

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION 7

PROPOSAL

DATE AND TIME OF BID OPENING: APRIL 7, 2022, AT 2:00 PM

CONTRACT ID: D7POC387

WBS ELEMENT NO.: 7.1041SM, 7.2041SM, 7.1079SM, 7.2079SM

COUNTY: GUILFORD AND ROCKINGHAM COUNTIES

TYPE OF WORK: TRAFFIC SIGNAL INSTALLATION, UPGRADE & REPAIRS

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 SIGNAL PROJECT.

BID BONDS ARE NOT REQUIRED.

NAME OF BIDDER

ADDRESS OF BIDDER

**PROPOSAL FOR THE CONSTRUCTION OF
CONTRACT No. D7POC387 IN GUILFORD AND ROCKINGHAM COUNTIES, NORTH CAROLINA**

Date _____ 20 _____

**DEPARTMENT OF TRANSPORTATION,
RALEIGH, NORTH CAROLINA**

The Bidder has carefully examined the location of the proposed work to be known as Contract No. **D7POC387**; has carefully examined the plans and specifications, which are acknowledged to be part of the proposal, the special provisions, the proposal, the form of contract, and the forms of contract payment bond and contract performance bond; and thoroughly understands the stipulations, requirements and provisions. The undersigned bidder agrees to bound upon his execution of the bid and subsequent award to him by the Department of Transportation in accordance with this proposal to provide the necessary contract payment bond and contract performance bond within fourteen days after the written notice of award is received by him. The undersigned Bidder further agrees to provide all necessary machinery, tools, labor, and other means of construction; and to do all the work and to furnish all materials, except as otherwise noted, necessary to perform and complete the said contract in accordance with *the 2018 Standard Specifications for Roads and Structures* by the dates(s) specified in the Project Special Provisions and in accordance with the requirements of the Engineer, and at the unit or lump sum prices, as the case may be, for the various items given on the sheets contained herein.

The Bidder shall provide and furnish all the materials, machinery, implements, appliances and tools, and perform the work and required labor to construct and complete State Highway Contract No. **D7POC387** in **Guilford and Rockingham Counties**, for the unit or lump sum prices, as the case may be, bid by the Bidder in his bid and according to the proposal, plans, and specifications prepared by said Department, which proposal, plans, and specifications show the details covering this project, and hereby become a part of this contract.

The published volume entitled *North Carolina Department of Transportation, Raleigh, Standard Specifications for Roads and Structures, January 2018* 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.

TABLE OF CONTENTS

INSTRUCTIONS TO BIDDERS	5
PROJECT SPECIAL PROVISIONS – GENERAL.....	6
GENERAL.....	6
DIVISION LET CONTRACT PREQUALIFICATION:	6
BONDING REQUIREMENTS FOR ID/IQ:.....	6
CONTRACT TIME FOR ID/IQ:.....	7
INTERMEDIATE CONTRACT TIME NUMBER 1 AND LIQUIDATED DAMAGES:	8
INTERMEDIATE CONTRACT TIME NUMBER 2 AND LIQUIDATED DAMAGES	9
INTERMEDIATE CONTRACT TIME NUMBER 3 AND LIQUIDATED DAMAGES	9
PROSECUTION OF WORK:	10
NO MAJOR CONTRACT ITEMS:	10
NO SPECIALTY ITEMS:.....	10
FUEL PRICE ADJUSTMENT PAPER BID:	10
FUEL FACTOR FORM	12
MINORITY BUSINESS ENTERPRISE AND WOMEN BUSINESS ENTERPRISE (DIVISIONS):.....	13
CONTRACTOR'S LICENSE REQUIREMENTS:.....	28
RESTRICTIONS ON ITS EQUIPMENT AND SERVICES:.....	29
USE OF UNMANNED AIRCRAFT SYSTEM (UAS):	29
EQUIPMENT IDLING GUIDELINES:.....	29
OUTSOURCING OUTSIDE THE USA:.....	30
AUTHORITY OF THE ENGINEER	30
TECHNICIAN REQUIREMENTS	31
REVISIONS TO THE 2018 STANDARD SPECIFICATION FOR ROADS & STRUCTURES.....	31
PROJECT SPECIAL PROVISIONS – ID/IQ	32
NON-EXCLUSIVE CONTRACT:.....	32
WORK ORDER ASSIGNMENT (MULTIPLE AWARDS) FOR ID/IQ:.....	32
MOBILIZATION AND LIQUIDATED DAMAGES FOR ID/IQ:	33
RENEWAL OF CONTRACT (CPI PRICE ADJUSTMENT) FOR ID/IQ:	33
DISPUTE RESOLUTION PROCESS FOR ID/IQ:	34
MULTI-YEAR MAINTENANCE CONTRACTS (ID/IQ):	35
PROJECT SPECIAL PROVISIONS - TRAFFIC SIGNAL CONSTRUCTION	35
GENERAL.....	35
OBTAINING, STORING AND STOCKPILING MATERIALS	36
DEPARTMENT FURNISHED MATERIAL AND EQUIPMENT	37
WOOD POST	39
SIGNAL CABINET FOUNDATION	39
SIGNAL HEADS	39
SIGNS FOR SIGNALS	40
MICROWAVE AND RADAR VEHICLE DETECTION UNITS	40
VIDEO IMAGING LOOP DETECTOR SYSTEM.....	40
WIRELESS MAGNETIC SENSOR VEHICLE DETECTION SYSTEM	41

