceeding 15 milliequivalents per 100 grams of soil may indicate a high potential for turbidity and should be avoided when dewatering into surface water is proposed.

No additional compensation for monitoring borrow pit discharge will be paid.

REVISION TO FHWA-1273 CONCERNING TAP-FUNDED PROJECTS:

(10-15-13)

SP1 G190

Revise the *Standard Special Provision FHWA-1273 Required Contract Provisions Federal-Aid Construction Contracts* as follows:

Replace the last sentence in Section I.4 and the third sentence in the first paragraph of Section IV with the following:

Transportation Alternative Program (TAP)-funded projects shall have the same requirements as Federal-Aid highway projects except physical location exceptions will not apply.

AUTHORITY OF THE ENGINEER:

(01-30-14)

105-1

SPD 01-460

The Engineer for this project shall be the Division Engineer, Division 8, Division of Highways, North Carolina Department of Transportation, acting directly or through his duly authorized representative.

The Engineer will decide all questions which may arise as to the quality and acceptability of work performed and as to the rate of progress of the work; all questions which may arise as to the interpretation of the contract; and all questions as to the acceptable fulfillment of the contract on

the part of the Contractor. His decision shall be final and he shall have executive authority to enforce and make effective such decisions and orders as the Contractor fails to carry out promptly.

LIABILITY INSURANCE:

(1-30-14)

107-15

SPD 01-550

Provide liability insurance in accordance with Article 107-15 of the *2018 Standard Specifications*.

Revise the *2018 Standard Specifications* as follows:

Page 1-64, Article 107-15 Liability Insurance, line 26, replace the first sentence of the fourth paragraph with the following:

Upon award of the contract, provide evidence of the above insurance requirements to the Engineer.

PROSECUTION AND PROGRESS:

(3-16-10)

108

SPD 1-700

The Contractor shall pursue the work diligently with workmen in sufficient numbers, abilities, and supervision, and with equipment, materials, and methods as may be required to complete the work described in the contract by the completion date and in accordance with the *2018 Standard Specifications*.

The Contractor's operations are restricted to daylight hours. No work may be performed on Sundays and legal State holidays, unless otherwise approved by the Engineer. Work shall only be performed when weather and visibility conditions allow safe operations.

MATERIALS AND TESTING:

The Engineer reserves the right to perform all sampling and testing in accordance with Section 106 of the current edition of the 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 current edition of the Standard Specifications. Material which is not properly certified will not be accepted.

Delivery tickets for all asphalt and stone material shall be furnished in accordance with Section 106-7 of the current edition of the Standard Specifications and shall include the following information:

1. NCDOT Construction WBS
2. Date
3. Time issued
4. Type of Material
5. Gross weight
6. Tare Weight
7. Net weight of material
8. Plant Location

9. Truck Number
10. Contractor's name
11. Public weighmaster's stamp or number
12. Public weighmaster's signature or initials in ink
13. Job mix formula number (if for asphalt plant mix)
14. Asphalt Plant Certification Number (if for asphalt plant mix)

SUPERVISION BY CONTRACTOR:

At all times during the life of the project the Contractor shall provide one permanent employee who shall have the authority and capability for overall responsibility of the project and who shall be personally available at the work site within 24 hours notice. Such employee shall be fully authorized to conduct all business with the subcontractors, to negotiate and execute all supplemental agreements, and to execute the orders or directions of the Engineer.

At all times that work is actually being performed, the Contractor shall have present on the project one competent individual who is authorized to act in a supervisory capacity over all work on the project, including work subcontracted. The individual who has been so authorized shall be experienced in the type of work being performed and shall be fully capable of managing, directing, and coordinating the work; of reading and thoroughly understanding the contract; and receiving and carrying out directions from the Engineer or his authorized representatives. He shall be an employee of the Contractor unless otherwise approved by the Engineer.

The Contractor may, at his option, designate one employee to meet the requirements of both positions. However, whenever the designated employee is absent from the work site, an authorized individual qualified to act in a supervisory capacity on the project shall be present.

INSPECTION:

All work shall be subject to inspection by the Engineer at any time. Routinely, the Engineer will make periodic inspections of the completed work. It will be the responsibility of the Contractor to keep the Engineer informed of his proposed work plan and to submit written reports of work accomplished on a frequency to be determined by the Engineer.

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. Any driveway paved by a Contractor, which ties into a NCDOT system road being paved by the Contractor, must be paved either prior to the road-paving project or after its completion.

SAFETY AND ACCIDENT PROTECTION:

In accordance with Article 107-21 of the Standard Specifications, the Contractor shall comply with all applicable Federal, State, and local laws, ordinances, and regulations governing safety, health, and sanitation, and shall provide all safeguards, safety devices, and protective equipment, and shall take any other needed actions, on his own responsibility that are reasonably necessary to protect

the life and health of employees on the job and the safety of the public, and to protect property in connection with the performance of the work covered by the contract.

UTILITY CONFLICTS:

It shall be the responsibility of the Contractor to contact all affected utility owners and determine the precise locations of all utilities prior to beginning construction. Utility owners shall be contacted a minimum of 48 hours prior to the commencement of operations. Special care shall be used in working around or near existing utilities, protecting them when necessary to provide uninterrupted service. In the event that any utility service is interrupted, the Contractor shall notify the utility owner immediately and shall cooperate with the owner, or his representative, in the restoration of service in the shortest time possible. Existing fire hydrants shall be kept accessible to fire departments at all times.

The Contractor shall adhere to all applicable regulations and follow accepted safety procedures when working in the vicinity of utilities in order to insure the safety of construction personnel and the public.

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.

PAYMENT AND RETAINAGE:

The Contractor may submit a request for partial payment on a monthly basis, or other interval as approved by the Engineer. Compensation for all pay items shall be in accordance with the Standard Specifications. The amount of partial payments will be based on the work accomplished and accepted as the last day of the approved pay period. **Minority Business Enterprise and Women Business Enterprise (MBE/WBE) participation shall be listed on the Department's DBE Subcontractor Payment Information Form DBE-IS, which is available at <http://www.ncdot.org/doh/forms/files/DBE-IS.xls>, and shall be submitted with each payment request.** If there is no participation the word "None" or the figure "0" shall be entered. **There will be no retainage held on this contract.** One hundred percent (100%) payment shall be made after successful completion of the work and all quantities have been verified. The invoices will show the requisition number and purchase order number and should state "Terms Net Ten (10) Days."

NOTIFICATION OF OPERATIONS:

The Contractor shall notify the Engineer 48 hours in advance of beginning work on this project. The Contractor shall give the Engineer sufficient notice of all operations for any sampling or inspection of acceptance testing required

PRICE ADJUSTMENT - ASPHALT BINDER FOR PLANT MIX:

(11-21-00)

620

SP6 R25

Price adjustments for asphalt binder for plant mix will be made in accordance with Section 620 of the *2018 Standard Specifications*.

The base price index for asphalt binder for plant mix is \$ **404.64** per ton.

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on **October 1, 2020**.

FINAL SURFACE TESTING NOT REQUIRED:

(5-18-04) (Rev. 2-16-16)

610

SP6 R45

Final surface testing is not required on this project in accordance with Section 610-13, *Final Surface Testing and Acceptance*.

ASPHALT CONCRETE SURFACE COURSE COMPACTION:

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

SP6 R49R

Compact the asphalt surface course on this project in accordance with Subarticle 610-9 of the *2018 Standard Specifications* and the following provision:

Perform the first rolling with a steel wheel roller followed by rolling with a self-propelled pneumatic tired roller with the final rolling by a steel wheel roller.

ASPHALT CONCRETE PLANT MIX PAVEMENTS:

(2-20-18) (Rev.1-15-19)

610, 1012

SP6 R65

Revise the *2018 Standard Specifications* as follows:

Page 6-14, Table 609-3, LIMITS OF PRECISION FOR TEST RESULTS, replace with the following:

Mix Property	Limits of Precision
25.0 mm sieve (Base Mix)	± 10.0%
19.0 mm sieve (Base Mix)	± 10.0%
12.5 mm sieve (Intermediate & Type P-57)	± 6.0%
9.5 mm sieve (Surface Mix)	± 5.0%
4.75 mm sieve (Surface Mix)	± 5.0%
2.36 mm sieve (All Mixes, except S4.75A)	± 5.0%
1.18 mm sieve (S4.75A)	± 5.0%
0.075 mm sieve (All Mixes)	± 2.0%
Asphalt Binder Content	± 0.5%
Maximum Specific Gravity (G_{mm})	± 0.020
Bulk Specific Gravity (G_{mb})	± 0.030
TSR	± 15.0%

QA retest of prepared QC Gyratory Compacted Volumetric Specimens	± 0.015
Retest of QC Core Sample	± 1.2% (% Compaction)
Comparison QA Core Sample	± 2.0% (% Compaction)
QA Verification Core Sample	± 2.0% (% Compaction)
Density Gauge Comparison of QC Test	± 2.0% (% Compaction)
QA Density Gauge Verification Test	± 2.0% (% Compaction)

Page 6-17, Table 610-1, MIXING TEMPERATURE AT THE ASPHALT PLANT, replace with the following:

TABLE 610-1 MIXING TEMPERATURE AT THE ASPHALT PLANT	
Binder Grade	JMF Temperature
PG 58-28; PG 64-22	250 - 290°F
PG 76-22	300 - 325°F

Page 6-17, Subarticle 610-3(C), Job Mix Formula (JMF), lines 38-39, delete the fourth paragraph.

Page 6-18, Subarticle 610-3(C), Job Mix Formula (JMF), line 12, replace “SF9.5A” with “S9.5B”.

Page 6-18, Table 610-3, MIX DESIGN CRITERIA, replace with the following:

TABLE 610-3 MIX DESIGN CRITERIA									
Mix Type	Design ESALs millions ^A	Binder PG Grade	Compaction Levels		Max. Rut Depth (mm)	Volumetric Properties ^B			
			G _{mm} @			VMA % Min.	VTM %	VFA Min.-Max.	%G _{mm} @ N _{ini}
			N _{ini}	N _{des}					
S4.75A	< 1	64 - 22	6	50	11.5	16.0	4.0 - 6.0	65 - 80	≤ 91.5
S9.5B	0 - 3	64 - 22	6	50	9.5	16.0	3.0 - 5.0	70 - 80	≤ 91.5
S9.5C	3 - 30	64 - 22	7	65	6.5	15.5	3.0 - 5.0	65 - 78	≤ 90.5
S9.5D	> 30	76 - 22	8	100	4.5	15.5	3.0 - 5.0	65 - 78	≤ 90.0
I19.0C	ALL	64 - 22	7	65	-	13.5	3.0 - 5.0	65 - 78	≤ 90.5
B25.0C	ALL	64 - 22	7	65	-	12.5	3.0 - 5.0	65 - 78	≤ 90.5
Design Parameter					Design Criteria				
All Mix Types	Dust to Binder Ratio (P _{0.075} / P _{be})				0.6 - 1.4 ^C				
	Tensile Strength Ratio (TSR) ^D				85% Min. ^E				

- A. Based on 20 year design traffic.
- B. Volumetric Properties based on specimens compacted to N_{des} as modified by the Department.
- C. Dust to Binder Ratio (P_{0.075} / P_{be}) for Type S4.75A is 1.0 - 2.0.
- D. NCDOT-T-283 (No Freeze-Thaw cycle required).
- E. TSR for Type S4.75A & B25.0C mixes is 80% minimum.

Page 6-19, Table 610-5, BINDER GRADE REQUIREMENTS (BASED ON RBR%), replace with the following:

TABLE 610-5 BINDER GRADE REQUIREMENTS (BASED ON RBR%)			
Mix Type	%RBR ≤ 20%	21% ≤ %RBR ≤ 30%	%RBR ≥ 30%

S4.75A, S9.5B, S9.5C, I19.0C, B25.0C	PG 64-22	PG 64-22 ^A	PG-58-28
S9.5D, OGFC	PG 76-22 ^B	n/a	n/a

- A. If the mix contains any amount of RAS, the virgin binder shall be PG 58-28.
- B. Maximum Recycled Binder Replacement (%RBR) is 18% for mixes using PG 76-22 binder.

Page 6-20, Table 610-6, **PLACEMENT TEMPERATURES FOR ASPHALT**, replace with the following:

TABLE 610-6 PLACEMENT TEMPERATURES FOR ASPHALT	
Asphalt Concrete Mix Type	Minimum Surface and Air Temperature
B25.0C	35°F
I19.0C	35°F
S4.75A, S9.5B, S9.5C	40°F ^A
S9.5D	50°F

- A. For the final layer of surface mixes containing recycled asphalt shingles (RAS), the minimum surface and air temperature shall be 50°F.

Page 6-21, Article 610-8, **SPREADING AND FINISHING**, lines 34-35, delete the second sentence and replace with the following:

Use an MTV for all surface mix regardless of binder grade on Interstate, US Routes, and NC Routes (primary routes) that have 4 or more lanes and median divided.

Page 6-21, Article 610-8, **SPREADING AND FINISHING**, lines 36-38, delete the fourth sentence and replace with the following:

Use MTV for all ramps, loops, Y-line that have 4 or more lanes and are median divided, full width acceleration lanes, full width deceleration lanes, and full width turn lanes that are greater than 1000 feet in length.

Page 6-23, Table 610-7, **DENSITY REQUIREMENTS**, replace with the following:

TABLE 610-7 DENSITY REQUIREMENTS	
Mix Type	Minimum % G_{mm} (Maximum Specific Gravity)
S4.75A	85.0 ^A
S9.5B	90.0
S9.5C, S9.5D, I19.0C, B25.0C	92.0

- A. Compaction to the above specified density will be required when the S4.75A mix is applied at a rate of 100 lbs/sy or higher.

Page 6-24, Article 610-13, **FINAL SURFACE TESTING**, lines 35-36, delete the second sentence and replace with the following:

Final surface testing is not required on ramps, loops and turn lanes.

Page 6-26, Subarticle 610-13(A)(1), Acceptance for New Construction, lines 29-30, delete the second sentence and replace with the following:

Areas excluded from testing by the profiler may be tested using a 10-foot straightedge in accordance with Article 610-12.

Page 6-27, Subarticle 610-13(B), Option 2- North Carolina Hearne Straightedge, lines 41-46, delete the eighth and ninth sentence of this paragraph and replace with the following:

Take profiles over the entire length of the final surface travel lane pavement exclusive of structures, approach slabs, paved shoulders, tapers, or other irregular shaped areas of pavement, unless otherwise approved by the Engineer. Test in accordance with this provision all mainline travel lanes, full width acceleration or deceleration lanes and collector lanes.

Page 6-28, Subarticle 610-13(B), Option 2- North Carolina Hearne Straightedge, lines 1-2, delete these two lines.

Page 6-32, Article 610-16 MEASUREMENT AND PAYMENT, replace with the following:

Pay Item	Pay Unit
Asphalt Concrete Base Course, Type B25.0C	Ton
Asphalt Concrete Intermediate Course, Type I19.0C	Ton
Asphalt Concrete Surface Course, Type S4.75A	Ton
Asphalt Concrete Surface Course, Type S9.5B	Ton
Asphalt Concrete Surface Course, Type S9.5C	Ton
Asphalt Concrete Surface Course, Type S9.5D	Ton

Page 10-30, Table 1012-1, AGGREGATE CONSENSUS PROPERTIES, replace with the following:

**TABLE 1012-1
AGGREGATE CONSENSUS PROPERTIES^A**

Mix Type	Coarse Aggregate Angularity^B	Fine Aggregate Angularity % Minimum	Sand Equivalent % Minimum	Flat and Elongated 5 : 1 Ratio % Maximum
<i>Test Method</i>	<i>ASTM D5821</i>	<i>AASHTO T 304</i>	<i>AASHTO T 176</i>	<i>ASTM D4791</i>
S4.75A; S9.5B	75 / -	40	40	-
S9.5C; I19.0C; B25.0C	95 / 90	45	45	10
S9.5D	100 / 100	45	50	10
OGFC	100 / 100	45	45	10
UBWC	100 / 85	45	45	10

A. Requirements apply to the design aggregate blend.

B. 95 / 90 denotes that 95% of the coarse aggregate has one fractured face and 90% has 2 or more fractured faces.

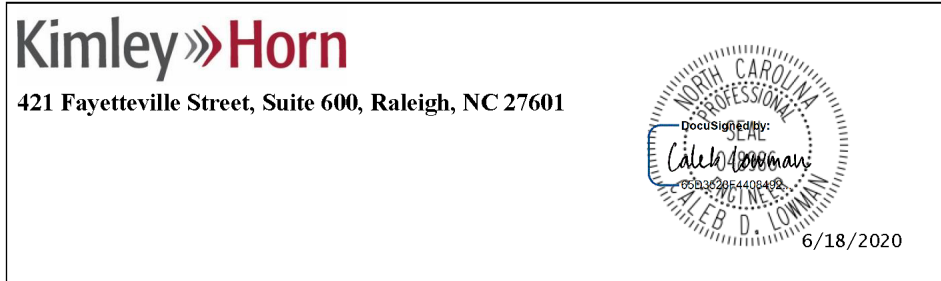
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Project Special Provisions
Roadway

**EXPLORATORY EXCAVATION**

12-15-09

SPI 8-23

Description

This work consists of performing exploratory excavation to locate existing underground utilities and storm drain systems as directed by the Engineer. Contractor must notify Engineer in writing in advance of performing exploratory excavation to be compensated for the work. This work will allow adjustments to be made prior to the installation of proposed storm drain systems and other items of work to alleviate conflicts.

Construction Methods

Exploratory Excavation — Standard shall consist of removing asphalt, concrete, and earth material by use of standard construction equipment, materials, and laborers to locate accurately any existing underground utilities and storm drain systems. All excavations shall be backfilled with suitable material of the same type excavated. Use available unclassified excavation before using borrow excavation.

Exploratory Excavation — Vacuum shall consist of removing asphalt and/or concreted material by use of standard construction equipment, materials, and laborers and using a vacuum to remove the earth material to locate accurately any existing underground utilities and storm drain systems. All excavations shall be backfilled with suitable material of the same type excavated. Use available unclassified excavation before using borrow excavation.

Measurement and Payment

Exploratory Excavation — Standard will be measured and paid for at the contract unit price per hour.
Exploratory Excavation — Vacuum will be measured and paid for at the contract unit price per hour.
 Such prices and payment shall be full compensation for satisfactorily excavating and removing existing material, backfilling with suitable previously excavated earth material and any necessary traffic control. Compensation for any additional earth material needed for backfill will be provided under the contract line items for unclassified excavation or borrow excavation, with available unclassified excavation being utilized before borrow excavation. Any pavement that is removed

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shall be paved back with an approved mix type being used on the project and payment will be made at the appropriate line item unit price established in the contract.

The Contractor at no cost to the Department will correct any damage to existing underground or above ground structures, storm drain facilities, or utilities due to the negligence of the Contractor.

Payment will be made under:

Pay Item	Pay Unit
Exploratory Excavation — Standard	Hour
Exploratory Excavation — Vacuum	Hour

REPAIR EXISTING WINDOW WELL:

Description

The work covered by this section consists of repair of existing window wells within proposed sidewalk areas in accordance with the requirements shown on the plans and the provisions of these specifications.

Materials

All materials shall meet the requirements shown below:

Portland cement concrete	Section 1000
Curing agents	Section 1026
Joint fillers	Article 1028-1
Joint sealers	Article 1028-2
Concrete block	Article 1040-2
Mortar	Article 1040-8
Flowable Fill	Article 340-2
Steel Plate	

Construction Requirements

Concrete shall be constructed in accordance with Section 825 and shall be given an ordinary surface finish except as otherwise provided herein. Class A concrete shall be used. Forms shall not be removed until at least 12 hours after the concrete has been placed.

Brick masonry shall be constructed in accordance with Section 830. Reinforced concrete block masonry shall be constructed in accordance with Section 834.

Backfilling shall not be done until at least 7 curing days, as defined in Article 8259 for concrete or Article 8305 for brick or block masonry, have elapsed unless otherwise permitted by the Engineer. Backfill shall be compacted to a degree satisfactory to the Engineer.

Method of Measurement



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This work will be measured as the number of repaired window wells in accordance with the plans, this specification, or as directed by the Engineer.

Basis of Payment

The unit price for each repair shall include the cost of furnishing all labor, materials and equipment necessary to complete the work including but not limited to removing the existing steel plate or other existing window well cover, demolition, and any and all other appurtenances installed in or a part of the existing structure, as well as removing and disposing of debris, removing parts of existing wall if needed, excavation and backfill, sawcutting, parging, waterproofing, furnishing and placing concrete, concrete block masonry, flowable fill, mortar, reinforcing steel, constructing joints, and any incidentals necessary to satisfactorily complete the work.