BEACON CONTROLLER CABINET	43
SIGNAL CABINET	43
PROJECT SPECIAL PROVISIONS - CONTRACTOR FURNISHED ITEMS.....	45
RELOCATE EXISTING VEHICLE SIGNAL HEADS	45
CONDUIT REPAIR AND CABLE REPLACEMENT	46
ADJUST SPAN & GUY WIRE	48
SPAN AND CABLE TRANSFER TO NEW POLE.....	48
REMOVAL OF EXISTING TRAFFIC SIGNAL ITEMS	49
EMERGENCY MOBILIZATION	53
PROJECT SPECIAL PROVISIONS SIGNALS AND INTELLIGENT TRANSPORTATION SYSTEMS – (Version 18.6).....	54
METAL POLE SUPPORTS.....	54
PROTECTIVE COATING FOR METAL POLES	67
PROJECT SPECIAL PROVISIONS - ROADWAY.....	75
BURNING RESTRICTIONS:.....	75
SUPPLEMENTAL SURVEYING:	75
MATERIAL AND EQUIPMENT STORAGE & PARKING OF PERSONAL VEHICLES:	75
WORK ZONE INSTALLER:.....	76
STANDARD SPECIAL PROVISIONS	77
AVAILABILITY OF FUNDS – TERMINATION OF CONTRACTS	77
ERRATA	77
PLANT AND PEST QUARANTINES	78
MINIMUM WAGES	79
TITLE VI AND NONDISCRIMINATION:	80
ON-THE-JOB TRAINING.....	88
PROJECT SPECIAL PROVISIONS – WORK ZONE TRAFFIC CONTROL	TC - 1
LISTING OF MBE/WBE SUBCONTRACTORS.....	S - 1
ADDENDA.....	S - 3
ITEMIZED PROPOSAL FOR CONTRACT D7POC387.....	T - 1
EXECUTION OF BID.....	U - 1
DEBARMENT CERTIFICATION OF PREQUALIFIED BIDDER.....	U - 7
EXECUTION OF CONTRACT	U - 9

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

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

TRADITIONAL PAPER BIDS:

1. Download the entire proposal from the Connect NCDOT website and return the entire proposal with your bid.
2. All entries on the itemized proposal sheet (bid form) shall be written in ink or typed.
3. The Bidder shall submit a unit price for every item on the itemized proposal sheet. The unit prices for the various contract items shall be written in figures. Unit prices shall be rounded off by the Bidder to contain no more than TWO decimal places.
4. An amount bid shall be entered on the itemized proposal sheet for every item. The amount bid for each item shall be determined by multiplying each unit bid by the quantity for that item, and shall be written in figures in the "Amount" column of the form.
5. The total amount bid shall be written in figures in the proper place on the bid form. The total amount bid shall be determined by adding the amounts bid for each item.
6. Changes to any entry shall be made by marking through the entry in ink and making the correct entry adjacent thereto in ink. A representative of the Bidder shall initial the change in ink. Do not use correction fluid, correction tape or similar product to make corrections.
7. The bid shall be properly executed on the included **Execution of Bid – Non-collusion, Debarment and Gift Ban Certification** form. All bids shall show the following information:
 - a. Name of corporation, partnership, Limited Liability Company, joint venture, individual or firm, submitting bid.
Corporations that have a corporate seal should include it on the bid.
 - b. Name of individual or representative submitting bid and position or title held on behalf of the bidder.
 - c. Name, signature, and position or title of witness.
8. The bid shall not contain any unauthorized additions, deletions, or conditional bids.
9. The Bidder shall not add any provision reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.
10. **THE PROPOSAL WITH THE ITEMIZED PROPOSAL SHEET ATTACHED SHALL BE PLACED IN A SEALED ENVELOPE AND SHALL BE DELIVERED TO AND RECEIVED IN THE NCDOT DIVISION OFFICE, LOCATED AT 1584 Yanceyville Street, BY 2:00 P.M. ON, APRIL 7, 2022.**
11. The sealed bid must display the following statement on the front of the sealed envelope:

**QUOTATION FOR – D7POC387 TO BE OPENED AT 2:00 P.M. ON,
APRIL 7, 2022**

**Contractor's Name: _____
(Printed or Typed)**

12. If delivered by mail, the sealed envelope shall be placed in another sealed envelope and the outer envelope shall be addressed as follows:

**N. C. DEPARTMENT OF TRANSPORTATION
ATTN: Jennifer A. Sour
1584 Yanceyville Street
Greensboro, NC 27405**

PROJECT SPECIAL PROVISIONS – GENERAL**GENERAL**

This contract is for Traffic Signal installation, upgrades and repairs in Guilford, and Rockingham Counties. The contractor shall provide all equipment, labor and material. All work and materials shall be in accordance with the provisions of the General Guidelines of this contract, the Project Special Provisions, the North Carolina Department of Transportation *2018 Standard Specifications for Roads and Structures*, the North Carolina Department of Transportation Roadway Standards Drawings, and the current edition of the Manual of Uniform Traffic Control Devices (MUTCD).

The published volume entitled North Carolina Department of Transportation, Raleigh, *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 the 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.

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.

DIVISION LET CONTRACT PREQUALIFICATION:

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

SPD 01-410

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

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

BONDING REQUIREMENTS FOR ID/IQ:

(2-15-22)

SPD 01-810

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

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

Project: An undertaking issued to a contractor through a Work Order Assignment. The construction under a Project Agreement may be accomplished by one or more work order

assignments, from one or more ID/IQ contracts. Note that for ID/IQ contracts this definition supersedes the definition in the *Standard Specifications*.

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

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

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

CONTRACT TIME FOR ID/IQ:

(2-15-22)

108

SP1 G11

The date of availability for this contract is **May 9, 2022**.

The completion date for this contract is **May 8, 2023**.

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

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

Any liquidated damages for this contract will be assessed per the Mobilization and Liquidated Damages provision located elsewhere in this Contract.

INTERMEDIATE CONTRACT TIME NUMBER 1 AND LIQUIDATED DAMAGES:

(2-20-07 (Rev. Div 7, 7-19-2018))

108

SP1 G14 A

A lane Closure is required for any work that is performed within 5ft from the edge of the travel lane, including any equipment that is required for use to complete the work.

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 **any road** during the following time restrictions:

DAY AND TIME RESTRICTIONS

**Monday thru Friday from 6:00 a.m. to 8:30 a.m.
and
4:30 p.m. to 6:00 p.m.**

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

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

HOLIDAY AND HOLIDAY WEEKEND LANE CLOSURE RESTRICTIONS

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

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

8. For **Christmas**, between the hours of **6:00 a.m.** the Friday before the week of Christmas Day and **6:00 p.m.** the following Tuesday after the week of Christmas Day.

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

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

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

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

The Contractor shall schedule his work so that lane closures are not required during these periods, unless otherwise directed by the Engineer.

The Contractor's operations are restricted to daylight hours. Work shall only be performed when weather and visibility conditions allow safe operations.

INTERMEDIATE CONTRACT TIME NUMBER 2 AND LIQUIDATED DAMAGES

Div 7 (7-17-2018)

For intersections that do **not** require any metal poles, the Contractor shall begin work within ten (10) calendar days of the date of notification of available work at a given intersection.

Liquidated damages are **Five Hundred Dollars (\$500.00)** per calendar day for each and every calendar day that work has not begun after the allotted ten (10 days).

The Contractor shall complete the work within thirty (30) calendar days of the date of notification.

Liquidated damages are **Five Hundred Dollars (\$500.00)** per calendar day for each and every calendar day after 30, beginning on the 31st day, that all work is not completed.

INTERMEDIATE CONTRACT TIME NUMBER 3 AND LIQUIDATED DAMAGES

Div 7 (7-17-2018)

For intersections that require metal poles, Contractor shall begin work within ten (10) calendar days of the date of notification of available work at a given intersection.

Liquidated damages are **Five Hundred Dollars (\$500.00)** per calendar day for each and every calendar day that work has not begun after the allotted ten (10 days).

The Contractor shall complete the work within one hundred (120) calendar days of the date of notification.

Liquidated damages are **Five Hundred Dollars (\$500.00)** per calendar day for each and every calendar day after 120, beginning on the 121st day, that all work is not completed.

PROSECUTION OF WORK:

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

108

SP1 G15R

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

In the event that the Contractor's operations are suspended in violation of the above provisions, the sum of **Five Hundred Dollars (\$ 500.00)** will be charged the Contractor for each and every calendar day that such suspension takes place. The said amount is hereby agreed upon as liquidated damages due to extra engineering and maintenance costs and due to increased public hazard resulting from a suspension of the work. Liquidated damages chargeable due to suspension of the work will be additional to any liquidated damages that may become chargeable due to failure to complete the work on time.

NO MAJOR CONTRACT ITEMS:

(2-19-02) (Rev. 8-21-07)

104

SP1 G31

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

NO SPECIALTY ITEMS:

(7-1-95)

108-6

SP1 G34

None of the items included in this contract will be specialty items (see Article 108-6 of the *2018 Standard Specifications*).