The contractor shall also prevent unauthorized entry into building through this work area. Sidewalk replacement will be paid for under its respective item.

Payment will be made under:

Pay Item	Unit Price
Repair Existing Window Well.....	Each



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REMOVE AND RESET EXISTING WHEEL STOP:

Description

The Work covered in this section consists of resetting existing wheel stops, where specified in the plans.

Materials

Materials shall include any materials necessary to remove and relocate the existing wheel stop. The Contractor may select the materials he deems necessary to complete the Work in accordance with this specification. The materials shall be subject to the approval of the Engineer.

Execution

The Contractor shall be responsible for reviewing for himself the existing wheel stops. The appearance of the existing wheel stops may be documented through sketches, photographs, videography, etc.

The Contractor shall take measures to remove and relocate the wheel stop, without damage to the wheel stop.

Measurement and Payment

The quantity of "Remove and Reset Existing Wheel Stop" to be paid for per each wheel stop relocated and accepted. All work consisting of, but not limited to, removing and relocating the existing wheel stop and all material, time, and labor costs associated will be considered incidental to the work.

Payment will be made under:

Pay Item	Unit Price
Remove and Reset Existing Wheel Stop	Each



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CONTAMINATED SOIL/WATER:

Description

The Contractor shall only excavate those soils/water which the Engineer designates necessary to complete a particular task. The Engineer shall determine if soil/water is contaminated based on petroleum odors and unusual soil staining. Contaminated soil/water not required to be excavated is to remain in place and undisturbed. Undisturbed soil/water shall remain in place, whether contaminated or not. The Contractor shall load, haul and dispose of contaminated soil/water with the pay item listed below. The Contractor shall transport all contaminated soil/water excavated or pumped from the project to a facility licensed to accept contaminated soil/water.

Construction Methods

In the event that the Contractor chooses to stockpile the soil temporarily, the stockpile shall be created within the property boundaries of the source material and in accordance with the Stockpile Detail found in the plans. If the volume of contaminated material exceeds available space on site, the Contractor shall obtain a permit from the NCDENR UST Section’s Regional Office for off-site temporary storage. Stockpiling contaminated soil will be incidental to the project. The Contractor shall provide disposal manifests and weigh tickets to the Engineer for review and approval. The Engineer will in turn provide the NCDOT Geotechnical Engineering Unit with a copy of the disposal manifests and weigh tickets for their records.

Measurement and Payment

The quantity of contaminated soil hauled, and disposed of shall be the actual number of tons or gallons of material, which has been acceptably transported and weighed with certified scales as documented by disposal manifests and weigh tickets. The quantity of contaminated soil, measured as provided above, shall be paid for at the contract unit price per ton for “Hauling and Disposal of Contaminated Soil” and gallons for “Hauling and Disposal of Contaminated Water”.

The above price and payment shall be full compensation for all work covered by this section, including, but not limited to, excavation, loading, transportation, weighing, laboratory testing, disposal, equipment, decontamination of equipment, labor, personal protective equipment, and incidentals. Backfill will be paid for at the contract unit price for Borrow Excavation.

Payment shall be made under:

Pay Item

Hauling and Disposal of Petroleum Contaminated Water
Hauling and Disposal of Petroleum Contaminated Soil

Pay Unit

GAL
TON



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FLOWABLE FILL:
(9-17-02) (Rev 1-17-12)

300, 340, 450, 1000, 1530, 1540, 1550

SP3 R30

Description

This work consists of all work necessary to place flowable fill in accordance with these provisions, the plans, and as directed.

Materials

Refer to Division 10 of the 2012 Standard Specifications.

Item

Flowable Fill

Section

1000-6

Construction Methods

Discharge flowable fill material directly from the truck into the space to be filled, or by other approved methods. The mix may be placed full depth or in lifts as site conditions dictate. The Contractor shall provide a method to plug the ends of the existing pipe in order to contain the flowable fill.

Measurement and Payment

At locations where flowable fill is called for on the plans and a pay item for flowable fill is included in the contract, Flowable Fill will be measured in cubic yards and paid as the actual number of cubic yards that have been satisfactorily placed and accepted. Such price and payment will be full compensation for all work covered by this provision including, but not limited to, the mix design, furnishing, hauling, placing and containing the flowable fill.

Payment will be made under:

Pay Item

Flowable Fill

Pay Unit

Cubic Yard



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**5" Monolithic Concrete Islands and 8" Monolithic Concrete Median
(Stamped-Color-Keyed-In):****PART 1 - GENERAL****1.1 Related Documents**

Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 Summary

- A. This Section specifies cast-in place imprinted/colored concrete, including formwork, reinforcing, mix design, placement procedures, and finishes.
- B. Vehicular Colored Concrete Pavement (Integrally colored concrete slabs/colored hardened/flushed/release and imprinted slab-on-grade, median vehicular aprons.
- C. Curing of integrally colored, and colored concrete.

1.3 Submittals**A. General**

Submit the following according to General Conditions of the Contract.

1. Product Data

Submit manufacturer's complete technical data sheets for the following:

- a. Colored admixtures
- b. Curing compounds
- c. Color hardeners
- d. Antiquing releases

2. Design Mixes

For each type of integrally colored concrete.

3. Samples for Initial Selection

Manufacturer's color charts showing full range of colors available.

4. Qualification Data

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For firms indicated in "Quality Assurance" Article, including list of completed projects

5. Expansion joint urethane sealer color chart for selection by Owner
- B. Laboratory test reports for standard concrete materials and mix design test.

1.4 Quality Assurance

A. Codes and Standards

Comply with provisions of the following codes, specifications, and standards, except where more stringent requirements are shown or specified:

1. ACI 318, "Building Code Requirements for Reinforced Concrete.
 2. Concrete Reinforcing Steel Institute (CRSI) "Manual of Standard Practice."
 3. ACI 302.1 R-89 "Guide for Concrete Floor and Slab Construction".
 4. ASTM C979 – Pigments for Integrally colored concrete.
 5. NCDOT Standard Specification for Roads and Bridges, January 2002
- B. American Concrete Institute (ACI):
1. ACI 301 "Specification for Structural Concrete for Buildings."
 2. ACI 302 IR "Recommended Practice for Concrete Floor and Slab Construction."
 3. ACI 303.1 "Standard Specification for Cast-In-Place Architectural Concrete."
 4. ACI 304 "Recommended Practice for Measuring, Mixing, Transporting and Placing of Concrete."
 5. ACI 305R "Recommended Practice for Hot Weather Concreting."
 6. ACI 306R "Recommended Practice for Cold Weather Concreting."
- C. American Society for Testing and Materials (ASTM):
1. ASTM C309 "Liquid Membrane-Forming Compounds for Curing Concrete."
 2. ASTM C494 "Standard Specification for Chemical Admixtures for Concrete."
-

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3. ASTM C979 "Standard Specification for Pigments for Integrally Colored Concrete."
 - D. American Association of State Highway and Transportation Officials (AASHTO): AASHTO M194 "Chemical Admixtures."
 - E. Concrete Testing Service
Owner shall engage an independent testing laboratory to perform material evaluation tests. Contractor shall extend coordination and cooperation to expedite testing and evaluation.
 - F. Severe Weather Provision
Protect concrete from physical damage or reduced strength due to weather extremes. In cold weather, comply with ACI 306. In hot weather, comply with ACI 305.
 - G. Installer Qualifications
Concrete work shall be performed with a min of 5 years experience with work of similar scope and quality. Firm shall denote a minimum of five installations for Owner's inspection completed within the past 5 years.
 - H. Manufacturer Qualifications
Manufacturer with 10-years experience in manufacture of specified products.
 - I. Installer Qualifications
An installer with five years experience with work of similar scope and quality.
 - J. Comply with the requirements of ACI 301.
 - K. Obtain each specified material from same source and maintain high degree of consistency in workmanship throughout Project.
 - L. Notification of manufacturer's authorized representative shall be given at least 1-week before start of Work. Manufacturers Area Representative shall be on hand to help with supervision of field samples.
 - M. Colored Concrete Field Samples:
 1. At location selected by the Department, place and finish 8 feet by 8 feet area.
 2. Construct sample panel using processes and techniques intended for use on permanent work, including curing procedures. Include samples of control, construction, and expansion joints in sample panels. Field sample
-

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shall be produced by the individual workers who will perform the work for the Project.

3. Accepted field sample provides visual standard for work of Section.
4. Field sample shall remain through completion of the work for use as a quality standard for finished work.
5. Remove field sample when directed.

1.5 Delivery, Storage, and Handling

Colored Admixture

Comply with manufacturer's instructions. Deliver colored admixtures in original, unopened packaging. Store in dry conditions.

1.6 Project Conditions

- A. Integrally Colored Concrete Environmental Requirements:
 1. Schedule placement to minimize exposure to wind and hot sun before curing materials are applied.
 2. Avoid placing concrete if rain, snow, or frost is forecast within 24-hours. Protect fresh concrete from moisture and freezing.
 3. Comply with professional practices described in ACI 305R and ACI 306R.
- B. Schedule delivery of concrete to provide consistent mix times from batching until discharge. Mix times shall meet manufacturer's written recommendations.

1.7 Pre-Construction Process

- A. One week prior to placement of integrally colored concrete a meeting will be held to discuss the Project and application materials.
- B. It is suggested that the City, General Contractor, Construction Manager, Subcontractor, Ready-Mix Concrete Representative, and a Manufacturer's Representative be present.

PART 2 - PRODUCTS

2.1 Form Materials

- A. Forms for Unexposed Finish Concrete

Plywood, lumber, metal, or another acceptable material. Provide lumber dressed on at least two edges and one side for tight fit.
 - B. Form Release Agent
-

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Provide commercial formulation form release agent with a maximum of 350 mg/l volatile organic compounds (VOCs) that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

C. Form Ties

Factory-fabricated, adjustable-length, removable or snap-off metal form ties designed to prevent form deflection and to prevent spalling of concrete upon removal. Provide units that will leave no metal closer than 1-1/2 inches to the plane of the exposed concrete surface.

Provide ties that, when removed, will leave holes not larger than 1 inch in diameter in the concrete surface.

2.2 Reinforcing Materials

- D. Reinforcing Bars: ASTM A 615, Grade 60, deformed.
- E. Steel Wire: ASTM A 82, plain, cold-drawn steel.
- F. Welded Wire Fabric: ASTM A 185, welded steel wire fabric.
- G. Supports for Reinforcement

Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Use wire bar-type supports complying with CRSI specifications.

For slabs-on-grade, use supports with sand plates or horizontal runners where base material will not support chair legs.

2.3 Concrete Materials

Concrete shall meet the requirements of Division 10 of the NCDOT Standard Specifications for Roads and Bridges.

2.4 Related Materials

H. Vapor Barrier

Provide vapor barrier that is resistant to deterioration when tested according to ASTM E 154, as follows:

1. Polyethylene sheet not less than 10 mils thick.
 2. Water-resistant barrier consisting of heavy kraft papers laminated together with glass-fiber reinforcement and overcoated with black polyethylene on each side.
-

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3. Product is Subject to compliance with requirements, provide MOISTOP by Fortifiber Corporation.
- B. Expansion Joint Material
- Unless otherwise detailed and specified for special joint conditions, Contractor shall provide fiber strips by Celotex Corp. or equivalent. Strips shall be nominal ½" thick and full depth of contact surface.
- C. Expansion Joint Sealer
- Provide and install a "zip strip" type protective strip material over the expansion joint material, remove after concrete pour, and seal with a self-leveling concrete urethane sealer. Three separate colors will be required to accommodate the three different concrete colors of this project (two separate colors for "color" concretes, and one for standard concrete. Submit colors to Owner for approval.
- D. Absorptive Cover
- Burlap cloth made from jute or kenaf, weighing approximately 9 oz. per sq. yd., complying with AASHTO M 182, Class 2.
- E. Moisture-Retaining Cover
- One of the following, complying with ASTM C 171.
1. Waterproof paper
 2. Polyethylene film
 3. Polyethylene-coated burlap
- F. Liquid Membrane-Forming Curing Compound
- Liquid-type membrane-forming curing compound complying with ASTM C 309, Type I, Class A. Moisture loss not more than 0.55 kg/sq. meter when applied at 200 sq. ft./gal.
1. Provide material that has a maximum volatile organic compound (VOC) rating of 350 mg per liter.
 2. Products
- Subject to compliance with requirements, provide one of the following:
- a. Sealco 309, Cormix Construction Chemicals.
 - b. Eucocure, Euclid Chemical Co.
-

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- c. Masterkure, Master Builders, Inc.
- d. Kure-N-Seal, Sonneborn-Chemrex.

G. Bonding Agent

Polyvinyl acetate or acrylic base.

Products

Subject to compliance with requirements, provide one of the following:

A. Polyvinyl Acetate (Interior Only):

- 1) Superior Concrete Bonder, Dayton Superior Corp.
- 2) Euco Weld, Euclid Chemical Co.
- 3) Weld-Crete, Larsen Products Corp.

B. Acrylic or Styrene Butadiene:

- 1) Day-Chem Ad Bond, Dayton Superior Corp.
- 2) SBR Latex, Euclid Chemical Co.
- 3) Acryl-Set, Master Builders Inc.

H. Epoxy Adhesive

ASTM C 881, two-component material suitable for use on dry or damp surfaces. Provide material type, grade, and class to suit Project requirements.

Products

Subject to compliance with requirements, provide one of the following:

- A. Resi-Bond (J-58), Dayton Superior.
- B. Euco Epoxy System #452 or #620, Euclid Chemical Co.
- C. Coneresive Standard Liquid, Master Builders, Inc.
- D. Sikadur 32 Hi-Mod, Sika Corp.

2.5 Admixtures

Use admixtures for water reduction and set accelerating or retarding in strict compliance with manufacturer's directions.

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2.6 Color Concrete Acceptable Manufacturer

L.M. Scofield Company, Douglasville, Georgia (800) 800-9900. Local Contact for questions about methods and application: Steve Martin (919) 345-8271, or approved equal (for all items related to integral color concrete with a color hardener applied to the surface listed below).

2.7 Color Concrete Materials**A. Colored Admixture for Integrally Colored Concrete****CHROMIX P® Admixture**

1. Admixture shall be a colored, water-reducing, admixture containing no calcium chloride with coloring agents that are limeproof and ultra-violet resistant.
2. Colored admixture shall conform to the requirements of ACI 303.1, ASTM C979, ASTM C494 and ASSHTO M194.

B. Curing Compound for Integrally Colored Concrete (TO BE APPLIED AFTER INSTALL OF ALL PROCESSES. I.E INTEGRAL COLOR, COLOR HARDNER ETC.) Curing compound shall comply with ASTM C309 and be of same manufacturer as colored admixture, for use with integrally colored and imprinted concrete.**C. Exterior Integrally Colored Concrete**

LITHOCHROME® CURESEAL; L.M. SCOFIELD COMPANY. Use to cure exterior flatwork that will be allowed to cure naturally with only occasional or no maintenance.

D. Curing and Sealing Compound

Cureseal™ SEMI GLOSS L.M. SCOFIELD COMPANY. Curing and sealing compound shall comply with ASTM C309 and be of same manufacturer as colored admixture, for use with integrally colored concrete.

F. Substitutions

The use of products other than those specified will be considered providing that the Contractor requests its use in writing within 14-days prior to bid date. This request shall be accompanied by the following:

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1. A certificate of compliance from material manufacturer stating that proposed products meet or exceed requirements of this Section, including standards ACI 303.1, ASTM C979, ASTM C494 and AASHTO M194.
 2. Documented proof that proposed materials have a 10-year proven record of performance, confirmed by at least 5 local projects that the Owner can examine.
- F. Dry-shake Colored Hardener
- LITHOCHROME® Color Hardener; L.M. Scofield company, factory proportioned, mixed, and packaged, ready-to-use surface hardener.
- G. Antiquing Releases L.M. Scofield Company

2.8 Color Concrete Colors

- A. Imprinted/Colored Concrete Type H – “5” Monolithic Concrete Islands (Stamped-Color-Keyed-In)” and “8” Monolithic Concrete Median (Keyed-In)”
1. Texture Pattern: Cobblestone: Random Interlocking Pattern (300A)
 2. Integral Color: Summer Beige (5234)
 3. LITHOCHROME® Color Hardener: Weathered Bronze (CS-12) and Classic gray (A – 33) mix
 4. Antiquing Release Color: Classic Gray (A – 33)

2.9 Color Concrete Mix Design Additions/Modifications

- A. Slump of concrete shall be consistent throughout Project at 4-inches or less. At no time shall slump exceed 5-inches. If super plasticizers or mid-range water reducers are allowed, slump shall not exceed 8-inches.
- B. Do not add calcium chloride to mix as it causes mottling and surface discoloration.
- C. Supplemental admixtures shall not be used unless approved by manufacturer.
- D. Do not add water to the mix in the field.
- E. Add colored admixture to concrete mix according to manufacturer's written instructions.
- F. Maximum air content shall not exceed 3 percent.
-

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PART 3 - EXECUTION**3.1 General**

Coordinate the installation of joint materials, vapor retarder/barrier, and other related materials with placement of forms and reinforcing steel.

3.2 Base Course

Construct base course on prepared subgrade as follows:

Proof rolling of the pavement subgrade soils should be performed by the contractor and observed by the Geotechnical Engineer immediately prior to placement of base course to verify that no soft areas are present. Any repairs needed from inclement weather or construction traffic should be made prior to placement of base course. NOTE: SPECIAL CARE SHALL BE GIVEN TO PROOF ROLLING PROCEDURES OF SUBGRADES ON SIDEWALKS ADJACENT TO BUILDINGS. ALTERNATIVE METHODS FOR DETERMINING COMPACTION SHALL BE UTILIZED TO PROTECT BUILDING FOUNDATIONS AND BASEMENT STRUCTURES.

Compact base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 100 percent of maximum dry unit weight according to Division 10 of the NCDOT Standard Specifications for Roads and Bridges (2002 Edition).

Shape base course to required crown elevations and cross-slope grades.

3.3 Forms

- A. General: Design, erect, support, brace, and maintain formwork to support vertical, lateral, static, and dynamic loads that might be applied until concrete structure can support such loads. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation, and position. Maintain formwork construction tolerances and surface irregularities complying with the following ACI 347 limits:
1. Provide Class A tolerances for concrete surfaces exposed to view.
 2. Provide Class C tolerances for other concrete surfaces.
- B. Construct forms to sizes, shapes, lines, and dimensions shown and to obtain accurate alignment, location, grades, level, and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in the Work. Use selected materials to obtain required finishes. Solidly butt joints and provide backup at joints to prevent cement paste from leaking.
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- C. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, recesses, and the like for easy removal.
- D. Chamfer exposed corners and edges as indicated, using wood, metal, PVC, or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.
- E. **Cleaning and Tightening:** Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, or other debris just before placing concrete. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

3.4 Vapor Barrier Installation

- A. **General:** Place vapor barrier sheeting in position with longest dimension parallel with direction of pour.
- B. Lap joints 6 inches and seal with manufacturer's recommended mastic or pressure-sensitive tape. Cover vapor retarder/barrier with sand cushion and compact to depth indicated.

3.5 Placing Reinforcement

- C. **General:** Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars," for details and methods of reinforcement placement and supports and as specified. Avoiding cutting or puncturing vapor retarder/barrier during reinforcement placement and concreting operations. Repair damages before placing concrete.
 - D. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials that reduce or destroy bond with concrete.
 - E. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers.
 - F. Place reinforcement to maintain minimum coverages as indicated for concrete protection. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.
 - G. Install welded wire fabric in lengths as long as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.
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3.6 Joints

- A. Construction Joints: Locate and install construction joints so they do not impair strength or appearance of the structure.
- B. Place construction joints perpendicular to main reinforcement. Continue reinforcement across construction joints except as indicated otherwise. Do not continue reinforcement through sides of expansion joint placements.
- C. Use bonding agent on existing concrete surfaces that will be joined with fresh concrete.
- D. Isolation Joints in Slabs-on-Grade: Construct isolation joints in slabs-on-grade at points of contact between slabs-on-grade and vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
- E. Contraction (Control) Joints in Vehicular Colored Concrete Pavement: Construct contraction joints in slabs-on-grade to form panels of patterns as shown. Use sawcuts 1/8 inch wide by one-fourth of slab depth. If joint pattern is not shown, provide joints not exceeding 15 feet in either direction and located to conform to bay spacing wherever possible (at column centerlines, half bays, third bays, etc).
- H. Expansion Joints: Place expansion joints as shown on the plans. Where not shown, expansion joints shall be placed no less than 20 feet o.c., and no greater than 30' o.c. for both sidewalk and vehicular concrete pavement. Expansion joints shall be placed against all structures where meeting concrete, including but not limited to surface utility structures, buildings, light poles and signal poles, back of curb, etc.