FUEL PRICE ADJUSTMENT PAPER BID:

(11-15-05) (Rev. 7-20-21)

109-8

SP1 G44

Revise the *2018 Standard Specifications* as follows:

Page 1-87, Article 109-8, Fuel Price Adjustments, add the following:

The base index price for DIESEL #2 FUEL is **\$ 3.0794** 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	0.90 or 2.90
Asphalt Concrete Intermediate Course, Type _____	Gal/Ton	0.90 or 2.90
Asphalt Concrete Surface Course, Type _____	Gal/Ton	0.90 or 2.90
Open-Graded Asphalt Friction Course	Gal/Ton	0.90 or 2.90
Permeable Asphalt Drainage Course, Type _____	Gal/Ton	0.90 or 2.90
Sand Asphalt Surface Course, Type _____	Gal/Ton	0.90 or 2.90
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

For the asphalt items noted in the chart as eligible for fuel adjustments, the bidder may include the *Fuel Usage Factor Adjustment Form for Paper Bid* with their bid submission if they elect to use the fuel usage factor. The *Fuel Usage Factor Adjustment Form for Paper Bid* is included toward the end of this paper bid document when asphalt items noted in the chart as eligible for fuel adjustments are part of the project.

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

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

Fuel Usage Factor Adjustment Form for Paper Bid

Contract Number	
County	
Contractor Name	
HiCAMS Vendor Number	

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

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

Description	Unit	Selected Fuel Usage Factor	
		0.90	2.90
Asphalt Concrete Base Course, Type B25.0C	Gal/Ton		
Asphalt Concrete Intermediate Course, Type I19.0C	Gal/Ton		
Asphalt Concrete Surface Course, Type SA-1	Gal/Ton		
Asphalt Concrete Surface Course, Type SA-1 (Leveling Course)	Gal/Ton		
Asphalt Concrete Surface Course, Type S4.75	Gal/Ton		
Asphalt Concrete Surface Course, Type S4.75 (Leveling Course)	Gal/Ton		
Asphalt Concrete Surface Course, Type S9.5B	Gal/Ton		
Asphalt Concrete Surface Course, Type S9.5B (Leveling Course)	Gal/Ton		
Asphalt Concrete Surface Course, Type S9.5C	Gal/Ton		
Asphalt Concrete Surface Course, Type S9.5C (Leveling Course)	Gal/Ton		
Asphalt Concrete Surface Course, Type S9.5D	Gal/Ton		
Asphalt Concrete Surface Course, Type S9.5D (Leveling Course)	Gal/Ton		
Open-Graded Asphalt Friction Course	Gal/Ton		
Permeable Asphalt Drainage Course, Type _____	Gal/Ton		
Sand Asphalt Surface Course, Type _____	Gal/Ton		

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

Signature, Title

Dated

Print Name, Title

MINORITY BUSINESS ENTERPRISE AND WOMEN BUSINESS ENTERPRISE**(DIVISIONS):**

(10-16-07)(Rev. 8-17-21)

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 **0.0 %**

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

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

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

(B) Women Business Enterprises **0.0 %**

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

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

Directory of Transportation Firms (Directory)

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

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

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

Listing of MBE/WBE Subcontractors

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

(A) Electronic Bids

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

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

(B) Paper Bids

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

MBE or WBE Prime Contractor

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

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

Written Documentation – Letter of Intent

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

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

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

Banking MBE/WBE Credit

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

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

Submission of Good Faith Effort

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

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

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

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

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

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

- (A) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising, written notices, use of verifiable electronic means through the use of the NCDOT Directory of Transportation Firms) the interest of all certified MBEs/WBEs that are also prequalified subcontractors. The bidder must solicit this interest within at least 10 days prior to bid opening to allow the MBEs/WBEs to respond to the solicitation. Solicitation shall provide the opportunity to MBEs/WBEs within the Division and surrounding Divisions where the project is located. The bidder must determine with certainty if the MBEs/WBEs are interested by taking appropriate steps to follow up initial solicitations.
- (B) Selecting portions of the work to be performed by MBEs/WBEs in order to increase the likelihood that the Combined MBE/WBE goal will be achieved.
 - (1) Where appropriate, break out contract work items into economically feasible units to facilitate MBE/WBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.
 - (2) Negotiate with subcontractors to assume part of the responsibility to meet the advertised goal when the work to be sublet includes potential for MBE/WBE participation (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).
- (3) Exception: If the MBE/WBE's ineligibility is caused solely by its having exceeded the size standard during the performance of the contract, 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 and overall goal.

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).

RESTRICTIONS ON ITS EQUIPMENT AND SERVICES:

(11-17-20)

SP01 G090

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

USE OF UNMANNED AIRCRAFT SYSTEM (UAS):

(8-20-19)

SP1 G092

The Contractor shall adhere to all Federal, State and Local regulations and guidelines for the use of Unmanned Aircraft Systems (UAS). This includes but is not limited to US 14 CFR Part 107 *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.

EQUIPMENT IDLING GUIDELINES:

(1-19-21)

107

SP1 G096

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

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

1. Idling when queuing.
2. Idling to verify the vehicle is in safe operating condition.
3. Idling for testing, servicing, repairing or diagnostic purposes.
4. Idling necessary to accomplish work for which the vehicle was designed (such as operating a crane, mixing concrete, etc.).
5. Idling required to bring the machine system to operating temperature.

6. Emergency vehicles, utility company, construction, and maintenance vehicles where the engines must run to perform needed work.
7. Idling to ensure safe operation of the vehicle.
8. Idling when the propulsion engine is providing auxiliary power for other than heating or air conditioning. (such as hydraulic systems for pavers)
9. When specific traffic, safety, or emergency situations arise.
10. If the ambient temperature is less than 32 degrees Fahrenheit. Limited idling to provide for the safety of vehicle occupants (e.g. to run the heater).
11. If the ambient temperature is greater than 90 degrees Fahrenheit. Limited idling to provide for the safety of vehicle occupants of off-highway equipment (e.g. to run the air conditioning) no more than 30 minutes.
12. Diesel powered vehicles may idle for up to 30 minutes to minimize restart problems.

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

OUTSOURCING OUTSIDE THE USA:

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

SP1 G150

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

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

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

AUTHORITY OF THE ENGINEER

Div 7 (7-17-2018)

The Engineer for this project shall be the Division Traffic Engineer, Division Seven, Division of Highways, North Carolina Department of Transportation, the Traffic Signal Supervisor will be acting as 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.

The presence of the engineer or signal technician at the work site shall in no way lessen the contractor's responsibility for conformity with the provisions of this contract

TECHNICIAN REQUIREMENTS

Div 7 (7-17-2018)

IMSA Traffic Signal Field Level II Certification indicates the holder has a well-rounded background in traffic signal technology from coursework and experience. The Level II Field certification indicates the technician has additional training on traffic signal control system troubleshooting, on-site repairs, and maintenance methods and equipment. Areas of training include worksite safety, maintenance of traffic, traffic signal system equipment standards and operation, installation inspection, troubleshooting, equipment repair, replacement and programming, test equipment, signal phasing and timing, detection, system communications, preventive maintenance, and documentation. The certification holder is prepared to make a substantial contribution in the maintenance and repair of signalized intersections, whether employed by a private firm or a public agency. The certification holder must have at least 2 years minimum experience and Work Zone Traffic Control Certification.

Ensure that an active IMSA certified, “Traffic Signal Field Technician Level II” technician is standing by to provide emergency maintenance services whenever work is being performed on traffic signal controller cabinets and traffic signal controller cabinet foundations.

Prior to starting work, the contractor shall submit a copy of their IMSA Certification or equivalent, Work Zone Traffic Control Certification to the Signal Supervisor to ensure that qualifications are valid and up to date.

The IMSA Level II certified technician shall review and sign each inspection report prior to submitting invoice for payment.

Stand by status is defined as being able to arrive, fully equipped, at the work site within a timely manner ready to provide maintenance services.

REVISIONS TO THE 2018 STANDARD SPECIFICATION FOR ROADS & STRUCTURES**1. 2018 Standard Specifications for Roads & Structures**

The 2018 Standard Specifications are revised as follows:

1.1. GENERAL REQUIREMENTS – Construction Methods (1700-3(K))

Page 17-4, revise sentence starting on line 14 to read “Modify existing electrical services, as necessary, to meet the grounding requirements of the NEC, these *Standard Specifications*, *Standard Drawings*, and the project plans.”

Page 17-4, revise sentence beginning on line 21 to read “Furnish and install additional ground rods to grounding electrode system as necessary to meet the *Standard Specifications*, *Standard Drawings*, and test requirements.”

GENERAL REQUIREMENTS – Construction Methods (1700-3(M))

Page 17-4, Replace the sentence beginning on line 41 with “Prior to placing signal in the steady (stop-and-go) mode, the signal should be placed in the flashing mode for up to 7 days or as directed by the Engineer. The signal should not be placed in the steady (stop-and-go) mode on a Saturday or Sunday without prior approval from the Engineer. Do not place the signal in steady (stop-and-go) mode until inspected and without the prior approval of the Engineer.”

1.2.WOOD POLES – Construction Methods (1720-3)

Page 17-18, revise sentence starting on line 13 to read “On new Department-owned poles, install a grounding system consisting of #6 AWG solid bare copper wire that is mechanically crimped using an irreversible compression tool with die to a single ground rod installed at base of pole or to the electrical service grounding electrode system located within 10 feet of the pole.”