3.7 Installing Embedded Items

- A. General: Set and build into formwork anchorage devices and other embedded items required for other work that is attached to or supported by cast-in-place concrete. Use setting drawings, diagrams, instructions, and directions provided by suppliers of items to be attached.
- B. Forms for Slabs: Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and contours in finished surfaces. Provide and secure units to support screed strips using strike-off templates or compacting-type screeds.

3.8 Preparing Form Surfaces

- C. General: Coat contact surfaces of forms with an approved, nonresidual, low-VOC, form-coating compound before placing reinforcement.
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- D. Do not allow excess form-coating material to accumulate in forms or come into contact with in-place concrete surfaces against which fresh concrete will be placed. Apply according to manufacturer's instructions.

3.9 Concrete Placement

- E. Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast in. Notify other trades to permit installation of their work.
- F. General: Comply with ACI 304, "Guide for Measuring, Mixing, Transporting, and Placing Concrete," and as specified.
- G. Deposit concrete continuously or in layers of such thickness that no new concrete will be placed on concrete that has hardened sufficiently to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as specified. Deposit concrete to avoid segregation at its final location.
- H. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until completing placement of a panel or section.
1. Consolidate concrete during placement operations so that concrete is thoroughly worked around reinforcement, other embedded items and into corners.
 2. Bring slab surfaces to correct level with a straightedge and strike off. Use bull floats or darbies to smooth surface free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations.
 3. Maintain reinforcing in proper position on chairs during concrete placement.
- I. Cold-Weather Placement: Comply with provisions of ACI 306 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
- J. When air temperature has fallen to or is expected to fall below 40 deg F (4 deg C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F (10 deg C) and not more than 80 deg F (27 deg C) at point of placement.
1. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
 2. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise accepted in mix designs.
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- K. Hot-Weather Placement: When hot weather conditions exist that would impair quality and strength of concrete, place concrete complying with ACI 305 and as specified.
1. Cool ingredients before mixing to maintain concrete temperature at time of placement to below 90 deg F (32 deg C). Mixing water may be chilled or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 2. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedding in concrete.
 3. Fog spray forms, reinforcing steel, and subgrade just before placing concrete. Keep subgrade moisture uniform without puddles or dry areas.
 4. Use water-reducing retarding admixture when required by high temperatures, low humidity, or other adverse placing conditions, as acceptable to Owner.

3.10 Concrete Curing and Protection

- L. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. In hot, dry, and windy weather protect concrete from rapid moisture loss before and during finishing operations with an evaporation-control material. Apply according to manufacturer's instructions after screeding and bull floating, but before power floating and troweling.
- M. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 7 days.
- N. Curing Methods: Cure concrete by curing compound, by moist curing, by moisture-retaining cover curing, or by combining these methods, as specified.
- O. Provide moisture curing by the following methods
1. Keep concrete surface continuously wet by covering with water.
 2. Use continuous water-fog spray.
 3. Cover concrete surface with specified absorptive cover, thoroughly saturate cover with water, and keep continuously wet. Place absorptive cover to provide coverage of concrete surfaces and edges, with a 4-inch lap over adjacent absorptive covers.
- P. Provide moisture-retaining cover curing as follows
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Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width with sides and ends lapped at least 3 inches and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

- Q. Apply curing compound on exterior slabs, as follows
1. Apply curing compound to concrete slabs as soon as final finishing operations are complete (within 2 hours and after surface water sheen has disappeared). Apply uniformly in continuous operation by power spray or roller according to manufacturer's directions. Recoat areas subjected to heavy rainfall within 3 hours after initial application. Maintain continuity of coating and repair damage during curing period.
 2. Use membrane curing compounds that will not affect surfaces to be covered with finish materials applied directly to concrete.

3.11 Concrete Placement

- A. Move concrete into place with square-tipped shovels or concrete rakes.
- B. Vibrators, when used, shall be inserted and withdrawn vertically.
- C. Concrete shall be struck to specified level with wood or magnesium straight edge or mechanical vibrating screed.
- D. The concrete surface shall be further leveled and consolidated with highway magnesium straight edge and/or magnesium bull float.
- E. Mechanically float concrete surfaces as soon as concrete surface has taken its initial set and will support weight of a power float machine equipped with float shoes or combination blades and operator.

3.12 Installation- Dry-Shake Colored Hardener

- A. Install integral color concrete according to approved mix design and specifications referenced above. Do not add water to concrete mix in the field.
 - B. Do not add water to the surface.
 - C. All surfaces should be imprinted with Pavecraft tools, with patterns as stated under Products section above. Prior to imprinting, a 20% dosage rate of a designated LITHOCHROME® Hardener color should be applied and trowel into the surface to create a "flushed" modeled appearance. A full coverage of Scofield Antiquing Release should then be applied and imprinted process completed. Wash off excess release the next day.
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3.13 Color Concrete Curing

- A. Integrally Colored Concrete: Apply curing and sealing compound for integrally colored concrete according to manufacturer's instructions using manufacturer's recommended application techniques. Apply curing and sealing compound at consistent time for each pour to maintain close color consistency.
- B. Curing compound shall be same color as the colored concrete and supplied by same manufacturer of the colored admixture.
- C. Precautions shall be taken in hot weather to prevent plastic cracking resulting from excessively rapid drying at surface as described in CIP 5 *Plastic Shrinkage Cracking* published by the National Ready Mixed Concrete Association.
- D. Do not cover concrete with plastic sheets.
- E. Surfaces shall be cured with liquid membrane curing and sealing compound as recommended by manufacturer after excess release is removed and surface is dry.
- F. Apply immediately after surface has hardened sufficiently so that application of curing and sealing compound will not mar surface. Apply uniformly over entire surface at coverage rate recommended by manufacturer and meeting or exceeding the moisture retention requirements of ASTM C309.
- G. There should be no free water on surface at time of application.

3.14 Protection of Finished Color Concrete Work

- A. Protect finish work under provisions of General Conditions
- B. Protect surface from damage until final inspection and acceptance by Owner, and until suitable to handle vehicular and pedestrian traffic.

3.15 Schedule

Refer to Drawings for locations of differing concrete materials, specified colors and finish patterns.

3.16 Colored Concrete Surface Tolerances

Minor variations in appearance of colored concrete, which are similar to natural variations in color and appearance of uncolored concrete, are unacceptable.

3.17 Removing Forms

General: Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 deg F (10 deg C) for 24 hours after placing concrete, provided concrete is

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sufficiently hard to not be damaged by form-removal operations, and provided curing and protection operations are maintained.

3.18 Concrete Surface Repairs

- A. Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removing forms, when acceptable to Owner.
- B. Mix dry-pack mortar, consisting of one part portland cement to 2-1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing.
 - 1. Cut out honeycombs, rock pockets, voids over 1/4 inch in any dimension, and holes left by tie rods and bolts down to solid concrete but in no case to a depth less than 1 inch. Make edges of cuts perpendicular to the concrete surface. Thoroughly clean, dampen with water, and brush-coat the area.
 - 2. For surfaces exposed to view, blend white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Provide test areas at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface.
- C. Repair isolated random cracks and single holes 1 inch or less in diameter by dry-pack method. Groove top of cracks and cut out holes to sound concrete and clean of dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding compound. Place dry-pack before bonding agent has dried. Compact dry-pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
- D. Perform structural repairs with prior approval of Owner for method and procedure, using specified epoxy adhesive and mortar.
- E. Repair methods not specified above may be used, subject to acceptance of the City.

3.19 Quality Control Testing During Construction

- A. General: The Owner will employ a testing agency to perform tests and to submit test reports.
 - B. Sampling and testing for quality control during concrete placement may include the following, as directed by Owner.
 - 1. Sampling Fresh Concrete: ASTM C 172, except modified for slump to comply with ASTM C 94.
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- a. Slump: ASTM C 143; one test at point of discharge for each set of compressive strength specimens for each type of concrete; additional tests when concrete consistency seems to have changed.
 - b. Air Content: ASTM C 173, volumetric method for lightweight or normal weight concrete; ASTM C 231, pressure method for normal weight concrete; one test for each set of compressive strength specimen.
 - c. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F (4 deg C) and below, when 80 deg F (27 deg C) and above, and one test for each set of compressive-strength specimens.
 - d. Compression Test Specimen: ASTM C 31; one set of four standard cylinders for each compressive-strength test, unless otherwise directed. Mold and store cylinders for laboratory-cured test specimens except when field-cured test specimens are required.
 - e. Compressive-Strength Tests: ASTM C 39; one set for each day's pour exceeding 5 cu. yd. plus additional sets for each 50 cu. yd. more than the first 25 cu. yd. of each concrete class placed in any one day; one specimen tested at 7 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required.
2. When frequency of testing will provide fewer than five strength tests for a given class of concrete, conduct testing from at least five randomly selected batches or from each batch if fewer than five are used.
 3. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.
 4. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength and no individual strength test result falls below specified compressive strength by more than 500 psi.
- C. Test results will be reported in writing to Owner, ready-mix producer, and Contractor within 24 hours after tests. Reports of compressive strength tests shall contain the Project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7-day tests and 28-day tests.
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- D. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted but shall not be used as the sole basis for acceptance or rejection.
- E. Additional Tests: The testing agency will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Owner. Testing agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed.

Measurement and Pavement

The quantity of these items will be paid for at the contract unit price per square yard for "5" Monolithic Concrete Islands (Keyed-In)" and "8" Monolithic Concrete Median (Keyed-In)". This price and payments will be full compensation for all work, equipment, and materials required to furnish and place these materials per the project plans.

Payment will be made under:

Pay Items	Unit Price
5" Monolithic Concrete Islands (Keyed-In).....	Square Yard
8" Monolithic Concrete Median (Keyed-In).....	Square Yard



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BRICK PAVERS:

Kimley-Horn and Associates, Inc.

PART 1 – GENERAL**1.1 Summary**

The Contractor shall provide unit pavers per the project plans and details and as noted in this special provision section.

1.2 Submittals

A. General: Submit the following according to Conditions of the Contract and Division Specification Sections.

1. Contractor shall submit unit paver samples and manufacturer's specifications sheet
2. for each paver color and style specified for approval prior to construction.
3. Polymeric Joint Sand Stabilizer
4. Expansion joint sealants
5. Metal edge restraints
6. Base Materials
7. Installer's Qualifications

1.3 Product Delivery

A. Unit Pavers shall be delivered to the project site on pallets constructed with non-staining and non-discoloring materials. Materials shall be stacked off the ground and protected from damage and soiling.

B. Limitations

1. Contractor shall not proceed with unit paver construction until underground utility construction is complete.
 2. Contractor shall not proceed with unit paver construction until adjacent or adjoining curb, walk, drives, and/or concrete walk construction is complete.
 3. Requirements regarding domestic steel, Section 106-1(B) in the 2018 Standard Specifications, apply to this project special provision.
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1.4 Guarantee

- A. The Contractor shall guarantee the unit paving for a period of one year from the date of final approval. The guarantee shall cover all defects including settling, heaving, shifting, spalling, cracking and efflorescence.
- B. The Contractor shall repair the unit paving section deemed unsatisfactory within 14 days of notification.

1.5 Quality Assurance

- A. **Installer Qualifications:** An experienced installer who has completed unit paver installations similar in material, design, and extent to that is indicated for this Project and whose work has resulted in construction with a record of successful performance.
- B. **Source Limitations:** Obtain each type of unit paver and setting material from one source with resources to provide materials and products of consistent quality in appearance and physical properties.

PART 2 – PRODUCTS

- 2.1** Aggregate base course shall be NCDOT type coarse aggregate base course (CABC) in accordance with Section 520.
 - 2.2** Sand Setting Bed shall be fine aggregate in accordance with ANSI/ASTM C 33-77.
 - 2.3** Bituminous Setting Bed shall meet Section 610 for Asphalt Concrete Base Course, Type B25.0C.
 - 2.4** Geotextile Fabric - NCDOT Non-woven, 4 oz., used as a separation fabric in accordance with Section 1056.
 - 2.5** Polymeric Joint Sand: Sand properties and gradation conforming to ASTM C-136 using gradation specifications either C-33 or C-144 or combination of both. Sand shall not contain either shale, stone dust screening or light weight aggregates.
 - 2.6** Sealant: In Protective Sealant by Techni-seal Inc. (1-800-465-7325) or approved equal. Sealant to be invisible, water based for protection against oil, grease and water.
 - 2.7** Edge Restraint: Edgepro, or approved equal, sized to restrain brick pavers and meet flush with adjacent grade
 - 2.8** Unit Paver
-

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- A. Manufacturer/Size/Type/Color: See plans or approved equal. The intent is to match existing paver present along the corridor.

PART 3 – EXECUTION**3.1 Examination**

Examine substrate surfaces to receive Unit Pavers, and associated work and conditions under which work will be installed. Do not proceed until unsatisfactory conditions have been corrected in a manner complying with the Contract Documents and acceptable to the Installer. Starting of work within a particular area will be construed as installer's acceptance of surface conditions.

3.2 Protection and Restoration

- A. Protect completed unit paver walks, from damage. Cover completed construction, subject to continued movement of installation personnel, equipment or materials, with plywood panels to protect paver alignment and prevent depressions.
- B. Restore damaged unit paver walks as directed by the City.
- C. The Contractor shall install unit pavers per manufacturer's recommendations. Discrepancies between this specification and manufacturer's recommendation, if any, shall be resolved in advance of installation and agreed to by the City.

3.3 Subgrade Preparation

- A. The Contractor shall verify subgrade elevations and correct discrepancies before proceeding with construction.
- B. The Contractor shall verify casting elevations and reset or adjust to meet flush with finished walk surface.
- C. Base course shall not be placed on frozen or muddy subgrade.
- D. Proof-roll prepared subgrade surface to check for unstable areas and areas requiring additional compaction. Proceed with unit paver installation only after deficient subgrades have been corrected and are ready to receive subbase for unit pavers.

3.4 Brick Pavers

- A. General Installation
1. Do not use pavers with chips, cracks, voids, discolorations, and other defects that might be visible or cause staining in finished work.
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2. Mix pavers from several pallets or cubes, as they are placed, to produce uniform blend of colors and textures.
 3. Cut unit pavers with motor-driven masonry wet-saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer or guillotine cuts are acceptable.
 4. Tolerances
Do not exceed 1-32-inch unit-to-unit offset from flush (lippage) nor 1/8 inch in 10 feet from level, or indicated slope, for finished surface of paving.
- B. Subgrade: Compact subgrade to not less than 100% of the standard proctor maximum dry density at +/-2% of the optimum moisture content.
- C. Base Course
1. Place base course material on prepared subgrade, in 4 Inch maximum lifts, to depth required to produce compacted thickness indicated. See plans for required base and subgrade depth.
 2. Shape material, to sections and elevations indicated, and compact to 100% of AASHTO T-180 (as modified by NCDOT).
- D. Sand Setting Bed Applications
1. Place, spread, and screed setting bed over geotextile fabric. Compact to depth shown in drawings.
 2. Install unit pavers in colors and patterns as detailed on plans.
 3. Set each unit paver with tight butting joints.
 4. Tamp unit pavers to setting bed compacted thickness indicated, assuring solid bedding so brick pavers do not rock after laying.
 5. Lay unit pavers true to grade allowing for positive drainage throughout 1/16-inch maximum deflection allowable at each brick paver. Unit pavers shall be flush with all surrounding concrete sidewalks and curbs.
 6. Polymeric Sand Joint Treatment
 - a. Mix joint sand and organic joint sand stabilizer per manufacturer's recommendations.
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3.5 Caulk Joints

Caulk joints where brick pavers are placed adjacent to existing building, walls, and other structures.

3.6 Cleaning

- A. Remove and replace brick pavers which are loose, broken, stained or otherwise damaged or do not match adjoining units as intended. Provide new matching brick pavers, install as specified.
- B. Clean all residues on surface of brick if joint stabilizer emulsifies on brick paver surface. Remove emulsion by manufacturer’s recommendations.
- C. Clean brick pavers not less than six days after completion or work, using clean water and stiff-bristle brushes. Do not use high pressure washer, wire brushes, acid type cleaning agents or other cleaning compounds with caustic or harsh fillers.
- D. Cleaning agents and methods shall be acceptable to the Department.
- E. Upon completion of the work, remove from site all excess materials, debris, tools, and equipment. Repair damage resulting from work operations.

METHOD OF PAYMENT

The quantity of unit pavers will be paid for at the contract unit price per square yard for “Generic Paving Item – Brick Sidewalk, Pedestrian” and “Generic Paving Item – Brick Sidewalk, Vehicular” and which price will be full compensation for all labor, materials (brick pavers, concrete slab, setting bed, tack coat, weep holes, drainage stone), equipment, tools, and any incidentals necessary to excavate, furnish, and install the new brick pavers and supporting substructures.

Payment will be made under:

Pay Item	Unit Price
Generic Paving Item – Brick Paver Sidewalk.....	Square Yard
Generic Paving Item – Brick Vehicular Unit Pavers	Square Yard



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DECORATIVE CROSSWALK PAVEMENT MARKING:
(02-25-20)

Description

This work consists of providing decorative crosswalk pavement marking in accordance with Sections 1087 and 1205 of the 2018 *Standard Specifications*, the details, the plans and the contract documents. The product shall meet this special provision and shall be approved for use or the manufacturer must provide a trial use letter from the Signing and Delineation Unit. Approved products can be found at NCDOT Approved Products website <https://apps.ncdot.gov/vendor/approvedproducts/>. **Contractors possessing a “Trial Use” letter from North Carolina Department of Transportation Signing and Delineation Unit for their product must meet the technical and materials portion of this specification. If their product is incorporated into this project, it may undergo further evaluation as a decorative crosswalk.**

Page 12-3, Article Section 1205-3 (G) Application of Pavement Marking, add the following paragraphs for decorative crosswalk pavement marking only:

The surface of the product shall meet a minimum FN40R value SN 37 in accordance with ASTM E-274, Skid Resistance of Paved Surfaces.

The crosswalk is to be marked per MUTCD standards with parallel transverse lines. The lines must be applied with an approved pavement marking system per NCDOT Standard Specifications and shall be retroreflective. The color pavement used between the crosswalk lines can be any color except those that would degrade the contrast of the white crosswalk lines with the pavement. Therefore white, yellow, or blue should not be used for colored pavements between the crosswalk lines since these colors are used to communicate a traffic control message. The exception to this rule can be the use of white to represent grout lines of a paver design when used with a contrasting color pavement. Installation shall be in accordance with the manufacturer’s recommendation. The colored pavement used between the crosswalk lines should not be retroreflective as an enhancement to the crosswalk. **THE CONTRACTOR SHALL SUBMIT A PATTERN AND COLOR PALETTE FOR APPROVAL BY THE ENGINEER.**

In addition to this special provision, the material and application shall comply with the TEPL (Traffic Engineering Policies, Practices, and Legal Authority) topic C54-Decorative Crosswalks Standard Practice. This practice can be found at https://connect.ncdot.gov/resources/safety/Teppl/Pages/Teppl-Topic.aspx?Topic_List=C54

Page 12-12, Article 1205-10 Measurement and Payment, add the following item:

Pay Item	Pay Unit
Decorative Crosswalk Pavement Marking	Square Yard



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Capital City Grid (High Early Strength):

Kimley-Horn and Associates, Inc.

Description

This item consists of the installation of the concrete sidewalk for vehicular applications. Specific items include formwork, reinforcement, placement procedures, and finishes.

Concrete Sidewalk

Concrete Sidewalk shall be installed per the details shown on the landscape plan and in the location specified.

Finish: Medium broom finish perpendicular to the path of travel

Quality Assurance

The Contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and materials and techniques specified. All concrete shall be obtained from a single source with resources to provide components of consistent quality in appearance and physical properties.

A. Codes and Standards: Comply with provisions of the following codes, specifications, and standards, except where more stringent requirements are shown or specified:

1. ACI 318, "Building Code Requirements for Reinforced Concrete.
2. Concrete Reinforcing Steel Institute (CRSI) "Manual of Standard Practice."
3. ACI 302.1 R-89 "Guide for Concrete Floor and Slab Construction".
4. ASTM C979 – Pigments for Integrally colored concrete.
5. NCDOT Standard Specifications for Roads and Structures, 2018 (including Section 106-1(B))

B. American Concrete Institute (ACI):

1. ACI 301 "Specification for Structural Concrete for Buildings."
 2. ACI 302 IR "Recommended Practice for Concrete Floor and Slab Construction."
 3. ACI 303.1 "Standard Specification for Cast-In-Place Architectural Concrete."
 4. ACI 304 "Recommended Practice for Measuring, Mixing, Transporting and Placing of Concrete."
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5. ACI 305R "Recommended Practice for Hot Weather Concreting."
 6. ACI 306R "Recommended Practice for Cold Weather Concreting."
- C. American Society for Testing and Materials (ASTM):
1. ASTM C309 "Liquid Membrane-Forming Compounds for Curing Concrete."
 2. ASTM C494 "Standard Specification for Chemical Admixtures for Concrete."
 3. ASTM C979 "Standard Specification for Pigments for Integrally Colored Concrete."