PROJECT SPECIAL PROVISIONS – ID/IQ**NON-EXCLUSIVE CONTRACT:**

(6-1-15)

SPD 01-750

The Department may, as it deems to be in the best interest of the state and the Department of Transportation, execute more than one contract based on this proposal. The Contractor(s) understands and agrees, by signature on the Purchase Order Contract Bid Proposal, that this agreement **does not** constitute an exclusive contract. If awarded, the contracts will be executed with the lowest responsible bidders. The Department of Transportation reserves the right to make multiple awards for the services provided by this contract. Furthermore, the Department reserves the right to reject all bids received.

WORK ORDER ASSIGNMENT (MULTIPLE AWARDS) FOR ID/IQ:

(2-15-22)

SPD 01-800B

Work orders will be assigned via the Work Order Assignment form based on the lowest work order cost for the line items and estimated quantities necessary to complete the work order. Unit prices from each awarded contractor’s bid will be used to determine the lowest cost for each work order. If the contractor with the lowest work order cost cannot begin the project within the time specified in the Work Order Assignment, the Engineer may contact the contractor with the next lowest work order cost. If that contractor can begin the work within the time specified in the Work Order Assignment, then the work order will be assigned to that contractor. If not, assignment of work orders will continue in order of work order cost until all awarded contractors have had a chance to accept the terms of the Work Order Assignment.

The contractor shall respond via the Work Order Assignment form request within three working days of notification unless noted otherwise. Failure on the part of the contractor to reply within the specified time frame will be received as a rejection of the work order.

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

MOBILIZATION AND LIQUIDATED DAMAGES FOR ID/IQ:

(2-15-22)

SPD 01-820

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

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

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

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

EMERGENCY MOBILIZATION FOR ID/IQ:

(2-15-22)

SPD 01-830

The Contractor shall arrive on site within 4 hours of notification. Compensation will be in addition to the specific line items in the contract. *Emergency Mobilization* will be paid for at the contract unit price per each. Failure to respond within the time frame will result in nonpayment of this item.

Payment will be made under:

Pay Item	Pay Unit
Emergency Mobilization	Each

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

(2-15-22)

SPD 01-840

The Contractor shall submit a bid for one year. At the option of the Department, this contract may be extended for 2 (two) additional periods of one year each (maximum (3) three years total). Each year shall have a limit of **Five Million Dollars (\$5,000,000.00)**.

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

The CPI will be determined from a 12-month period. Example below:

<u>Year</u>	<u>J</u>	<u>F</u>	<u>M</u>	<u>A</u>	<u>M</u>	<u>J</u>	<u>J</u>	<u>A</u>	<u>S</u>	<u>O</u>	<u>N</u>	<u>D</u>
<u>2019</u>	<u>251.7</u>	<u>252.8</u>	<u>254.2</u>	<u>255.5</u>	<u>256.1</u>	<u>256.1</u>	<u>256.6</u>	<u>256.6</u>	<u>256.8</u>	<u>257.3</u>	<u>257.2</u>	<u>257.0</u>
<u>2020</u>	<u>258.0</u>	<u>258.7</u>	<u>258.1</u>	<u>256.4</u>	<u>256.4</u>	<u>257.8</u>	<u>259.1</u>	<u>259.9</u>	<u>260.3</u>	<u>260.4</u>	<u>260.2</u>	<u>260.5</u>
<u>2021</u>	<u>261.6</u>	<u>263.0</u>	<u>264.9</u>	<u>267.1</u>	<u>269.2</u>	<u>271.7</u>	<u>273.0</u>	<u>273.6</u>	<u>274.3</u>	<u>276.6</u>	<u>277.9</u>	<u>278.8</u>
<u>2022</u>	<u>281.1</u>	<u>-</u>										

CPI for current period (July 2021) 273.0
 Less CPI for previous period (July 2020) 259.1
 Equals index point change 13.9
 Divided by previous period CPI 259.1
 Equals 0.0536
Result multiplied by 100 i.e. 0.0536 x 100
 Equals percent change 5.36%

This price escalation method will not be applied to items of work that are separately covered under commodity price escalation clauses. No other changes in the terms, conditions, etc. of this contract will be made when an extension to the contract is implemented. The Engineer will notify the Contractor in writing by **30 days** if the contract may be extended. The Contractor must notify the Engineer in writing by **30 days** of his acceptance or rejection of this offer. Failure on the part of the Contractor to reply will be received as a rejection of contract extension.

DISPUTE RESOLUTION PROCESS FOR ID/IQ:

(2-15-22)

SPD 01-850

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

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

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

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

MULTI-YEAR MAINTENANCE CONTRACTS (ID/IQ):

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

SP1 G75

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

PROJECT SPECIAL PROVISIONS - TRAFFIC SIGNAL CONSTRUCTION

GENERAL

Div 7 (7-17-2018)

The work covered by this special provision consists of installing traffic signal equipment and materials listed on this document at the location(s) identified by the Department in Guilford and Rockingham Counties.

The Engineer will contact the Contractor with details of upcoming scheduled work and schedule an on-sight pre-construction meeting if needed. A follow up email will be sent to establish a start date.