Submittals

Contractor shall submit joint pattern at each driveway so that engineer can approve.

Delivery, Storage, and Handling

Upon receipt at the job site, all materials shall be checked to ensure that no damage occurred during shipping or handling. Materials shall be stored in original undamaged packages and containers until ready for installation to protect against damage, weather, vandalism, and theft.

Concrete delivery shall comply with ACI 304, "Guide for Measuring, Mixing, Transporting, and Placing Concrete," and as specified.

Warranty

The Contractor shall provide a one-year warranty against defects in materials or workmanship for the Concrete Sidewalk. This warranty period shall begin at substantial completion of the project.

Materials

Pedestrian Concrete Sidewalks shall be constructed with Portland Cement Concrete to be 3,000 PSI at 28 days in accordance with Section 1000. Vehicular Concrete Sidewalks shall be constructed with Portland Cement Concrete to be 4,000 PSI at 28 days in accordance with Section 1000. For all sidewalks, 6" x 6" x 6 Ga Welded Wire Mesh reinforcement shall be provided with a minimum 2" offset from edge in accordance with Section 1070. 4" Minimum graded aggregate base course in accordance with Section 520 shall be provided on a compacted subgrade. Expansion joints and tooled joints shall be provided per details.

Preparation

Compact base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 100 percent of maximum dry unit weight. Construct forms to sizes, shapes, lines, and dimensions shown to obtain accurate sizes for finished structure.

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Installation

Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars," for details and methods of reinforcement placement and supports and as specified.

Place reinforcement to maintain minimum coverages as indicated for concrete protection. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast in.

Installation over Silva Cells shall account for additional concrete depths that extend below the top of the Silva Cell decks and turn down concrete along curbs, where applicable.

Method of Payment

The quantity of concrete sidewalk will be paid for at the contract unit price per square yard for "Generic Paving Item - Capital City Grid (High Early Strength)" and which price will be full compensation for all labor, materials (tooled control joint, welded wire, and base course), equipment, tools, and any incidentals per this special provision section.

Payment will be made under:

Pay Item	Unit Price
Generic Paving Item - Capital City Grid (High Early Strength)	Square Yard



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RAILINGS:

CONTRACTOR TO STOCKPILE EXISTING HANDRAIL RAILING LOCATED ON THE NORTHEAST CORNER OF CIRCLE FOR PITTSBORO MAIN STREET GROUP TO PICK UP – CONTACT MICHAEL FIOCCO AT 919-599-6696

PART 1 – GENERAL**1.1 Summary**

- A. Provide design and engineering, labor, material, equipment, related services, and supervision required including, but not limited to, manufacturing, fabrication, erection and installation for railings as required for the complete performance of the work and as shown on the drawings. This Section includes the following:
 - A. Galvanized Steel Safety Rail
 - B. Galvanized Steel Handrails for Ramps
 - C. Galvanized Steel Handrails for Stairs

1.2 Submittals

- A. Product Data: For each product indicated.
- B. Shop Drawings: Include layout plan, elevation and sections for fence.
- C. Warranties: For each product specified.
- D. Maintenance Data: For all of the above materials.
- E. Samples: Provide railing material for color specified.

PART 2 - PRODUCTS**2.1 Galvanized Steel**

- A. Tubing: ASTM A500/A500M (cold formed) or ASTM A513.
 - B. Bars: Hot-rolled, carbon steel complying with ASTM A29/A29M, Grade 1010.
 - C. Plates, Shapes, and Bars: ASTM A36/A36M.
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- D. Expanded Metal: ASTM F1267, Type I (expanded), Class 1 (uncoated).

2.2 Materials

- A. Nonshrink Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107 and specifically recommended by manufacturer for exterior applications.

2.3 Manufacturers

- A. Railings made from galvanized steel extrusions. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Ameristar Fence
 2. Indital and Arteferro
 3. Schaefer Interstate Railing
 4. Approved Equal

2.4 Railing Components

- A. Safety Railing shall have top and bottom rail with intermediate posts and pickets per the following:
- a. Posts: Square extruded tubes, 2.5" by 2.5" 14-gauge square with intermediate posts placed uniformly and per plans.
 - b. Post Caps: Formed Steel
 - c. Rails: Top & Bottom Rail: Steel U-channel 1.5" x 1.5" 11 gauge.
 - d. Pickets: 0.75" square galvanized steel
 - e. Fabrication: Assemble into sections by welding pickets to rails and rails to posts
- B. Handrails: Handrail to be 1.5" schedule 40 galvanized steel pipe.
- a. Fabrication: to be welded and fabricated in the field.

2.5 Galvanized Finishes

- A. Color: Powder coated Black (Any handrail component not powder coated will be rejected)
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PART 3 – EXECUTION**3.1 Railing Installation**

- A. All metallic surfaces to be cleaned after installation and shall not contain grout or concrete dust.
- B. Fit exposed connections together to form tight, hairline joints.
- C. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
 - a) Do not weld, cut, or abrade surfaces of railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
 - a) Set posts plumb within a tolerance of 1/16 inch
 - b) Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet
- D. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
 - a) Coat concealed surfaces of that will be in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.
- E. Adjust railings before anchoring to ensure matching alignment at abutting joints.

3.2 Railing Connections

- A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Use wood blocks and padding to prevent damage to railing members and fittings. Seal recessed holes of exposed locking screws using plastic cement filler colored to match finish of railings.
- B. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article whether welding is performed in the shop or in the field.

3.3 Anchoring Posts

- A. Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with non-shrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions.
 - B. Form or core-drill holes not less than 6 inches deep and 3/4 inch larger than OD of post for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with non-shrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions.
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- C. Cover anchorage joint with flange as shown on plans
- D. Leave anchorage joint exposed with 1/8-inch buildup, sloped away from post.

3.4 Cleaning

All metallic surfaces to be cleaned after installation and shall not contain grout or concrete dust.

METHOD OF PAYMENT

The quantity of railings will be paid for at the contract unit price per linear foot for the items below and which price will be full compensation for all labor, materials, equipment, tools, and any incidentals necessary to excavate, furnish, and install the railings.

Payment will be made under:

Pay Item	Unit Cost
Generic Fencing Item - Safety Rail	Linear Foot
Generic Fencing Item - Ramp Handrail	Linear Foot
Generic Fencing Item - Stair Handrail	Linear Foot



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Project Special Provision
Planting

LANDSCAPE TOPSOIL:

Materials

Topsoil materials shall be furnished by the Contractor from off-site sources in quantities sufficient to complete the requirements as specified. Topsoil shall be a sandy loam based mix. The topsoil material shall not contain slag, cinders, stones, lumps of soil, sticks, roots, trash, clay lumps, or other extraneous materials larger than 1 1/2 inches in diameter or length. Contractor shall ensure that these soils are free of plants or plant parts of quack grass, Johnson grass, nut sedge, poison ivy, or other noxious weeds. Proposed topsoil materials shall be subject to approval prior to installation by the Project Landscape Architect. These materials shall be placed in a 6" lift for all landscaped areas including sodded lawn areas shown on the project plans and used as planting soil mix for holes dug for trees and large shrubs.

Analysis

The Contractor shall submit for approval prior to installation the following: Proposed topsoil sample and analysis to include soil type, pH organic content, and critical nutrient composition (nitrogen, phosphorus, potassium).

Measure and Payment

The quantity of replacement backfill material for landscape beds and tree planting areas and topsoil spread in lawn areas will be paid at the contract unit prices per cubic yard for "Landscape Topsoil" and "Soil Amendments". These prices and payments will be full compensation for all work, equipment, excavation, hauling, testing, and materials required to furnish and place these materials per the project plans or as otherwise directed by the Department.

Payment will be made under:

Pay Item	Pay Unit
Landscape Topsoil	Cubic Yard
Soil Amendments.....	Cubic Yard



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EXTERIOR PLANTING:

Kimley-Horn and Associates, Inc.

PART 1 – GENERAL**1.1 Summary**

Section Includes:

1. Trees
2. Shrubs
3. Ground cover
4. Perennials
5. Landscape Fabric
6. Topsoil
7. Soil Amendments
8. Fertilizer
9. Mulches
10. Planting Soil Mix

1.2 Definitions

- A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- B. Balled and Burlapped Stock: Exterior plants dug with firm, natural balls of earth in which they are grown, with ball size not less than diameter and depth recommended by ANSI Z60.1 for type and size of tree or shrub required; wrapped, tied, rigidly supported, and drum laced as recommended by ANSI Z60.1.
- C. Container-Grown Stock: Healthy, vigorous, well-rooted exterior plants grown in a container with well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of exterior plant required.
- D. Finish Grade: Elevation of finished surface of planting soil.
- E. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- F. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.
- G. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill, before placing planting soil.
- H. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

1.3 Submittals

- A. Product Data: For each type of product indicated.
 - B. Samples for Verification: For each of the following:
1 lb of organic mulch, in labeled plastic bags.
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- C. Qualification Data: For qualified landscape Installer.
- D. Product Certificates: For each type of manufactured product, from manufacturer, and complying with the following:
 - 1. Manufacturer's certified analysis for standard products.
 - 2. Analysis of other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.
- E. Material Test Reports: For existing surface soil and imported topsoil.
- F. Planting Schedule: Indicating anticipated planting dates for exterior plants.
- G. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of exterior plants during a calendar year. Submit before expiration of required maintenance periods.
- H. Warranty: Sample of special warranty.

1.4 Quality Assurance

- A. Installer Qualifications: Those submitting bids shall be currently registered with the North Carolina Landscape Contractors Registration Board, and have been actively and directly engaged in landscape installations of similar scope, size and complexity and proof of three (3) or more successful installations in the past two years that demonstrate successful projects of the magnitude and scope represented in this project.
 - B. Installer's Field Supervision: Require Installer to maintain an experienced full-time, fluent English-speaking, supervisor on Project site when planting is in progress.
 - C. Soil-Testing Laboratory Qualifications: An independent laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.
 - D. Topsoil Analysis: Furnish soil analysis by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; sodium absorption ratio; deleterious material; pH; and mineral and plant-nutrient content of topsoil. Report suitability of topsoil for plant growth. State-recommended quantities of nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory topsoil.
 - E. Plant names indicated comply with the "Standard Plant Names" as adopted by the latest edition of the American Joint Committee of Horticulture Nomenclature. Names of varieties not listed must conform to genus and species as accepted by the nursery trade. Provide stock true to botanical name and legibly tagged.
 - F. Comply with sizing and grading standards of the latest edition of ANSI Z60-1 – "American Standards for Nursery Stock."
 - G. Tree and Shrub Measurements: Measure according to ANSI Z60.1 with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements 6 inches above the ground for trees up to 4-inch caliper size, and 12 inches above the ground for larger sizes. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip-to-tip.
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- H. Observation: Engineer may observe trees and shrubs either at place of growth or at site before planting for compliance with requirements for genus, species, variety, size, and quality. Engineer retains right to observe trees and shrubs further for size and condition of balls and root systems, insects, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site. Notify Engineer of sources of planting materials 90 days in advance of delivery to site.
- I. Pre-installation Conference: Conduct conference at Project site.

1.5 Delivery, Storage, and Handling

- A. Do not prune trees and shrubs before delivery except as approved by Engineer. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of exterior plants during delivery. Do not drop exterior plants during delivery and handling.
- B. Handle planting stock by root ball.
- C. Deliver exterior plants after preparations for planting have been completed and install immediately. If planting is delayed more than six hours after delivery, set exterior plants and trees in shade, protect from weather and mechanical damage, and keep roots moist.
 - 1. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
 - 2. Do not remove container-grown stock from containers before time of planting.
 - 3. Water root systems of exterior plants stored on-site with a fine-mist spray. Water as often as necessary to maintain root systems in a moist condition.

1.6 Project Conditions

Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed according to manufacturer's written instructions and warranty requirements.

1.7 Warranty

- A. Special Warranty: Installer's standard form in which Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.
 - B. Failures include, but are not limited to, the following:
 - 1. Death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, abuse by Owner, or incidents that are beyond Contractor's control.
 - 2. Structural failures including plantings falling or blowing over.
 - 3. Faulty operation of tree stabilization and tree grates.
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4. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
- C. Warranty Periods from Date of Substantial Completion:
 1. Trees and Shrubs: One year.
 2. Ground Cover: One year.
- D. Include the following remedial actions as a minimum:
 1. Remove dead exterior plants immediately. Replace immediately unless required to plant in the succeeding planting season.
 2. Replace exterior plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
 3. Provide extended warranty for replaced plant materials; warranty period equal to original warranty period.

1.8 Maintenance Service

- A. Initial Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after each area is planted and continue until plantings are accepted by Owner.
- B. Trees: Maintain during warranty period by pruning, cultivating, watering, weeding, fertilizing, restoring planting saucers, tightening and repairing stakes and guy supports, and resetting to proper grades or vertical position, as required to establish healthy, viable plantings. Spray as required to keep trees free of insects and disease.

PART 2 - PRODUCTS

2.1 Tree and Shrub Material

- A. General: Furnish nursery-grown trees and shrubs complying with ANSI Z60.1, with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.
 - B. Provide trees and shrubs of sizes, grades, and ball or container sizes complying with ANSI Z60.1 for types and form of trees and shrubs required. Trees and shrubs of a larger size may be used if acceptable to Engineer, with a proportionate increase in size of roots or balls.
 - C. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which shall begin at root flare according to ANSI Z60.1. Root flare shall be visible before planting.
 - D. Label each tree and shrub with securely attached, waterproof tag bearing legible designation of botanical and common name.
 - E. Label at least one tree and one shrub of each variety and caliper with a securely attached, waterproof tag bearing legible designation of botanical and common name.
 - F. If formal arrangements or consecutive order of trees or shrubs is shown, select stock for uniform height and spread, and number label to assure symmetry in planting.
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2.2 Shade and Flowering Trees

Type 1 Shade Trees: Single-stem trees with straight trunk, well-balanced crown, and intact leader, of height and caliper indicated, complying with ANSI Z60.1 for type of trees required.

A. Provide balled and burlapped trees.

2.3 Broadleaf Evergreens

Form and Size: Normal-quality, well-balanced, broadleaf evergreens, of type, height, spread, and shape required, complying with ANSI Z60.1.

2.4 Ground Covers/Perennials

Ground Cover: Provide ground cover of species indicated, established and well rooted in pots or similar containers, and complying with ANSI Z60.1.

Perennials: Provide healthy, disease-free plants of species and variety shown or listed. Provide only plants that are acclimated to outdoor conditions before delivery and that are in bud but not yet in bloom. Contractor to provide samples of plant for owner approval prior to installation.

2.5 Topsoil

- A. Topsoil: ASTM D 5268, pH range of 5.5 to 7, a minimum of 15 percent organic material content; free of stones 1 inch or larger in any dimension and other extraneous materials harmful to plant growth.
- B. Topsoil Source: Import topsoil or manufactured topsoil from off-site sources. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches deep; do not obtain from agricultural land, bogs or marshes.

2.6 Inorganic Soil Amendments

- A. Lime: ASTM C 602, agricultural limestone containing a minimum of 80 percent calcium carbonate equivalent and as follows:
 - 1. Class: T, with a minimum of 99 percent passing through No. 8 sieve and a minimum of 75 percent passing through No. 60 sieve.
 - 2. Class: O, with a minimum of 95 percent passing through No. 8 sieve and a minimum of 55 percent passing through No. 60 sieve.
 - 3. Provide lime in form of dolomitic limestone.
 - B. Sulfur: Granular, biodegradable, containing a minimum of 90 percent sulfur, with a minimum of 99 percent passing through No. 6 sieve and a maximum of 10 percent passing through No. 40 sieve.
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- C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.
- D. Aluminum Sulfate: Commercial grade, unadulterated.
- E. Agricultural Gypsum: Finely ground, containing a minimum of 90 percent calcium sulfate.
- F. Sand: Clean, washed, natural or manufactured, free of toxic materials.
- G. Diatomaceous Earth: Calcined, diatomaceous earth, 90 percent silica, with approximately 140 percent water absorption capacity by weight.

2.7 Organic Soil Amendments

Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 7; moisture content 35 to 55 percent by weight; 100 percent passing through 1/2-inch sieve; soluble salt content of 550 ppm; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

Organic Matter Content: 50 to 60 percent of dry weight.

2.8 Fertilizer

- A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
 - 1. Composition: 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
 - 2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing agency.
- B. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
 - 1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.
 - 2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing agency

2.9 Mulch

Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of Hardwood Mulch.

Mulch shall be double shredded hardwood or approved equal.

2.10 Planting Soil Mix

Approved imported topsoil as amended by soil test recommendation.

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PART 3 - EXECUTION**3.1 Examination**

- A. Examine areas to receive exterior plants for compliance with requirements and conditions affecting installation and performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 Preparation

- A. Protect structures, utilities, sidewalks, pavements, and other facilities, and lawns and existing exterior plants from damage caused by planting operations.
- B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- C. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, adjust locations when requested, and obtain Engineer's acceptance of layout before planting. Make minor adjustments as required.
- D. Lay out exterior plants at locations directed by Engineer. Stake locations of individual trees and shrubs and outline areas for multiple plantings.
- E. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.

3.3 Planting Bed Establishment

- A. Loosen subgrade of planting beds to a minimum depth of 8 inches. Remove stones larger 1-1/2 inches in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
 - 1. Apply approved imported topsoil as amended by soil test recommendations.
 - 2. Spread planting soil mix to a depth of 6- 8" inches but not less than required to meet finish grades after natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet. Spread approximately one-half the thickness of planting soil mix over loosened subgrade. Mix thoroughly into top 4 inches of subgrade. Spread remainder of planting soil mix.
- B. Finish Grading: Grade planting beds to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.
- C. Before planting, restore planting beds if eroded or otherwise disturbed after finish grading.\

3.4 Excavation for Trees and Shrubs

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- A. Excavate circular pits with sides sloped outward per planting details. Trim base leaving center area raised slightly to support root ball and assist in drainage. Do not further disturb base. Scarify sides of plant pit smeared or smoothed during excavation.
 - 1. Excavate approximately three times as wide as ball diameter for balled and burlapped, container-grown stock.
 - 2. If drain tile is shown or required under planted areas, excavate to top of porous backfill over tile.
- B. Subsoil removed from excavations may be used as backfill. Dispose of any unsuitable subsoil removed from excavations.
- C. Obstructions: Notify Engineer if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.
- D. Drainage: Notify Engineer if subsoil conditions evidence unexpected water seepage or retention in tree or shrub pits. Contractor to perform soil percolation test prior to installation of plant material. Fill excavations with water and allow to percolate away before positioning trees and shrubs.

3.5 Tree and Shrub Planting

- A. Before planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. Inspect tree trunks for injury, improper pruning, and insect infestation; take corrective measures required.
 - B. Set balled and burlapped stock plumb and in center of pit with top of root ball 1" - 2" inches above adjacent finish grades.
 - 1. Remove top 1/3 of burlap and wire baskets from tops of root balls and partially from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.
 - 2. Place planting soil mix around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of planting soil mix.
 - 3. If top of the root ball has been covered with excess soil from the nursery digging operation, carefully remove the excess soil down to the original root collar. Do not remove excess from under root collar.
 - C. Set container-grown stock plumb and in center of pit or trench with top of root ball 2" to 3" inches adjacent finish grades.
 - 1. Carefully remove root ball from container without damaging root ball or plant.
 - 2. Place planting soil mix around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of planting soil mix.
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4. Organic Mulching: Apply 2" - 3" inch average thickness of organic mulch extending as shown on drawings immediately after planting thoroughly water mulched areas. After watering, rake mulch to provide a uniform, finished surface. Do not place mulch within 6 inches of trunks or stems.

3.6 Tree and Shrub Pruning

- A. Remove only dead, dying, or broken branches. Do not prune for shape.

3.7 Ground Cover/Perennial Planting

- A. Set out and space ground cover and plants as indicated on plans.
- B. Dig holes large enough to allow spreading of roots and backfill with planting soil.
- C. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.
- D. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.
- E. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

3.8 Planting Maintenance

- A. Tree and Shrub Maintenance: Maintain plantings by cultivating, watering, weeding, fertilizing, restoring planting saucers, adjusting and repairing stakes supports and root-ball stabilization, and resetting to proper grades or vertical position, as required to establish healthy, viable plantings. Spray or treat as required to keep trees and shrubs free of insects and disease.
- B. Ground Cover and Plant Maintenance: Maintain and establish plantings by watering, weeding, fertilizing, mulching, and other operations as required to establish healthy, viable plantings.

3.9 Cleanup and Protection

- A. During planting, keep adjacent paving and construction clean and work area in an orderly condition.
- B. Protect exterior plants from damage due to landscape operations, operations by other Contractors and trades, and others. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.

3.10 Disposal

- A. Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property.

3.11 Final Acceptance

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- A. Plantings will be inspected at the Contractor’s request upon completion of installation and a punch list will be prepared including those items necessary to receive final acceptance. Inspection shall be performed by the Engineer. Inspection to determine final acceptance of plantings will be made upon Contractors request. Provide notification at least 10 working days prior to requested inspection date. Plantings shall be accepted provided all requirements have been complied with and plant materials are alive and in healthy, vigorous condition.
- B. Upon acceptance (as confirmed in writing by the Engineer) of the landscaping operations, the Owner shall assume maintenance from the Contractor.

METHOD OF PAYMENT

The quantity for landscaping installation will be made at the contract unit price per each completed and accepted. Such price and payment is considered full compensation for all equipment, materials, labor, tools, backfill, and incidentals necessary to complete each satisfactorily.

Payment will be made under:

Pay Item	Unit Price
Generic Planting Item - Liriope Muscari, Big Blue Liriope	Each
Generic Planting Item - Euonymus fortunei (EUF).....	Each
Generic Planting Item - Hemerocallis x 'Stella de Oro' (HSO)	Each
Generic Planting Item - Pennisetum alopecuroides 'Hameln' (PAH)	Each



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SODDING:**PART 1 – GENERAL****1.1 Summary**

Work of this section includes establishing a seeded and sodded lawn and supplementary items necessary to complete the work required for installation including:

- A. Fine Grading
- B. Soil Preparation
- C. Sodding
- D. Maintenance
- E. Warranty

1.2 Quality Assurance

Topsoil spreading and sodding work to be performed by firms specializing in this type of work.

1.3 Delivery, Storage, and Handling

Sod: Harvest, deliver, store, and handle sod according to requirements in Turfgrass Producers International's "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" in its "Guideline Specifications to Turfgrass Sodding" Deliver sod in time for planting within 24 hours of harvesting. Protect sod from breakage and drying.

1.4 Submittals

Contractor shall submit for inspection the following items:

- A. Receipts for all fertilizer, and sod.
- B. Submittals for mulch materials.
- C. Topsoil Tests: pH, percentage of organic content, and recommendations on additives required to establish satisfactory pH for planting.

1.5 Warranty

Provide a uniform stand of grass by watering, mowing, and maintaining lawn areas until final acceptance. Re-sod with specified material all areas which fail to provide a uniform stand of grass until all affected areas are accepted.

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PART 2 – PRODUCTS**2.1 Fertilizer**

Work fertilizer shall be uniform and 100% organic in composition, free-flowing, pelleted, and suitable for application with approved equipment. Fertilizer shall be GreenSense (6-2-4) or approved equal.

- A. Granular starter fertilizer analysis: 10-10-10 or 16-4-8
- B. Granular fertilizer analysis for maintenance: 10-6-4

2.2 Sod

Sod shall have prior approval and shall consist of a minimum 99% Centipede Grass. The centipede grass shall only be planted in the median areas and other areas designated for sod. A mixture of a minimum of 2 varieties is required. Sod shall be fresh cut, not over 16 hours old, and consist of live, growing plants secured from sources where the soil is fertile and shall have a healthy, virile root system or dense, thickly matted roots throughout the soil of the sod for a minimum of one inch. Sod shall be free from noxious weeds or other grasses and shall not contain any matter deleterious to growth or which might affect its subsistence or hardiness when transplanted. Only sod secured from approved sources shall be used.

2.3 Water

Free of substance harmful to plant growth. Hoses, pumps, sprinklers or other methods of transportation shall be furnished by Contractor.

2.4 Topsoil

A. Natural, friable, fertile soil, characteristic of productive soil on-site, reasonably free of stones, clay lumps, roots and other foreign matter. Acidity shall be between 6.0 and 6.8 ph as determined by tests (to be performed by Contractor and submitted for approval). Amend as necessary to adjust pH to acceptable levels. (Refer to Special Provisions Section Backfill Section).

- B. Proposed topsoil material shall be subject to approval

2.5 Pre-emergent

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PART 3 – EXECUTION**3.1 Examination**

Examine substrate surfaces to receive turfgrass and associated work and conditions under which work will be installed. Do not proceed until unsatisfactory conditions have been corrected in a manner complying with the Contract Documents and acceptable to the installer. Starting of work within a particular area will be constructed as Installers acceptance of surface conditions.

3.2 Finish Grading

- A. Prior in initiation work, the Landscape Contractor shall inspect site to assure sub grade is at the proper elevation so that grades are within 0.15 feet of finish grade after placement of 6" topsoil.
 - B. Topsoil may be spread at the option of the Contractor at any time that will not cause a disruption of other construction or site improvement operations, if it is thoroughly loosened to its full depth, and brought to a friable, mellow condition immediately prior to the start of planting operations. Topsoil shall measure 6" in depth after compaction over the entire area of the site designated to receive planting.
 - C. Spreading topsoil: Topsoil shall be spread over all areas that have been disturbed in any manner during construction or other site improvement operations. Do not place topsoil until the previously established subgrade has been approved. Use equipment, and conduct all finish grading operations in such a manner as to avoid the lifting of subsoil or other unsuitable material. Do not place topsoil until the entire area to be covered has been shaped, trimmed, and cleaned up, and all construction or site improvement work in the area has been completed.
 - D. Finished Grades: Shall be understood to be final spot grades and contours indicated on the contract drawings. Where final spot grades or new contours are not indicated, finished grades shall be uniformly level or sloping between points for which elevations are given or contours are shown.
 - E. Tops and bottoms of all slopes: Round tops and bottoms of slopes and drainage swales. Adjust and warp slopes, at intersections of cuts and fills, to flow into each other or into the existing natural ground surface without noticeable break. Cuts and fills shall have a maximum slope of 3' horizontally to 1' vertically, unless otherwise shown on the contract drawings. The finished surface of all lawn areas after planting shall not be less than ¼" below or more than ¾" below the finished grade of all walks or other surface areas.
 - F. Fine Grading Lawn Areas: Bring the grade of areas to receive turf to a uniform, level slope, as determined using surveying instruments, by disking, harrowing and other methods approved by the Engineer or Owner's Representative. When establishing finish grades, remove and dispose of all clods, hard lumps, rocks, roots, litter and other foreign matter not passing through the teeth of a hand iron rake. Tractor drawn raking equipment that compacts lawn areas will not be allowed. Where lawns are intended to drain across pavements, the uphill grade shall be flush with the pavement; the downhill grade shall be ½" to ¾" below the pavement grade.
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- G. Settlement: Maintain ground surfaces to finish grades shown on the contract drawings, and deposit whatever additional topsoil that may be required to correct any settlement or erosion that occurs prior to the date of issuance of the Certificate of Final Acceptance. The surface upon which additional topsoil is to be deposited shall be raked or otherwise satisfactorily prepared to ensure a proper bond. Fill hollows that develop for settling, to the finished elevations, with approved topsoil. Finished lawn areas shall be left sufficiently high to meet all paved areas and catch basins after settlement.

3.3 Weed Control

Apply pre-emergent according to manufacturer's instruction prior to seeding. Price for weed control shall be incidental to Sodding.

3.4 Sodding Lawn

- A. Examine finish surfaces, grades, topsoil quality and depth. Do not start sodding work until unsatisfactory conditions are corrected, and until Owner is ready to assume responsibility for lawn maintenance.
- B. Preparation:
1. Limit preparation to areas which will be immediately sodded.
 2. Loosen topsoil of lawn areas to minimum depth of 6". Remove stones over 1" in any dimension, and sticks, roots, rubbish and extraneous matter.
 3. Grade lawn areas to smooth, free draining and even surface with a loose, uniformly fine texture. Roll and rake, removing ridges and fill depressions as required to drain.
 4. Apply fertilizer at the rate recommended by the test reports. Apply fertilizer by mechanical rotary or drop type distributor, thoroughly, and evenly, incorporated into the soil to a depth of 3" by disking or other approved methods. Fertilize areas inaccessible to power equipment with hand tools and incorporate into soil.
 5. Dampen dry soil prior to sodding
 6. Restore prepared areas to specified condition if eroded, settled, or otherwise disturbed after fine grading and prior to sodding.
- C. Installation
1. Coordinate sod installation with other trades.
 2. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod strips. Do not overlay edges. Stagger strips to offset joints in adjacent courses. Remove excess sod to avoid smothering of adjacent grass. Provide sod pad top flush with adjacent curbs, sidewalks, drains, and seeded areas.
 3. All sodded areas shall be knotted neatly and firmly together, allowing no spaces, gaps, voids, or depressions within sodded areas.
 4. Do not lay dormant sod, or install sod on saturated or frozen soil. Contractor shall not use sod from areas where the roots have dried because of exposure to air and sun, or from where grass has thinned from these or other reasons.
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5. Install initial row of sod in a straight line, beginning at bottom of slopes, perpendicular to direction of the sloped area. Place subsequent rows parallel to and lightly against previously installed row.
6. Water sod thoroughly, with a fine spray, immediately after laying.
7. Roll with light lawn roller to ensure contact with subgrade.
8. When laid on surfaces of slopes which may cause sod to slide due to the height and slope of the surface or due to the nature of the soil, sod shall be stabilized by a method acceptable to the Owner to ensure proper binding and to prevent slippage. Anchoring is best achieved by using wooden pegs to anchor the sod to the slope. To avoid interference with the future mowing operations, pegs shall be driven beneath the mower cutting height. Curvilinear shapes and forms shall be cut and trimmed with a sharp cutting tool to assure proper shapes and forms.

3.5 Lawn Maintenance

- A. Maintain seeded and sodded lawn areas, including watering, spot weeding, fertilizing, mowing, applications of herbicides, fungicides, insecticides and reseeding until a full, uniform stand of grass free of weeds, undesirable grass species, disease and insects is achieved and accepted by the landscape architect.
- B. Water daily to maintain adequate surface soil moisture for proper seed germination and establish proper rooting of sod. Continue daily watering for not less than 30 days. Thereafter apply ½" of water twice weekly until acceptance.
- C. Repair, re-work, re-seed, and re-sod all areas that are washed out, eroded, or do not catch, promptly until suitable cover is established.
- D. Fertilize with organic fertilizer after germination, but prior to first mowing.
- E. Mow Lawn areas as soon as lawn top growth exceeds a 2 1/2" height. Cut back to 1 ½-2" in height. Repeat mowing as required to maintain specified height.

3.6 Sodding for Erosion Control

- A. Provide and install sod at all areas susceptible to erosion, or areas susceptible to erosion, or areas of topsoil failure, including but not limited to swales and steep slopes.
- B. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after lawn is established.
- C. Remove non-degradable erosion control measures after grass establishment period.

3.7 Final Acceptance

- A. Inspection to determine final acceptance of seeded lawns will be made upon Contractor's request. Provide notification at least 10 working days before requested inspection date.
 1. Seeded and sodded areas will be acceptable provided all requirements, including maintenance, have been completed and a healthy, uniform, close
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stand of the specified grass is established, free of weeds, undesirable grass species, disease and insects.

- 2. In areas requested to be inspected, no individual lawn areas shall have bare spots or unacceptable cover totaling more than 2% of the individual areas.
- B. Upon final acceptance of the seeding and sodded operations and completion of the maintenance period, the owner will assume lawn maintenance.

METHOD OF MEASUREMENT AND PAYMENT

The quantity of sodding as described in this special provision section will be paid for at the contract unit price per square foot for "Generic Planting Item – Sodding", which price will be full compensation for all labor, materials, equipment, tools, and any incidentals per this section.

Payment will be made under:

Pay Item	Unit Price
Generic Planting Item – Sodding.....	Square Foot



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**WORK ZONE TRAFFIC CONTROL
Project Special Provisions****ADA COMPLIANT PEDESTRIAN TRAFFIC CONTROL DEVICES:**
(10/31/2017)**Description**

Furnish, install, and maintain all ADA compliant pedestrian traffic control devices for existing sidewalks that are disrupted, closed, or relocated by planned work activities.

The ADA compliant pedestrian traffic control devices used to either close, redirect, divert or detour pedestrian traffic are Pedestrian Channelizing Devices, Audible Warning Devices and Temporary Curb Ramps.

Construction Methods

The ADA compliant pedestrian traffic control devices involved in the closing or redirecting of pedestrians as designated on the Transportation Management Plan (TMP) shall be manufactured and assembled in accordance with the requirements of the Americans with Disabilities Act (ADA) and be on the NCDOT approved products list.

Pedestrian Channelizing Devices shall be manufactured and assembled to be connected as to eliminate any gaps that allow pedestrians to stray from the channelizing path. Any Pedestrian Channelizing Devices used to close or block a sidewalk shall have a "SIDEWALK CLOSED" sign affixed to it and any audible warning devices, if designated on the TMP.

Audible Warning Devices shall be manufactured to include a locator tone activated by a motion sensor and have the ability to program a message for a duration of at least 1 minute. The motion sensor shall have the ability to detect pedestrians a minimum of 10' away. The voice module may be automatic or it may be push button activated. If push button activated, it shall be at the appropriate height to meet the ADA regulations.

Temporary Curb Ramps shall be manufactured and assembled to meet all of the requirements for persons with walking disabilities, including wheelchair confinement, according to the ADA regulations and Roadway Standard Drawing 848.05. All detectable warning features are to be included with these installations.

Measurement and Payment

The measurement and payment for the ADA Compliant Pedestrian Traffic Control Devices shall be measured and paid on a per each basis for the Audible Warning Devices and Temporary Curb Ramps. Payment for Temporary Curb Ramps includes all necessary detectable warning features.

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The measurement and payment for the Pedestrian Channelizing Devices will be by the linear foot.

Payment for each of these devices is dependent upon satisfactory installation and acceptance by the Engineer. The unit prices include any costs associated with installation, maintenance and removal of the devices from the project.

Payment will be made under:

Pay Item	Pay Unit
Pedestrian Channelizing Devices	Linear Foot
Audible Warning Devices	Each
Temporary Curb Ramps	Each

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Project Special Provision
Erosion Control

SAFETY FENCE:

Description

The work under this item shall consist of creating a fencing boundary around all sidewalk construction areas. Safety fencing shall be made of steel posts, caps, plastic ties, and orange, UV resistant, high tensile strength, poly barricade fabric. Fencing shall encompass the sidewalk construction areas. Deviations from this must be approved by the Engineer.

Safety fencing shall be installed prior to beginning any sidewalk construction in a particular area. The fencing shall be maintained in place until all construction operations in that particular area are complete. Warning signs, stating "CONSTRUCTION AREA, DO NOT ENTER" shall be attached to the safety fence every 25 feet. **Detectable edging for pedestrians in accordance with MUTCD standards 6D.02 and 6F.68 shall be installed along all pedestrian walkways. The warning signs and detectable edging for pedestrians will be considered incidental to the safety fence.**

The Contractor will be required to cooperate with other contractors, utility companies and others needing access to the project site as (approved by the Engineer) to complete the work.

Measurement and Payment

The quantity of safety fencing will be paid for at the contract unit price per linear foot for "Safety Fence". The contract price per linear foot shall be full compensation for furnishing and installing, maintaining, removing, labor, equipment, materials, and incidentals in accordance with these specifications.

Payment will be made under:

Pay Item	Pay Unit
Safety Fence.....	Linear Foot



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ENHANCED TREE PROTECTION:**Description**

Enhance Tree Protection measures as specified herein shall be installed in the locations at project site designated on the plans and in accordance with the details shown in the plans.

This Section includes the following:

1. Root Pruning
2. Tree Protection Battens

All tree pruning, including Root Pruning, shall be in accordance with ANSI A300, Best Management Practices Tree Pruning, Second Edition.

Project Conditions

The project corridor includes several existing mature trees which are critical to preserve. The contractor will be held responsible for the overall health of these trees and any damage incurred during the project construction.

Tree Protection measures shall be installed prior to any site disturbance along the project corridor and maintained to the satisfaction of the Department's inspector throughout the construction of the project or until such time directed by the Department to remove.

Contractor shall mark limits of work and contact utility location services to avoid damaging any existing utility infrastructure. The contractor shall notify in writing the Department of any conflicts or other site constraints discovered with recommended solutions provided for approval.

Materials & Performance

1. Root Pruning shall be conducted in conjunction with installation of tree protection fencing to insure proper clearances for root pruning equipment. Root pruning trench shall not exceed 6" in width and 36" in depth.
 2. Tree Protection Battens shall be constructed from 2" x 4" pressure treated lumber and secured to preserved existing trees with adjustable strapping. There shall be no permanent, physical attachment to the tree (including nails, screws, or other mechanical fasteners). Trunk battens shall extend from 6" above finish grade to approximately 8' unless conflicting with lower branching. Do not prune branching in conflict with battens unless specifically directed in the field by the Department or Project Landscape Architect. Limb battens shall be installed for all lower branching greater than 6" diameter to a maximum height of 20' above finish grade.
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Submittals

The contractor shall provide the following submittals for review and approval by the Project Landscape Architect. The contractor shall make such submittals within 60 days from receiving a Notice to Proceed.

1. On-site mock-up of Tree Protection Battens
2. Product data sheets for Root Pruning

Quality Assurance

The Contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and materials and techniques specified. All work specified herein this Section shall be overseen by an ISA certified arborist in the State of North Carolina.

There will be zero tolerance for violating the tree protection fencing, including parking of equipment or storing materials within the tree protection areas.

If construction occurs within the Critical Root Zone (CRZ) of a preserved tree, outside of the limits of the tree protection area, the contractor shall place a minimum of 12" of mulch, logging mats, or nylon protection mats over the impacted area, but not within the limits of work, where machinery maneuvering will compact soils. CRZ is defined at a radius of 1.25' per caliper inch at Diameter Breast Height (DBH). DBH is defined as a tree caliper measured in inches at 4.5' above finish grade at the base of the tree. Specific hardships must be submitted to the Project Landscape Architect in writing accompanied with recommended alternative means of compliance.

Contractor shall be assessed a penalty of \$1,000.00 per incident damaging existing trees, including the violation of tree protection fencing. The replacement value for any protected tree significantly damaged or destroyed during construction shall be determined by a 3rd party ISA Certified Arborist's appraisal of the tree at the cost of the Contractor. The Contractor shall be assessed the actual replacement value of the tree in addition to the penalty stated herein.

Measurement and Payment

The quantity of these items as described in this special provision section will be paid for at the contract unit price per linear foot and each, completed, and accepted, which price will be full compensation for all labor, materials, equipment, tools, and any incidentals per this special provision section.

Payment will be made under:

Pay Item	Pay Unit
Root Pruning	Linear Foot
Tree Protection Battens (Per Tree)	Each



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Project Special Provision
Structure

RETAINING WALL WITH BRICK VENEER:

Kimley-Horn and Associates, Inc.

1.0 DESCRIPTION

Retaining Wall with Brick Veneer shall be installed in the locations at project site designated on the plans and in accordance with the details shown in the plans.

Retaining Wall with Brick Veneer shall meet or exceed Wall Performance Criteria as provided in the Plans.

Retaining Wall with Brick Veneer shall be constructed with cast-in-place concrete. Special care shall be taken constructing formwork to ensure true and plumb walls suitable for final finish work. All exposed concrete work shall be aesthetically pleasing with no defects visible through the finish.

Retaining Walls with Brick Veneer shall have drains installed per the drawings. Drains shall be connected to the adjacent storm drain system. Drains are incidental to wall construction.

Requirements regarding domestic steel, Section 106-1(B) in the 2018 Standard Specifications, apply to this project special provision.

2.0 MATERIALSWall Veneer:

Face shall be nominal (4" x 8" x 2.25"), meeting or exceeding ASTM C62-84,

Grade: SW

Face Brick Manufacturer: Pine Hall Brick, or approved equal

Color: Old Dutch II

Note: Brick Veneer intended to match the existing brick pavers. Contractor to submit samples for approval by owner prior to purchase.

Style: Wire Cut full range, standard finish

Mortar shall be Type S, meeting or exceeding ASTM C1142.

Joint Spacing: 3/8"

Tooling: Concave

Mortar Color: to be chosen from manufacturer's full range samples

Brick Tie System.