The Contractor shall contact the Engineer a minimum of 72 hours prior to beginning work. No compensation will be made for any work performed without the knowledge and permission of the Department. The Contractor shall communicate with the person(s) designated by the Department.

All work shall conform to the plans, the *Department of Transportation's 2018 Standard Specifications for Roads and Structures*", the *Department of Transportation 2018 Roadway Standard Drawings*, the current edition of the *Manual on Uniform Traffic Control Devices (MUTCD)*, local codes and the project special provisions.

The Contractor shall perform all work using applicable safety procedures including obtaining 811 underground locates for all underground facilities including traffic signal equipment. **Sub-contracting of this work is prohibited.** No compensation will be made for the work of locating underground facilities.

The Contractor shall be responsible for maintaining the operation of traffic signal equipment for the duration of the project unless otherwise approved by the Engineer, until the final inspection and acceptance of the work. Should a state of emergency be declared, or an emergency as determined by the Department occur, the department may then regain control and maintenance of a signal system.

Upon completion of assigned work on each signal project the Contractor shall request an inspection from the Engineer in writing. The Engineer will establish the date and time of the inspection. The Department will give the Contractor a minimum of 24 hours' notice prior to inspection. Upon the passing of all inspections and the completion and acceptance of all work, including punch list items, the Contractor will be released from the responsibility of maintaining the traffic signal.

All cabinet locations shall be preapproved by the Engineer.

The Contractor shall be responsible for all damage to private and/or public property resulting from this work.

There will be no payment for the removal of Signal Heads, Flasher Heads or Pedestrian Heads when new heads are to be located on the same span, pole or post. Additionally, no payment will be made for assembly of new signal heads of any type or for installation of LED modules for new signal heads of any type, as this is considered incidental to the work of installing the various items.

The Contractor shall furnish equipment, labor, tools and other items necessary to complete the assigned work. This will be considered incidental to the installation of paid items within this contract either furnished by the Department or the contractor.

OBTAINING, STORING AND STOCKPILING MATERIALS

Div 7 (7-17-2018)

The Contractor shall obtain Department furnished material from the Division 7 Traffic Services Office at a time mutually agreed upon by the Contractor and the Department.

Division 7 Traffic Services Office
4256 Camp Burton Road
McLeansville, NC 27301
Phone (336) 375-5477

When the Contractor obtains material from the Department, the Contractor and the Engineer shall jointly inventory the material. The Contractor shall assume responsibility for all Department furnished material.

No direct payment will be made for inventory, storage, security, and maintenance of Department furnished materials, as the cost shall be considered incidental to the various contract items.

Material, equipment, and hardware furnished by the Contractor shall be from the Department's QPL found at: <https://connect.ncdot.gov/resources/safety/Pages/ITS-and-Signals-Qualified-Products.aspx>

DEPARTMENT FURNISHED MATERIAL AND EQUIPMENT

Div 7 (7-17-2018)

Description

The work covered by this special provision consists of installing traffic signal equipment and materials listed on this document at the location(s) identified by the State in Guilford and Rockingham counties.

The Traffic Signal Supervisor will contact and convey the upcoming scheduled work and schedule an on-sight construction meeting if needed. A follow up email will be sent to establish a start date for the purposes of liquidated damages on work not completed in the time specified elsewhere within this contract and was not delayed due to reasons beyond the contractor's control.

The contractor shall contact designated personnel that the Signal Supervisor assigns to the project, to notify them of the time to be on sight to begin work. Further communications of work at the work site will be made through the designated individual.

The contractor shall perform all work using applicable safety procedures including getting up to date 811 underground locates for any and all utilities. If locates on the traffic signal equipment are needed, then the contractor shall be responsible for doing that as well. **THIS WORK CANNOT BE SUBBED OUT TO A NON-TRAFFIC-SIGNAL CONTRACTOR.** There will be no payment for the use of 811 or to self-locate existing signal equipment

The contractor shall maintain all functions of the traffic signal unless otherwise approved by the DTE or their representative until the final inspection is accepted. Should a state of emergency or other unexpected emergency occur, the department may then regain control and maintenance of a signal system.

The contractor will assume responsibility for maintaining the operation of the traffic signal equipment for the duration of the project until a final inspection has been requested, performed and accepted. Upon completion of the assigned work, on a project-by-project basis – the contractor will request an inspection from the Traffic Signal Supervisor in writing. The date and time for the inspection will then be set. Once all of the requirements for the work as assigned by the Traffic Signal Supervisor have been completed, passed the inspections and completed all punch list items, then the contractor will be released from the responsibility for maintaining the traffic signal.

Work to be performed is to include new traffic signal installations, revisions, or modifications to existing signals. As stated in this contract NCDOT will furnish some materials that will be installed by the contractor performing the work.