Manufacturer: Hohmann & Bernard or approved equal

Model: No. 315 flexible dovetail tie with No. 300 dovetail slot in a hot-dip galvanize finish

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3.0 SUBMITTALS

The Contractor shall provide the following submittals for review and approval by the Engineer prior to ordering any materials for the Retaining Wall with Brick Veneer. The Contractor shall make such submittals within 60 days from receiving the Award Letter.

- 1. Shop Drawings, including wall layout, and drainage.
- 2. Finish samples for all components
- 3. Mortar samples for selection by Engineer

4.0 QUALITY ASSURANCE

The Contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and materials and techniques specified.

5.0 MEASUREMENT AND PAVEMENT

The quantity of brick veneer wall as described in this special provision section will be paid for at the contract unit price per square foot for "Generic Retaining Wall Item - Brick Wall at US 15-501 Sanford Rd" which price will be full compensation for all labor, materials (brick veneer, waterproofing membrane, CIP concrete wall, perforated pipe, concrete footing, expansion joint, drip edges, and dowels), equipment, tools, and any incidentals per this section.

Payment will be made under:

Pay Item	Unit Price
Generic Retaining Wall Item - Brick Wall at US 15-501 Sanford Rd.....	Square Foot



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RETAINING WALLS, RAMPS, AND STEPS NEAR ANTIQUE SHOPS:**1.0 SUMMARY**

Provide labor, material, equipment, related services, and supervision required including, but not limited to, installation for all improvements adjacent to the Antique Shops as required for the complete performance of the work and as shown on the Construction Documents. This Section includes the following:

1. Retaining Wall, Veneer, and Wall Cap
2. Handrail
3. Concrete Steps
4. Concrete Ramps

2.0 SUBMITTALS

Product Data: For each variety of manufactured product specified.

3.0 PRODUCT DELIVERY, STORAGE AND HANDLING

Deliver materials to project site in undamaged condition.

Store and handle materials to prevent deterioration or damage due to moisture, temperature changes, contaminants, corrosion, breaking, chipping, or other causes.

Store cementitious materials off the ground, under cover and in a dry location.

Store aggregates covered and in a dry location, where grading and other required characteristics can be maintained and contamination avoided.

4.0 QUALITY ASSURANCE

Installer Qualifications: An experienced installer who has completed masonry and unit paver installations similar in material, design, and extent to that is indicated for this Project and whose work has resulted in construction with a record of successful performance.

Source Limitations: Obtain all concrete ingredients from a single manufacturer and each aggregate from one source or producer.

Installation of walls with railing: All wall construction to be completed prior to installation of railings.

5.0 PRODUCTS

1. Non-shrink Grout: Factory-packaged, non-staining, noncorrosive, nongaseous grout complying with ASTM C 1107 and specifically recommended by manufacturer for exterior applications.
 2. Caulking: Caulk joints where pavers are placed adjacent to walls, existing buildings
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and structures, concrete foundations, walls, and where the base of site furnishings interfaces with paver areas.

- 3. Handrails: Handrail to be 1 1/2" schedule 40 Galvanized Steel pipe, 36" in height, powder coated black. Handrail to be installed per details on L6 and shall meet all ADA accessibility code requirements.
- 4. Foundation Drain in Sock: 4" diameter HDPE perforated pipe with sock. Pipe shall run entire length of wall and shall connect to the adjacent storm drain system in South White Street.
- 5. Concrete Retaining Wall: Cast-in-place concrete with rubbed finish, minimum 3,600 PSI at 28 days. Wall and associated footing to include reinforcing. Reinforcing to be #4 rebar spaced 12" on center each way. Wall shall be core-drilled to accommodate handrail.
- 6. Geotextile: Non-woven, permeable geotextile.
- 7. Concrete Staircase: Cast-in-place concrete, minimum 3,000 PSI at 28 days. Staircase and associated footing to include reinforcing. Reinforcing to be #4 rebar spaced 12" on center each way. Staircase to include a 5/8" slip down spaced 18" on center at bottom of stair. Staircase shall be core-drilled to accommodate handrail.
- 8. Expansion Joint: A 1/2" expansion joint shall be included at all instances where Retaining Wall is adjacent to concrete flatwork.

6.0 WARRANTY

The Contractor shall provide a one-year warranty against defects in materials, installation, or workmanship. This warranty period shall begin at substantial completion of the project.

7.0 MEASURE AND PAYEMENT

The quantity of improvements at the two Antique Shops will be paid for at the contract unit price of Lump Sum. Unit price will be full compensation for all labor, materials, equipment, substructure (such as concrete, aggregate base, reinforcing materials, drains, select backfill etc.), hauling, excavation, delivery charges, tools, and any incidentals necessary to excavate, furnish, and install all improvements as noted within the Plan Details, Construction Documents, and this special provision.

Payment will be made under:

Pay Item	Pay Unit
Generic Retaining Wall Item - Brick Wall, Steps, and Ramp at Antique Shop	Lump Sum
Generic Retaining Wall Item - Retaining Wall at Beggars and Choosers Antiques	Lump Sum



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Project Special Provision
Utilities by Others

General:

The following utility companies have facilities that will be in conflict with the construction of this project:

- A) Duke Energy Progress
- B) Duke Energy Progress - Lighting
- C) CenturyLink
- D) Charter-Spectrum
- E) Dominion Energy
- F) Town of Pittsboro

The conflicting facilities of these concerns will be adjusted prior to the date of availability, unless otherwise noted and are therefore listed in these special provisions for the benefit of the Contractor. All utility work listed herein will be done by the utility owners. All utilities are shown on the plans from the best available information.

The Contractor's attention is directed to Article 105-8 of the 2018 Standard Specifications.

Utilities Requiring Adjustment:

Utility relocations are shown on the Utilities by Others Plans.

- A. Duke Energy Progress
 - 1. The conflicting utilities owned by Duke Energy will be relocated by October 2020.
 - 2. Contact person for Duke Energy is Josiah Shackleton at Josiah.Shackleton@duke-energy.com and Phone # 910-399-3081
 - B. Duke Energy Progress – Lighting
 - 1. The conflicting utilities owned by Duke Lighting will not be relocated by October 2020. The contractor shall provide notice and coordinate the adjustments and installation of new light fixtures.
 - 2. Contact person for Duke Lighting is Stephen Short at Stephen.Short@duke-energy.com and Phone # 919-654-6632
 - C. CenturyLink
 - 1. The conflicting utilities owned by CenturyLink will not all be relocated by October 2020. The contractor shall provide notice and coordinate the pedestal, hand hole and vault adjustments that are located within the project limits.
 - 2. Contact person for CenturyLink is Kevin Godwin at Kevin.Godwin@centurylink.com and Phone # 910-366-2142
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D. Charter-Spectrum

1. The conflicting utilities owned by Charter-Spectrum will be relocated by October 2020.
2. Contact person for Charter-Spectrum is Patrick Grasso at Patrick.Grasso@charter.com and Phone # 919-500-9307

E. Dominion Energy

1. The conflicting utilities owned by Dominion Energy will be relocated by October 2020.
2. Contact person for Dominion Energy is Josue Alcaraz at josue.alcaraz@dominionenergy.com and Phone # 919-548-6751

F. Town of Pittsboro

1. The conflicting water and sewer appurtenances will be relocated during construction. These include but not limited to service lines, water meters, gravity sewer, backflow preventer and fire hydrants, etc.
 2. Contact person for the Town of Pittsboro is John Poteat at jpoteat@pittsboronc.gov and Phone # 919-542-2530
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PROJECT SPECIAL PROVISIONS
Utility Construction



The proposed utility construction shall meet the applicable requirements of the NC Department of Transportation’s “Standard Specifications for Roads and Structures” dated January 2018, the Town of Pittsboro Standards and Specifications, and the following provisions.

Revise the 2018 Standard Specifications as follows:

Page 8-37, Article 858-1, Description,
revise line 5 as follows:

Raise or lower existing catch basins, manholes, drop inlets, cleanouts, meter boxes, and valve boxes

Page 8-37, Article 858-3, Construction Methods,
add the following after line 11:

Perform adjustment of cleanouts in areas not subject to vehicular traffic (including but not limited to sidewalks, and landscaped areas) by removing the existing cleanout top and riser to 12-inches below finished grade and replaced with a 4-inch PVC female threaded cleanout adapter and brass plug with countersunk square drive, installed flush with the surrounding finished surface.

Perform adjustment of cleanouts in areas subject to vehicular traffic (including but not limited to driveways and parking areas) by removing the existing cleanout top and riser to 12-inches below finished grade and installing a 4-inch PVC female threaded cleanout adapter and brass plug with countersunk square drive, installed 6-inches below the surrounding finished surface. Install a 10-inch diameter cast or ductile iron H-20 rated mini manhole ring and cover over the cleanout, flush with the surrounding finished surface. Note that cleanouts are not permitted within the roadway or shoulders.

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PROJECT SPECIAL PROVISIONS
Utility Construction

Page 8-38, Article 858-4, Measurement and Payment,

add the following after line 9:

Adjustment of Cleanouts will be measured and paid in units of each for cleanouts satisfactorily adjusted.

add the following after line 10:

Where any cleanout is adjusted more than once because of project phasing, milling, demolition, paving or other surface finishes, multiple adjustments will be counted as one adjustment.

add the following to line 22:

Adjustment of Cleanouts Each

Page 10-63; Sub-article 1036-8, Sleeves, Couplings and Miscellaneous

add the following after Subparagraph (B):

(C) MJ Long Body Solid Sleeve Couplings

MJ Solid Sleeve Couplings shall be used to connect ductile iron piping (DIP) to PVC or DIP, where shown on the Drawings. Solid sleeves shall be ductile iron and conform to the requirements off ANSI A21.10 (AWWA C110) or ANSI A21.53 (AWWA C153).

(D) Mechanical Joint Restraints

Mechanical joint restraints shall be specifically selected for the appropriate application. Restraint devices for nominal pipe sizes 3 inch through 48 inch shall consist of multiple gripping wedges incorporated into a follower gland meeting the applicable requirements of ANSI/AWWA C110/A21.10. The devices shall have a working pressure rating of 350 psi for 3-16 inch and 250 psi for 18-48 inch nominal pipe size. Ratings are for water pressure and must include a minimum safety factor of 2 to 1 in all sizes. Restraint devices shall be Listed by Underwriters Laboratories (3" through 24" inch size) and Approved by Factory Mutual (3" through 12" inch size). Gland body, wedges and wedge actuating components shall be cast from grade 65-45-12 ductile iron material in accordance with ASTM A536. Ductile iron gripping wedges shall be heat treated within a range of 370 to 470 BHN. Three (3) test bars shall be incrementally poured per production shift as per Underwriter's Laboratory (U.L.) specifications and ASTM A536. Testing for tensile, yield and elongation shall be done in accordance with

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PROJECT SPECIAL PROVISIONS
Utility Construction

ASTM E8. Chemical and nodularity tests shall be performed as recommended by the Ductile Iron Society, on a per ladle basis.

Page 15-1, Sub-article 1500-2 Cooperation with the Utility Owner, paragraph 2:
add the following sentences:

The utility owner is the Town of Pittsboro. The contact person for the Town of Pittsboro Public Utilities can be reached by phone at 919-533-5480.

Page 15-4; Sub-article 1505-3, Construction Methods,
add the following after Subparagraph (F):

(G) Concrete Thrust Collars

Concrete thrust collars shall be installed where shown on the Drawings and as required under Article 1505-3, Subparagraph (E). Concrete thrust collars shall be provided at the locations shown on the Drawings or as requested by the Engineer. The excavation at such location(s) shall receive special attention with such undisturbed materials within as short a distance as possible from the pipe. Concrete thrust collars shall be installed in accordance with Detail 3/UC-3C, as shown on the Drawings.

All reinforcing steel shall be Grade 60 in accordance with Article 1070-2. All concrete shall be Class AA in accordance with Article 1000-4.

(H) Reaction Blocking

All fittings or components subject to hydrostatic thrust shall be securely anchored by the use of concrete thrust blocks poured in place, unless otherwise directed by the Engineer. Where concrete must be reinforced, the Contractor shall furnish such reinforcing as is required.

Required thrust block sizing shall be in accordance with Detail MU-02-008.00, as shown on the Drawings.

Material for reaction blocking shall be transit-mixed concrete. This concrete shall have a minimum twenty-eight-day compressive strength of 3000 psi. Any metal used to resist thrust which is not encased in concrete shall be "hot dipped" galvanized or stainless steel.

(I) Flowable Fill

This work consists of all work necessary to place flowable fill in accordance with these provisions, the Drawings, and as directed.

Discharge flowable fill material directly from the truck into the space to be filled, or by

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Utility Construction

other approved methods. The mix may be placed full depth or in lifts as site conditions dictate.

Page 15-5; Sub-article 1505-6, Measurement and Payment,
add the following:

Concrete thrust collars required for the Project shall be included and paid for as part of the appropriate water line pay item. No additional payment will be made.

Page 15-8, Article 1515-2, Materials,
add the following:

Insertion valves shall be rated for a minimum working pressure of 250 PSI and shall be designed to operate in a potable water system. Valves shall be designed to be installed into an existing pressurized pipeline while maintaining constant pressure and service as usual. Valve body shall be capable of working on Cast/Grey Iron, Ductile Iron, IPS PVC, C909 PPVC, Steel, and AC pipe diameters without changing either top or bottom portion of the split valve body. The wedge shall be fully encapsulated in EPDM rubber and shall seat on the valve body and not the existing/host pipe and be operable with flow in either direction. The host pipe shall not be an integral part of the final installation. Split restraint devices consisting of multiple gripping wedges incorporated into a follower gland. The devices shall have a working pressure rating of 350 PSI for 4 to 12-inch insertion valves. All materials used shall be per the valve and host pipe manufacturers' recommendation.

Insertion valves shall be coated on the interior and exterior with a 10 mils (minimum) of fusion-bonded epoxy coating in compliance with AWWA C550 and certified to ANSI/NSF-61.

One thrust collar shall be installed and rodded to each insertion valve per Detail 4/UC-3C. A concrete valve support shall be poured beneath the insertion valve.

Page 15-8, Article 1515-3, Construction Methods,
add the following to subparagraph (B):

Replace all water meters, boxes, and setters where Relocation or Reconnection is indicated on the drawings with new meters, boxes, and setters in accordance with current Town of Pittsboro Standards and Specifications.

Page 15-9, Article 1515-3, Construction Methods,
add the following after Line 22:

(H) Water Service Interruption and Installation Plan

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This work consists of provision of an installation plan to include all requested shutdowns, submitted by the Contractor and approved by the Owner and Engineer.

The Contractor shall submit a detailed Plan, outlining all precautions and provisions for Water Service Interruption and Installation to the Engineer and Owner for approval prior to interrupting water service or installing any component of the proposed waterline. The Plan shall include at minimum:

1. Schedule and Sequence
 - a. Waterline schedule and sequence of installation including all wet taps or other connections to the Owner's system, installation phasing, pressure testing, disinfection, flushing, water quality testing, service connection switchovers, and abandonment or removal of lines to be abandoned.
2. Shutdowns
 - a. For each phase of waterline construction requiring a service outage, the Contractor shall provide the following:
 - i. Location of proposed work and justification for shutdown
 - ii. Schedule (date and time) and duration
 - iii. Affected customers

The Contractor shall allow sufficient time for review and approval of the submitted Plan, including any test shutdowns required by the Owner, and shall not be entitled to any delay claims related to review, rejection, resubmittal, modifications, or any other actions necessary to obtain an approved Plan.

(I) Insertion Valves

This work consists of furnishing all labor, materials, equipment, tools and other services required for a fully operational insertion valve at the location(s) shown on the Drawings or as requested by the Engineer.

Page 15-9, Article 1515-4, Measurement and Payment,
add the following to Line 31:

Contractor shall provide all certifications required by the Department, the Owner, and applicable plumbing codes for all relocated RPZ Backflow Prevention Assemblies.

add the following after Line 36:

Replacement of water meters, boxes, and setters in accordance with these Special Provisions shall be included in the unit price for Relocate Water Meter and Reconnect Water Meter.

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PROJECT SPECIAL PROVISIONS
Utility Construction

Page 15-10, Article 1515-4, Measurement and Payment,
add the following after Line 2:

All *Mechanical Joint Restraints* shall be considered incidental to the appropriate water line pay item. No additional measurement nor payment will be made.

Water Service Interruption and Installation Plan will be measured and paid as a lump sum, with 50% payable upon Plan submittal, and the remainder upon final approval of the Plan.

Insertion Valves will be measured and paid per each for the appropriate size and type, satisfactorily installed and placed into operation. The unit price shall include the installation of one thrust collar, rodded to the insertion valve per Detail 3/UC-3C and Detail 4/UC-3C, and positioned to allow construction of the proposed work.

add the following to Line 7:

Water Service Interruption and Installation Plan	Lump Sum
__” Insertion Valve	Each

Page 15-13, Article 1520-3, Construction Methods,
add the following:

(C) Maintenance of Sanitary Sewer Flows Plan

This work consists of provision of a plan to temporarily maintain sanitary sewer flows by gravity piping, pump and haul, bypass pumping, or other means submitted by the Contractor and approved by the Owner and Engineer.

The Contractor shall submit a detailed Plan, outlining all precautions and provisions for Temporary Maintenance of Sanitary Sewer Flows to the Engineer and Owner for approval prior to interrupting sanitary sewer flows. The Plan shall include at minimum:

- 3. Gravity Piping:
 - a. Pipe size and material
 - b. Span and proposed supports for aerial crossing(s)
 - c. Connections to existing piping
 - d. Schedule and duration of use
- 4. Pump and Haul
 - a. Location of manhole(s) to be plugged
 - b. Location of proposed discharge manhole
 - c. Number and capacity of trucks to be used
 - d. Round trip circuit time including filling, transit, and discharge
 - e. Schedule and duration of use

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PROJECT SPECIAL PROVISIONS

Utility Construction

5. Bypass Pumping:
 - a. Bypass layout, showing at minimum:
 - i. Position of all pumps, piping, valves, suction and discharge manholes, aerial crossing(s), and supports.
 - ii. Size and material of all piping, control valves, and air release valve(s).
 - b. Pump information
 - i. Pumps shall be sized to handle the peak daily flow rate (2.5 times the average daily flow rate, with a minimum of 50gpm) for the line or area of work.
 - ii. Pump curves for the specific pumps proposed
 - iii. Pump run time on a single tank of fuel
 - iv. Other information as requested by the Owner or Engineer
 - c. Monitoring plan
 - i. Remote telemetry with auto-dialer
 - ii. List of qualified 24-hour monitoring personnel
 - d. Schedule and duration of use
6. Other:
 - a. The Contractor shall provide information for alternate maintenance of sanitary sewer flows as requested by the Owner and Engineer.
7. Any Plan which requires the use of elevated structures or other special supports, e.g. aerial crossings and other bridges, shall require certification by a North Carolina Professional Engineer. The Contractor shall provide the certification(s) at no additional cost to the Owner.

Implementation of Plan shall not commence until approval of the submittals requested under this Section.

The Contractor shall allow sufficient time for review and approval of the submitted Plan and shall not be entitled to any delay claims related to review, rejection, resubmittal, modifications, or any other actions necessary to obtain an approved Plan.

(D) Temporary Maintenance of Sanitary Sewer Flows

This work consists of maintenance of the sanitary sewer flows in accordance with the approved Maintenance of Sanitary Sewer Flows Plan.

All other work required to maintain sanitary sewer flows and service is considered incidental to the project and no specific payment shall be made.

The Contractor shall review layout in the field with Owner and Engineer prior to beginning operations. The Contractor shall leak check any temporary sewer lines in the presence of the Owner and/or facilitate a preliminary bypass pumping run with Owner staff present to affirm the operation is satisfactory to the Owner.

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The Contractor shall make every effort to avoid sewer overflows. For all sewer overflows, the Contractor shall be responsible, and shall reimburse the Owner, for any damages, operational costs, fines, or other effects.

Page 15-13, Article 1520-4, Measurement and Payment,
add the following after Line 29:

Maintenance of Sanitary Sewer Flows Plan will be measured and paid as a lump sum, payable upon approval of the Plan.

Temporary Maintenance of Sanitary Sewer Flows will be measured and paid as a lump sum, with 50% payable upon satisfactory implementation of approved system, and the remainder upon removal of the system and satisfactory restoration of normal flows.

add the following to Line 30:

Maintenance of Sanitary Sewer Flows Plan	Lump Sum
Temporary Maintenance of Sanitary Sewer Flows	Lump Sum

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LT-1

Chatham County

PROJECT SPECIAL PROVISIONS
LIGHTING**1.00 DESCRIPTION**

The work covered by this Section consists of installing, connecting, and placing into satisfactory condition a street lighting conduit system along the subject project as shown on the plans. Perform all work in accordance with these Special Provisions, the Plans, the National Electrical Code, and North Carolina Department of Transportation "Standard Specifications for Roads and Structures" (*2018 Standard Specifications*). Erection of light standards, and installation of circuit conductors and light standard luminaires will be performed by Duke Energy Progress and are not part of this contract.

Perform all work in conformance with Division 14 of the *2018 Standard Specifications* except as modified or added to by these Special Provisions. Install all bore pits outside the clear zone, as defined in the AASHTO Roadside Design Guide or as directed by the Engineer.

In addition to the requirements of Division 1400, other specific Sections of the *2018 Standard Specifications* applicable to the work on this project are listed below.

Section 1409	Electrical Duct
--------------	-----------------

2.00 ELECTRICAL DUCT**2.10 DESCRIPTION**

Replace Article 1409-1 as shown below:

Install conduit for street lighting along the subject project as shown in the lighting plans including equipment and labor for trenching, directional boring and backfilling, so electrical circuits may be easily installed, repaired or replaced, and be protected from traffic loading at locations shown in the plans.

2.20 MATERIALS

Replace Article 1409-2 as shown below:

The Town of Pittsboro will furnish 2" PVC conduit to complete the street lighting conduit system along the subject project. Contractor will coordinate conduit installation work with Mr. Chris Kennedy, Pittsboro Town Manager, (919-542-4621 ext. 1105).

Contractor shall notify Mr. Kennedy no less than six weeks before conduit is required. After conduit is accepted by the Contractor, the Contractor becomes the owner and is responsible for loss or damage to material until installation.

Provide pull lines in accordance with Subarticle 1400-2(H) of the *2018 Standard Specifications*.

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LT-2

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2.30 CONSTRUCTION METHODS

Same as Article 1409-3 except as amended below:

Contractor shall install above grade conduit turn ups at all proposed light pole locations.

Contractor shall install pull lines in all conduit. Pull line shall be secured to and accessible from the above grade conduit turn up.

2.40 MEASUREMENT AND PAYMENT

Same as Article 1409-4.

Payment will be made under:

Pay Item	Pay Unit
Electrical Duct, Type BD, Size 2".....	Linear Foot
Electrical Duct, Type JA, Size 2".....	Linear Foot



DocuSigned by:
Roger C. Kluckman 9/9/2020
 A4/FB0E0828E420...

STANDARD SPECIAL PROVISION
AVAILABILITY OF FUNDS – TERMINATION OF CONTRACTS

(5-20-08)

Z-2

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

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

Payment will be made on any contract terminated pursuant to the special provision in accordance with Subarticle 108-13(D) of the *2018 Standard Specifications*.

STANDARD SPECIAL PROVISION
NCDOT GENERAL SEED SPECIFICATION FOR SEED QUALITY

(5-17-11)

Z-3

Seed shall be sampled and tested by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory. When said samples are collected, the vendor shall supply an independent laboratory report for each lot to be tested. Results from seed so sampled shall be final. Seed not meeting the specifications shall be rejected by the Department of Transportation and shall not be delivered to North Carolina Department of Transportation warehouses. If seed has been delivered it shall be available for pickup and replacement at the supplier's expense.

Any re-labeling required by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory, that would cause the label to reflect as otherwise specified herein shall be rejected by the North Carolina Department of Transportation.

Seed shall be free from seeds of the noxious weeds Johnsongrass, Balloonvine, Jimsonweed, Witchweed, Itchgrass, Serrated Tussock, Showy Crotalaria, Smooth Crotalaria, Sicklepod, Sandbur, Wild Onion, and Wild Garlic. Seed shall not be labeled with the above weed species on the seed analysis label. Tolerances as applied by the Association of Official Seed Analysts will NOT be allowed for the above noxious weeds except for Wild Onion and Wild Garlic.

Tolerances established by the Association of Official Seed Analysts will generally be recognized. However, for the purpose of figuring pure live seed, the found pure seed and found germination percentages as reported by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory will be used. Allowances, as established by the NCDOT, will be recognized for minimum pure live seed as listed on the following pages.

The specifications for restricted noxious weed seed refers to the number per pound as follows:

<u>Restricted Noxious Weed</u>	<u>Limitations per Lb. Of Seed</u>	<u>Restricted Noxious Weed</u>	<u>Limitations per Lb. of Seed</u>
Blessed Thistle	4 seeds	Cornflower (Ragged Robin)	27 seeds
Cocklebur	4 seeds	Texas Panicum	27 seeds
Spurred Anoda	4 seeds	Bracted Plantain	54 seeds
Velvetleaf	4 seeds	Buckhorn Plantain	54 seeds
Morning-glory	8 seeds	Broadleaf Dock	54 seeds
Corn Cockle	10 seeds	Curly Dock	54 seeds
Wild Radish	12 seeds	Dodder	54 seeds
Purple Nutsedge	27 seeds	Giant Foxtail	54 seeds
Yellow Nutsedge	27 seeds	Horsenettle	54 seeds
Canada Thistle	27 seeds	Quackgrass	54 seeds
Field Bindweed	27 seeds	Wild Mustard	54 seeds
Hedge Bindweed	27 seeds		

Seed of Pensacola Bahiagrass shall not contain more than 7% inert matter, Kentucky Bluegrass, Centipede and Fine or Hard Fescue shall not contain more than 5% inert matter whereas a maximum of 2% inert matter will be allowed on all other kinds of seed. In addition, all seed shall

not contain more than 2% other crop seed nor more than 1% total weed seed. The germination rate as tested by the North Carolina Department of Agriculture shall not fall below 70%, which includes both dormant and hard seed. Seed shall be labeled with not more than 7%, 5% or 2% inert matter (according to above specifications), 2% other crop seed and 1% total weed seed.

Exceptions may be made for minimum pure live seed allowances when cases of seed variety shortages are verified. Pure live seed percentages will be applied in a verified shortage situation. Those purchase orders of deficient seed lots will be credited with the percentage that the seed is deficient.

FURTHER SPECIFICATIONS FOR EACH SEED GROUP ARE GIVEN BELOW:

Minimum 85% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 83% pure live seed will not be approved.

Sericea Lespedeza
Oats (seeds)

Minimum 80% pure live seed; maximum 1% total weed seed; maximum 2% total other crop; maximum 144 restricted noxious weed seed per pound. Seed less than 78% pure live seed will not be approved.

Tall Fescue (all approved varieties)	Bermudagrass
Kobe Lespedeza	Browntop Millet
Korean Lespedeza	German Millet – Strain R
Weeping Lovegrass	Clover – Red/White/Crimson
Carpetgrass	

Minimum 78% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 76% pure live seed will not be approved.

Common or Sweet Sundangrass

Minimum 76% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 74% pure live seed will not be approved.

Rye (grain; all varieties)
Kentucky Bluegrass (all approved varieties)
Hard Fescue (all approved varieties)
Shrub (bicolor) Lespedeza

Minimum 70% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 noxious weed seed per pound. Seed less than 70% pure live seed will not be approved.

Centipedegrass	Japanese Millet
Crownvetch	Reed Canary Grass
Pensacola Bahiagrass	Zoysia
Creeping Red Fescue	

Minimum 70% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 5% inert matter; maximum 144 restricted noxious weed seed per pound.

Barnyard Grass
Big Bluestem
Little Bluestem
Bristly Locust
Birdsfoot Trefoil
Indiangrass
Orchardgrass
Switchgrass
Yellow Blossom Sweet Clover

STANDARD SPECIAL PROVISION**ERRATA**

(10-16-18) (Rev.1-15-19)

Z-4

Revise the *2018 Standard Specifications* as follows:

Division 6

Page 6-7, Article 609-1 DESCRIPTION, line 29, replace article number “609-10” with “609-9”.

Division 7

Page 7-27, Article 725-1 MEASUREMENT AND PAYMENT, line 4, replace article number “725-1” with “724-4”.

Page 7-28, Article 725-1 MEASUREMENT AND PAYMENT, line 10, replace article number “725-1” with “725-3”.

Division 10

Page 10-78, Article 1056-4 GEOTEXTILES, TABLE 1056-1, Permittivity, Type 2, replace “Table 6^D” with “Table 7^D” and **Permittivity, Type 3^B,** replace “Table 7^D” with “Table 8^D”.

Page 10-162, Article 1080-50 PAINT FOR VERTICAL MARKERS, line 1, replace article number “1080-50” with “1080-10”.

Page 10-162, Article 1080-61 EPOXY RESIN FOR REINFORCING STEEL, line 5, replace article number “1080-61” with “1080-11”.

Page 10-162, Article 1080-72 ABRASIVE MATERIALS FOR BLAST CLEANING STEEL, line 22, replace article number “1080-72” with “1080-12”.

Page 10-163, Article 1080-83 FIELD PERFORMANCE AND SERVICES, line 25, replace article number “1080-83” with “1080-13”.

Division 17

Page 17-15, Article 1715-4 MEASUREMENT AND PAYMENT, lines 42-44, replace the second sentence with the following:

An example is an installation of a single 1.25 inch HDPE conduit would be paid as:

Directional Drill (1)(1.25”) Linear Foot

STANDARD SPECIAL PROVISION**PLANT AND PEST QUARANTINES****(Imported Fire Ant, Gypsy Moth, Witchweed, Emerald Ash Borer, Guava Root Knot Nematode, And Other Noxious Weeds)**

(3-18-03) (Rev. 5-21-19)

Z-04a

Within Quarantined Area

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

Originating in a Quarantined County

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

Contact

Contact the N.C. Department of Agriculture/United States Department of Agriculture at 1-800-206-9333, 919-707-3730, or <https://www.ncagr.gov/plantindustry/Plant/quaran/table2.htm> 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, emerald ash borer, guava root knot nematode, or other noxious weeds.

STANDARD SPECIAL PROVISION**TITLE VI AND NONDISCRIMINATION:**

(6-28-77)(Rev 6/19/2018)

Z-6

Revise the *2018 Standard Specifications* as follows:

Replace Article 103-4(B) with the following:

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

The provisions of this section related to United States Department of Transportation (US DOT) Order 1050.2A, Title 49 Code of Federal Regulations (CFR) part 21, 23 United States Code (U.S.C.) 140 and 23 CFR part 200 (or 49 CFR 303, 49 U.S.C. 5332 or 49 U.S.C. 47123) are applicable to all North Carolina Department of Transportation (NCDOT) contracts and to all related subcontracts, material supply, engineering, architectural and other service contracts, regardless of dollar amount. Any Federal provision that is specifically required not specifically set forth is hereby incorporated by reference.

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

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

(a) Compliance with Regulations

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

(b) Nondiscrimination

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

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

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

(d) Information and Reports

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

(e) Sanctions for Noncompliance:

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

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

(f) Incorporation of Provisions

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

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

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

- (a) During the performance of this contract or agreement, contractors (e.g., subcontractors, consultants, vendors, prime contractors) are responsible for complying with NCDOT's Title VI Program. Contractors are not required to prepare or submit Title VI Programs. To comply with this section, the prime contractor shall:
 1. Post NCDOT's Notice of Nondiscrimination and the Contractor's own Equal Employment Opportunity (EEO) Policy in conspicuous locations accessible to all employees, applicants and subcontractors on the jobsite.

2. Physically incorporate the required Title VI clauses into all subcontracts on federally-assisted and state-funded NCDOT projects, and ensure inclusion by subcontractors into all lower-tier subcontracts.
 3. Required Solicitation Language. The Contractor shall include the following notification in all solicitations for bids and requests for work or material, regardless of funding source:

“The North Carolina Department of Transportation, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award. In accordance with other related nondiscrimination authorities, bidders and contractors will also not be discriminated against on the grounds of sex, age, disability, low-income level, creed/religion, or limited English proficiency in consideration for an award.”
 4. Physically incorporate the FHWA-1273, in its entirety, into all subcontracts and subsequent lower tier subcontracts on Federal-aid highway construction contracts only.
 5. Provide language assistance services (i.e., written translation and oral interpretation), free of charge, to LEP employees and applicants. Contact NCDOT OCR for further assistance, if needed.
 6. For assistance with these Title VI requirements, contact the NCDOT Title VI Nondiscrimination Program at 1-800-522-0453.
- (b) Subrecipients (e.g. cities, counties, LGAs, planning organizations) may be required to prepare and submit a Title VI Plan to NCDOT, including Title VI Assurances and/or agreements. Subrecipients must also ensure compliance by their contractors and subrecipients with Title VI. (23 CFR 200.9(b)(7))
- (c) If reviewed or investigated by NCDOT, the contractor or subrecipient agrees to take affirmative action to correct any deficiencies found within a reasonable time period, not to exceed 90 calendar days, unless additional time is granted by NCDOT. (23 CFR 200.9(b)(15))
- (d) The Contractor is responsible for notifying subcontractors of NCDOT’s External Discrimination Complaints Process.
1. Applicability

Title VI and related laws protect participants and beneficiaries (e.g., members of the public and contractors) from discrimination by NCDOT employees, subrecipients and contractors, regardless of funding source.

2. Eligibility

Any person—or class of persons—who believes he/she has been subjected to discrimination based on race, color, national origin, Limited English Proficiency (LEP), sex, age, or disability (and religion in the context of employment, aviation, or transit) may file a written complaint. The law also prohibits intimidation or retaliation of any sort.

3. Time Limits and Filing Options

Complaints may be filed by the affected individual(s) or a representative and must be filed no later than 180 calendar days after the following:

- (i) The date of the alleged act of discrimination; or
- (ii) The date when the person(s) became aware of the alleged discrimination; or
- (iii) Where there has been a continuing course of conduct, the date on which that conduct was discontinued or the latest instance of the conduct.

Title VI and related discrimination complaints may be submitted to the following entities:

- North Carolina Department of Transportation, Office of Civil Rights, Title VI Program, 1511 Mail Service Center, Raleigh, NC 27699-1511; toll free 1-800-522-0453
- Federal Highway Administration, North Carolina Division Office, 310 New Bern Avenue, Suite 410, Raleigh, NC 27601, 919-747-7010
- US Department of Transportation, Departmental Office of Civil Rights, External Civil Rights Programs Division, 1200 New Jersey Avenue, SE, Washington, DC 20590; 202-366-4070

4. Format for Complaints

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

5. Discrimination Complaint Form

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

6. Complaint Basis

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

**TABLE 103-1
COMPLAINT BASIS**

Protected Categories	Definition	Examples	Applicable Nondiscrimination Authorities
Race and Ethnicity	An individual belonging to one of the accepted racial groups; or the perception, based usually on physical characteristics that a person is a member of a racial group	Black/African American, Hispanic/Latino, Asian, American Indian/Alaska Native, Native Hawaiian/Pacific Islander, White	Title VI of the Civil Rights Act of 1964; 49 CFR Part 21; 23 CFR 200; 49 U.S.C. 5332(b); 49 U.S.C. 47123. <i>(Executive Order 13166)</i>
Color	Color of skin, including shade of skin within a racial group	Black, White, brown, yellow, etc.	
National Origin <i>(Limited English Proficiency)</i>	Place of birth. Citizenship is not a factor. <i>(Discrimination based on language or a person's accent is also covered)</i>	Mexican, Cuban, Japanese, Vietnamese, Chinese	
Sex	Gender. The sex of an individual. <i>Note: Sex under this program does not include sexual orientation.</i>	Women and Men	1973 Federal-Aid Highway Act; 49 U.S.C. 5332(b); 49 U.S.C. 47123.
Age	Persons of any age	21-year-old person	Age Discrimination Act of 1975 49 U.S.C. 5332(b); 49 U.S.C. 47123.
Disability	Physical or mental impairment, permanent or temporary, or perceived.	Blind, alcoholic, para-amputee, epileptic, diabetic, arthritic	Section 504 of the Rehabilitation Act of 1973; Americans with Disabilities Act of 1990
Religion (in the context of employment) <i>(Religion/ Creed in all aspects of any aviation or transit-related construction)</i>	An individual belonging to a religious group; or the perception, based on distinguishable characteristics that a person is a member of a religious group. In practice, actions taken as a result of the moral and ethical beliefs as to what is right and wrong, which are sincerely held with the strength of traditional religious views. <i>Note: Does not have to be associated with a recognized religious group or church; if an individual sincerely holds to the belief, it is a protected religious practice.</i>	Muslim, Christian, Sikh, Hindu, etc.	Title VII of the Civil Rights Act of 1964; 23 CFR 230; FHWA-1273 Required Contract Provisions. <i>(49 U.S.C. 5332(b); 49 U.S.C. 47123)</i>

(3) Pertinent Nondiscrimination Authorities

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

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.

- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
 - Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
 - Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability) and 49 CFR Part 27;
 - The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
 - Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- (g) The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- (h) Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- (i) The Federal Aviation Administration's Nondiscrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- (j) Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- (k) Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- (l) Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).
- (m) Title VII of the Civil Rights Act of 1964 (42 U.S.C. § 2000e et seq., Pub. L. 88-352), (prohibits employment discrimination on the basis of race, color, religion, sex, or national origin).

(4) Additional Title VI Assurances

***The following Title VI Assurances (Appendices B, C and D) shall apply, as applicable*

- (a) Clauses for Deeds Transferring United States Property (1050.2A, Appendix B)

The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of Assurance 4.

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

(HABENDUM CLAUSE)

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

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

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

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

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

1. The (grantee, lessee, permittee, etc. as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add "as a covenant running with the land"] that:
 - (i.) In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a U.S. Department of Transportation activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Acts and Regulations (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.
2. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued. *
3. With respect to a deed, in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will have the right to enter or re-enter the lands and facilities thereon, and the above described lands and facilities will there upon revert to and vest in and become the absolute property of the NCDOT and its assigns. *

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

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

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

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

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

STANDARD SPECIAL PROVISION**MINORITY AND FEMALE EMPLOYMENT REQUIREMENTS**

Z-7

NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (*EXECUTIVE NUMBER 11246*)

1. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, see as shown on the attached sheet entitled "Employment Goals for Minority and Female participation".

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with the Executive Order and the regulations in *41 CFR Part 60-4* shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in *41 CFR 60-4.3(a)*, and its effort to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the executive Order and the regulations in *41 CFR Part 60-4*. Compliance with the goals will be measured against the total work hours performed.

2. As used in this Notice and in the contract resulting from this solicitation, the "covered area" is the county or counties shown on the cover sheet of the proposal form and contract.

**EMPLOYMENT GOALS FOR MINORITY
AND FEMALE PARTICIPATION**

Economic Areas

Area 023 29.7%

Bertie County
Camden County
Chowan County
Gates County
Hertford County
Pasquotank County
Perquimans County

Area 024 31.7%

Beaufort County
Carteret County
Craven County
Dare County
Edgecombe County
Green County
Halifax County
Hyde County
Jones County
Lenoir County
Martin County
Nash County
Northampton County
Pamlico County
Pitt County
Tyrrell County
Washington County
Wayne County
Wilson County

Area 025 23.5%

Columbus County
Duplin County
Onslow County
Pender County

Area 026 33.5%

Bladen County
Hoke County
Richmond County
Robeson County
Sampson County
Scotland County

Area 027 24.7%

RICHMOND County
Franklin County
Granville County
Harnett County
Johnston County
Lee County
Person County
Vance County
Warren County

Area 028 15.5%

Alleghany County
Ashe County
Caswell County
Davie County
Montgomery County
RICHMOND County
Rockingham County
Surry County
Watauga County
Wilkes County

Area 029 15.7%

Alexander County
Anson County
Burke County
Cabarrus County
Caldwell County
Catawba County
Cleveland County
Iredell County
Lincoln County
Polk County
Rowan County
Rutherford County
Stanly County

Area 0480 8.5%

Buncombe County
Madison County

Area 030 6.3%

Avery County
Cherokee County
Clay County
Graham County
Haywood County
Henderson County
Jackson County
McDowell County
Macon County
Mitchell County
Swain County
Transylvania County
Yancey County

SMSA Areas

Area 5720 26.6%
Currituck County

Area 9200 20.7%
Brunswick County
New Hanover County

Area 2560 24.2%
Cumberland County

Area 6640 22.8%
Durham County
Orange County
Wake County

Area 1300 16.2%
Alamance County

Area 3120 16.4%
Davidson County
Forsyth County
Guilford County
Randolph County
Stokes County
Yadkin County

Area 1520 18.3%
Gaston County
Mecklenburg County
Union County

Goals for Female

Participation in Each Trade

(Statewide) 6.9%

STANDARD SPECIAL PROVISION**ON-THE-JOB TRAINING**

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

Z-10

Description

The North Carolina Department of Transportation will administer a custom version of the Federal On-the-Job Training (OJT) Program, commonly referred to as the Alternate OJT Program. All contractors (existing and newcomers) will be automatically placed in the Alternate Program. Standard OJT requirements typically associated with individual projects will no longer be applied at the project level. Instead, these requirements will be applicable on an annual basis for each contractor administered by the OJT Program Manager.

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

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

Minorities and Women

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

Assigning Training Goals

The Department, through the OJT Program Manager, will assign training goals for a calendar year based on the contractors' past three years' activity and the contractors' anticipated upcoming year's activity with the Department. At the beginning of each year, all contractors eligible will be contacted by the Department to determine the number of trainees that will be assigned for the upcoming calendar year. At that time the Contractor shall enter into an agreement with the Department to provide a self-imposed on-the-job training program for the calendar year. This agreement will include a specific number of annual training goals agreed to by both parties. The number of training assignments may range from 1 to 15 per contractor per calendar year. The Contractor shall sign an agreement to fulfill their annual goal for the year.\

Training Classifications

The Contractor shall provide on-the-job training aimed at developing full journeyman level workers in the construction craft/operator positions. Preference shall be given to providing training in the following skilled work classifications:

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

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

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

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

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

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

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

Records and Reports

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

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

Trainee Interviews

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

Trainee Wages

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

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

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

Achieving or Failing to Meet Training Goals

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

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

Measurement and Payment

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

STANDARD SPECIAL PROVISION
MINIMUM WAGES
GENERAL DECISION NC20200088 01/03/2020 NC88

Z-088

Date: January 3, 2020

General Decision Number: NC20200088 01/03/2020 NC88

Superseded General Decision Numbers: NC20190088

State: North Carolina

Construction Type: HIGHWAY

COUNTIES:

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

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

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.80 for calendar year 2020 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.80 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract for calendar year 2020. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR.5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2) – (60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number

0

Publication Date

01/03/2020

SUNC2014-003 11/14/2014

	Rates	Fringes
BLASTER	18.64	
CARPENTER	13.68	.05
CEMENT MASON/CONCRETE FINISHER	13.93	
ELECTRICIAN		
Electrician	18.79	2.72

	Rates	Fringes
Telecommunications Technician	15.19	1.25
IRONWORKER	13.30	
LABORER		
Asphalt Raker and Spreader	12.78	
Asphalt Screed/Jackman	14.50	
Carpenter Tender	12.51	.27
Cement Mason/Concrete Finisher Tender	11.04	
Common or General	10.40	.01
Guardrail/Fence Installer	13.22	
Pipelayer	12.43	
Traffic Signal/Lighting Installer	15.65	.24
PAINTER		
Bridge	23.77	
POWER EQUIPMENT OPERATORS		
Asphalt Broom Tractor	10.00	
Bulldozer Fine	16.13	
Bulldozer Rough	14.36	
Concrete Grinder/Groover	17.92	
Crane Boom Trucks	18.19	
Crane Other	19.83	
Crane Rough/All-Terrain	19.10	
Drill Operator Rock	14.28	
Drill Operator Structure	20.89	
Excavator Fine	16.95	
Excavator Rough	13.63	
Grader/Blade Fine	19.84	
Grader/Blade Rough	15.47	
Loader 2 Cubic Yards or Less	13.31	
Loader Greater Than 2 Cubic Yards	16.19	
Material Transfer Vehicle (Shuttle Buggy)	15.44	
Mechanic	17.51	
Milling Machine	15.22	
Off-Road Hauler/Water Tanker	11.83	
Oiler/Greaser	14.16	
Pavement Marking Equipment	12.05	
Paver Asphalt	15.97	
Paver Concrete	18.20	
Roller Asphalt Breakdown	12.79	
Roller Asphalt Finish	13.76	
Roller Other	12.08	
Scraper Finish	12.65	
Scraper Rough	11.50	
Slip Form Machine	19.60	
Tack Truck/Distributor Operator	14.82	
TRUCK DRIVER		
GVWR of 26,000 Lbs or Less	11.45	
GVWR of 26,000 Lbs or Greater	13.57	.03

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

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any

solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

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

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

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

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

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

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

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

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

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

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

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

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

AWARD LIMITS ON MULTIPLE PROJECTS

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

(Project Number)	(County)
(Project Number)	(County)
(Project Number)	(County)
(Project Number)	(County)

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

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

**Signature of Authorized Person

**Only those persons authorized to sign bids under the provisions of Article 102-8, Item 7, shall be authorized to sign this form.

ADDENDUM(S)

ADDENDUM #1

I, _____ representing _____
(SIGNATURE)

Acknowledge receipt of Addendum #1.

ADDENDUM #2

I, _____ representing _____
(SIGNATURE)

Acknowledge receipt of Addendum #2.

ADDENDUM #3

I, _____ representing _____
(SIGNATURE)

Acknowledge receipt of Addendum #3.

LISTING OF DBE SUBCONTRACTORS

Sheet of

Firm Name and Address	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item
Name Address				
Name Address				
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 DBE subcontractor, and these prices will be used to determine the percentage of the DBE participation in the contract.

** Dollar Volume of DBE Subcontractor Percentage of Total Contract Bid Price:

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

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

LISTING OF DBE SUBCONTRACTORS

Sheet of

Firm Name and Address	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item
Name Address				
Name Address				
Name Address				
Name Address				
Name Address				

**** Dollar Volume of DBE Subcontractor \$ _____**

Percentage of Total Contract Bid Price _____%

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

**** Dollar Volume of DBE 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.**

County : Chatham

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
ROADWAY ITEMS						
0001	0000100000-N	800	MOBILIZATION	Lump Sum	L.S.	
0002	0000400000-N	801	CONSTRUCTION SURVEYING	Lump Sum	L.S.	
0003	0000910000-N	SP	GENERIC MISCELLANEOUS ITEM Exploratory Excavation - Standard	60 HR		
0004	0000910000-N	SP	GENERIC MISCELLANEOUS ITEM Exploratory Excavation - Vacuum	60 HR		
0005	0000915000-N	SP	GENERIC MISCELLANEOUS ITEM Repair Existing Window Well	1 EA		
0006	0043000000-N	226	GRADING	Lump Sum	L.S.	
0007	0192000000-N	260	PROOF ROLLING	8 HR		
0008	0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZATION	3,600 SY		
0009	0245000000-E	SP	GENERIC GRADING ITEM Hauling and Disposal of Contaminated Water	1,000 GAL		
0010	0255000000-E	SP	GENERIC GRADING ITEM Hauling and Disposal of Contaminated Soil	200 TON		
0011	0318000000-E	300	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES	50 TON		
0012	0320000000-E	300	FOUNDATION CONDITIONING GEOTEXTILE	160 SY		
0013	0335200000-E	305	15" DRAINAGE PIPE	36 LF		
0014	0366000000-E	310	15" RC PIPE CULVERTS, CLASS III	68 LF		
0015	0448200000-E	310	15" RC PIPE CULVERTS, CLASS IV	356 LF		
0016	0995000000-E	340	PIPE REMOVAL	156 LF		
0017	1099500000-E	505	SHALLOW UNDERCUT	1,500 CY		

County : Chatham

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0018	1099700000-E	505	CLASS IV SUBGRADE STABILIZATION	1,700 TON		
0019	1121000000-E	520	AGGREGATE BASE COURSE	230 TON		
0020	1220000000-E	545	INCIDENTAL STONE BASE	200 TON		
0021	1297000000-E	607	MILLING ASPHALT PAVEMENT, **** DEPTH (1.5")	1,715 SY		
0022	1330000000-E	607	INCIDENTAL MILLING	400 SY		
0023	1491000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0C	2,500 TON		
0024	1503000000-E	610	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	1,110 TON		
0025	1523000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	965 TON		
0026	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	225 TON		
0027	1693000000-E	654	ASPHALT PLANT MIX, PAVEMENT REPAIR	10 TON		
0028	1890000000-N	SP	GENERIC PAVING ITEM Remove and Reset Concrete Wheel Stop	11 EA		
0029	2000000000-N	806	RIGHT-OF-WAY MARKERS	2 EA		
0030	2253000000-E	840	PIPE COLLARS	2 CY		
0031	2275000000-E	SP	FLOWABLE FILL	5 CY		
0032	2286000000-N	840	MASONRY DRAINAGE STRUCTURES	14 EA		
0033	2308000000-E	840	MASONRY DRAINAGE STRUCTURES	2 LF		
0034	2352000000-N	840	FRAME WITH GRATE, STD 840.**** (840.16)	1 EA		
0035	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)	3 EA		

County : Chatham

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0036	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)	2	EA	
0037	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)	6	EA	
0038	2396000000-N	840	FRAME WITH COVER, STD 840.54	3	EA	
0039	2535000000-E	846	***X *** CONCRETE CURB (6" X 18")	1,120	LF	
0040	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	1,335	LF	
0041	2591000000-E	848	4" CONCRETE SIDEWALK	415	SY	
0042	2605000000-N	848	CONCRETE CURB RAMPS	24	EA	
0043	2612000000-E	848	6" CONCRETE DRIVEWAY	315	SY	
0044	2655000000-E	852	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)	25	SY	
0045	2738000000-E	SP	GENERIC PAVING ITEM (8") Monolithic Concrete Median (Keyed-In)	105	SY	
0046	2738000000-E	SP	GENERIC PAVING ITEM Brick Paver Sidewalk	805	SY	
0047	2738000000-E	SP	GENERIC PAVING ITEM Brick Vehicular Unit Pavers	785	SY	
0048	2738000000-E	SP	GENERIC PAVING ITEM Capital City Grid (High Early Strength)	190	SY	
0049	2738000000-E	SP	GENERIC PAVING ITEM Decorative Crosswalk Pavement Marking	256	SY	
0050	2830000000-N	858	ADJUSTMENT OF MANHOLES	8	EA	
0051	2845000000-N	858	ADJUSTMENT OF METER BOXES OR VALVE BOXES	10	EA	

County : Chatham

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0052	2860000000-N	859	CONVERT EXISTING CATCH BASIN TO JUNCTION BOX	2	EA	
0053	3575000000-E	SP	GENERIC FENCING ITEM Ramp Handrail	64	LF	
0054	3575000000-E	SP	GENERIC FENCING ITEM Safety Rail	58	LF	
0055	3575000000-E	SP	GENERIC FENCING ITEM Stair Handrail	12	LF	
0056	4025000000-E	901	CONTRACTOR FURNISHED, TYPE *** SIGN (E)	59	SF	
0057	4072000000-E	903	SUPPORTS, 3-LB STEEL U-CHANNEL	555	LF	
0058	4102000000-N	904	SIGN ERECTION, TYPE E	16	EA	
0059	4116100000-N	904	SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (E)	12	EA	
0060	4116100000-N	904	SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (F)	12	EA	
0061	4155000000-N	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	6	EA	
0062	4192000000-N	907	DISPOSAL OF SUPPORT, U-CHANNEL	22	EA	
0063	4238000000-N	907	DISPOSAL OF SIGN, D, E OR F	3	EA	
0064	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	740	SF	
0065	4405000000-E	1110	WORK ZONE SIGNS (PORTABLE)	96	SF	
0066	4410000000-E	1110	WORK ZONE SIGNS (BARRICADE MOUNTED)	400	SF	
0067	4415000000-N	1115	FLASHING ARROW BOARD	2	EA	
0068	4420000000-N	1120	PORTABLE CHANGEABLE MESSAGE SIGN	6	EA	

County : Chatham

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0069	4430000000-N	1130	DRUMS	20	EA	
0070	4435000000-N	1135	CONES	40	EA	
0071	4445000000-E	1145	BARRICADES (TYPE III)	160	LF	
0072	4447000000-E	SP	PEDESTRIAN CHANNELIZING DEVICES	64	LF	
0073	4455000000-N	1150	FLAGGER	120	DAY	
0074	4516000000-N	1180	SKINNY DRUM	20	EA	
0075	4600000000-N	SP	GENERIC TRAFFIC CONTROL ITEM Audible Warning Devices	8	EA	
0076	4600000000-N	SP	GENERIC TRAFFIC CONTROL ITEM Temporary Curb Ramp	10	EA	
0077	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	2,720	LF	
0078	4695000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)	280	LF	
0079	4702000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (12", 120 MILS)	80	LF	
0080	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	36	EA	
0081	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	3,710	LF	
0082	4820000000-E	1205	PAINT PAVEMENT MARKING LINES (8")	680	LF	
0083	4835000000-E	1205	PAINT PAVEMENT MARKING LINES (24")	32	LF	
0084	4850000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (4")	520	LF	
0085	4905000000-N	1253	SNOWPLOWABLE PAVEMENT MARKERS	30	EA	
0086	5265000000-E	SP	GENERIC LIGHTING ITEM Electical Duct, Type BD (2")	320	LF	

County : Chatham

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0087	5265000000-E	SP	GENERIC LIGHTING ITEM Electical Duct, Type JA (2")	21 LF		
0088	5325600000-E	1510	6" WATER LINE	40 LF		
0089	5326200000-E	1510	12" WATER LINE	700 LF		
0090	5329000000-E	1510	DUCTILE IRON WATER PIPE FITTINGS	1,000 LB		
0091	5536000000-E	1515	2" VALVE	1 EA		
0092	5540000000-E	1515	6" VALVE	1 EA		
0093	5558000000-E	1515	12" VALVE	1 EA		
0094	5572200000-E	1515	12" TAPPING SLEEVE & VALVE	2 EA		
0095	5606000000-E	1515	2" BLOW OFF	1 EA		
0096	5648000000-N	1515	RELOCATE WATER METER	9 EA		
0097	5649000000-N	1515	RECONNECT WATER METER	10 EA		
0098	5653100000-E	1515	RELOCATE *** DCV BACKFLOW PRE- VENTION ASSEMBLY (0.75")	1 EA		
0099	5666000000-N	1515	FIRE HYDRANT	1 EA		
0100	5673000000-E	1515	FIRE HYDRANT LEG	40 LF		
0101	5686000000-E	1515	*** WATER SERVICE LINE (2")	25 LF		
0102	5686500000-E	1515	WATER SERVICE LINE	600 LF		
0103	5691300000-E	1520	8" SANITARY GRAVITY SEWER	40 LF		
0104	5815500000-N	1530	REMOVE FIRE HYDRANT	1 EA		
0105	5882000000-N	SP	GENERIC UTILITY ITEM (6") Insertion Valve	1 EA		

County : Chatham

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0106	5882000000-N	SP	GENERIC UTILITY ITEM Adjust Cleanout	10 EA		
0107	5912000000-N	SP	GENERIC UTILITY ITEM Maintenance of Sanitary Sewer Flows Plan	Lump Sum	L.S.	
0108	5912000000-N	SP	GENERIC UTILITY ITEM Temporary Maintenance of Sanitary Sewer	Lump Sum	L.S.	
0109	5912000000-N	SP	GENERIC UTILITY ITEM Water Service Interruption & Installation	Lump Sum	L.S.	
0110	6000000000-E	1605	TEMPORARY SILT FENCE	1,000 LF		
0111	6012000000-E	1610	SEDIMENT CONTROL STONE	50 TON		
0112	6018000000-E	1620	SEED FOR TEMPORARY SEEDING	100 LB		
0113	6021000000-E	1620	FERTILIZER FOR TEMPORARY SEEDING	0.25 TON		
0114	6029000000-E	SP	SAFETY FENCE	300 LF		
0115	6036000000-E	1631	MATTING FOR EROSION CONTROL	400 SY		
0116	6042000000-E	1632	1/4" HARDWARE CLOTH	450 LF		
0117	6084000000-E	1660	SEEDING & MULCHING	1 ACR		
0118	6090000000-E	1661	SEED FOR REPAIR SEEDING	50 LB		
0119	6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	0.25 TON		
0120	6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	25 LB		
0121	6108000000-E	1665	FERTILIZER TOPDRESSING	0.2 TON		
0122	6114500000-N	1667	SPECIALIZED HAND MOWING	8 MHR		
0123	6132000000-N	SP	GENERIC EROSION CONTROL ITEM Tree Protection Battens	4 EA		

County : Chatham

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0124	6138000000-E	SP	GENERIC EROSION CONTROL ITEM Landscape Topsoil	325 CY		
0125	6138000000-E	SP	GENERIC EROSION CONTROL ITEM Soil Amendments	110 CY		
0126	6147000000-E	SP	GENERIC EROSION CONTROL ITEM Root Pruning	50 LF		
0127	6640000000-N	1670	GENERIC PLANTING ITEM Euonymus fortunei	160 EA		
0128	6640000000-N	1670	GENERIC PLANTING ITEM Hemerocallis x 'Stella de Oro'	115 EA		
0129	6640000000-N	1670	GENERIC PLANTING ITEM Liriope Muscari, Big Blue Liri ope	1,116 EA		
0130	6640000000-N	1670	GENERIC PLANTING ITEM Pennisetum alopecuroides 'Hame ln'	292 EA		
0131	6650000000-E	1670	MULCH FOR PLANTING	50 CY		
0132	6655000000-E	1670	WATER FOR PLANTING	200 M/G		
0133	6676000000-E	SP	GENERIC PLANTING ITEM Sodding	500 SF		
0134	8832000000-N	SP	GENERIC RETAINING WALL ITEM Wall at Beggars and Choosers A ntiques	Lump Sum	L.S.	
0135	8832000000-N	SP	GENERIC RETAINING WALL ITEM Wall, Steps, and Ramp at Antiq ue Shop	Lump Sum	L.S.	
0136	8847000000-E	SP	GENERIC RETAINING WALL ITEM Wall at US 15-501 Sanford Rd	150 SF		

EXECUTION OF BID

NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION

CORPORATION

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

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

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

SIGNATURE OF PREQUALIFIED BIDDER

Full name of 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

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

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

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

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

SIGNATURE OF PREQUALIFIED BIDDER

Full Name of
Partnership

Address as
Prequalified

Signature of Witness

Signature of Partner

Print or Type Signer's Name

Print or Type Signer's Name

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

LIMITED LIABILITY COMPANY

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

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

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

SIGNATURE OF PREQUALIFIED BIDDER

Full Name of Firm

Address as Prequalified

Signature of Witness

Signature of Member/Manager/Authorized Agent
(Select appropriate Title)

Print or Type Signer's Name

Print or Type Signer's Name

NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION

JOINT VENTURE (2) or (3)

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

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

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

SIGNATURE OF PREQUALIFIED BIDDER

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

(1) _____
Name of Joint Venture

(2) _____
Name of Contractor

Address as Prequalified

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

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

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

INDIVIDUAL DOING BUSINESS UNDER A FIRM NAME

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

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

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

SIGNATURE OF PREQUALIFIED BIDDER

Name of Prequalified Bidder

Individual Name

Trading and Doing Business As

Full name of Firm

Address as Prequalified

Signature of Witness

Signature of Prequalified Bidder, Individual

Print or Type Signer's Name

Print or Type Signer's Name

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

INDIVIDUAL DOING BUSINESS IN HIS OWN NAME

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

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

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

SIGNATURE OF PREQUALIFIED BIDDER

Name of Prequalified Bidder

Print or Type Name

Address as Prequalified

Signature of Prequalified Bidder, Individually

Print or type Signer's Name

Signature of Witness

Print or type Signer's name

DEBARMENT CERTIFICATION OF PREQUALIFIED BIDDER

Conditions for certification:

1. The prequalified bidder shall provide immediate written notice to the Department if at any time the bidder learns that his certification was erroneous when he submitted his debarment certification or explanation that is file with the Department, or has become erroneous because of changed circumstances.
2. The terms *covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded*, as used in this provision, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. A copy of the Federal Rules requiring this certification and detailing the definitions and coverages may be obtained from the Contract Officer of the Department.
3. The prequalified bidder agrees by submitting this form, that he will not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in NCDOT contracts, unless authorized by the Department.
4. For Federal Aid projects, the prequalified bidder further agrees that by submitting this form he will include the Federal-Aid Provision titled *Required Contract Provisions Federal-Aid Construction Contract (Form FHWA PR 1273)* provided by the Department, without subsequent modification, in all lower tier covered transactions.
5. The prequalified bidder may rely upon a certification of a participant in a lower tier covered transaction that he is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless he knows that the certification is erroneous. The bidder may decide the method and frequency by which he will determine the eligibility of his subcontractors.
6. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this provision. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
7. Except as authorized in paragraph 6 herein, the Department may terminate any contract if the bidder knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available by the Federal Government.

DEBARMENT CERTIFICATION

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

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records; making false statements; or receiving stolen property;
- c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph b. of this certification; and
- d. Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- e. Will submit a revised Debarment Certification immediately if his status changes and will show in his bid proposal an explanation for the change in status.

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

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

Check here if an explanation is attached to this certification.

Execution of Contract

Contract No: DH00315

County: CHATHAM

ACCEPTED BY THE DEPARTMENT

Proposals Engineer

Date