The traffic signal poles, anchors, span wire, concrete foundation and/or pole mount cabinet, conduits and signal heads shall be installed by the contractor and inspected by the State prior to installing the traffic signal electrical cable. Upon the approval of said work, the contractor can start installing the signal cable. The State shall be given a minimum of 24 hours' notice prior to inspection.

All cabinet locations shall be preapproved by the Engineer.

The contractor shall be responsible for any/all damage to private and/or public property resulting from this work. The Department of Transportation assumes no liability regarding injury and/or property damage resulting from work performed by the contractor.

The Contractor shall furnish any tools and/or installation equipment not specifically shown as being furnished by the State in these Special Provisions.

OBTAINING AND STORING MATERIALS

The contractor shall obtain the material from the site listed below at a time mutually agreed upon by the contractor and the State.

Division 7 Traffic Services Office
Camp Burton Road
McLeansville, NC 27301
Phone (336) 375-5477

When the contractor obtains the material, the contractor and Division of Highways personnel shall jointly inventory the stated material to insure all items are accounted for. The contractor will then sign for all the stated materials and assume responsibility for same.

Material, equipment, and hardware furnished by the contractor shall be pre-approved on the Department's QPL:

<https://connect.ncdot.gov/resources/safety/Pages/ITS-and-Signals-Qualified-Products.aspx>

No direct payment will be made for inventory, storage, security, and maintenance of state furnished materials, as the cost of same shall be included in the bid price for the contract.

The contractor shall conform to the plans, the 2018 "N. C. Department of Transportation's Standard Specifications for Roads and Structures", the 2018 N. C. Department of Transportation Roadway Standard Drawings, the current edition of the Manual on Uniform Traffic Control Devices (MUTCD), the project special provisions and local codes.

The 2018 Standard Specifications for Roads and Structures can be found on the NCDOT website at the current location:

<https://connect.ncdot.gov/resources/Specifications/StandSpecLibrary/2018%20Standard%20Specifications%20for%20Roads%20and%20Structures.pdf>

The 2018 Roadway Standard Drawings can be found on the NCDOT website at the current location:

<https://connect.ncdot.gov/resources/Specifications/Pages/2018-Roadway-Standard-Drawings.aspx>

Copies of the Standard Specifications and the Roadway Standard Drawings may be purchased through the Contract Standards and Development Unit:

North Carolina Department of Transportation

Website: <https://connect.ncdot.gov/letting/Pages/Order-Publications.aspx>

NCDOT Publications
Attn: Rick Montanez
Telephone: (919) 707-6944
Fax: (919) 250-412

WOOD POST

Div 7 (7-17-2018)

Installation of Wood Post as needed for either electrical service in accordance with standard drawings 1700.01 or temporary flasher post standard drawings 903.20

SIGNAL CABINET FOUNDATION

Installation of Signal Foundation in accordance with Section 1750 of the *2018 Standards and Specifications for Roads and Structures*

SIGNAL HEADS

Div 7 (7-17-2018)

All Signal Head items shall be installed in accordance with Section 1705 of the *2018 Standards and Specifications for Roads*. All signal head modifications shall be in accordance with Section 1705 of the *2018 Standards and Specifications for Roads*.

FLASHER HEAD POST MOUNT / PEDESTAL MOUNT

Build the heads as directed by the Engineer. Head configuration may vary depending upon location and needs.

Configuration may be individual or dual mounted on posts or pedestals, solar or direct powered

LED MODULES

The Contractor shall install Vehicle and Pedestrian Signal Heads and LED modules in accordance with Section 1705 (Signal Heads) of the *2018 Standards and Specifications for Roads and Structures*.

On the back of the module, the Contractor shall permanently mark the date of installation (month and year) of the module.

SIGNS FOR SIGNALS

Div 7 (7-17-2018)

Install Signs for Signals in accordance with Section 1745 (Signs Installed for Signals) of the *2018 Standards and Specifications for Roads and Structures*.

MICROWAVE AND RADAR VEHICLE DETECTION UNITS

Div 7 (7-17-2018)

The Contractor shall install Department furnished Microwave or Radar Vehicle Detection Units in accordance with manufacture's recommendations with the manufacturer's recommended cables and hardware and in accordance with the plans and specifications.

The Contractor shall furnish all cables, hardware and mounting hardware including but not limited to straps, nails, bolts, bands, and buckles. All mounting hardware not provided by the Department shall be from the ITS and Signals QPL.

The Department will furnish all required detector units, software packages (windows based), surge protection panels and associated exclusive hardware.

The Contractor shall monitor and maintain detector units during construction to ensure detectors are functioning properly and aimed at the detection zone(s) shown in the plans. Refer to Sub article 1700-3 (D) Maintenance and Repair of Materials of the Standard Specifications for failure to maintain the detection system.

The Department will provide software for installation and use on windows-based laptops, if needed on computers provided by the Contractor, to upload and download configuration data to each detector. The Contractor shall ensure the provided software can retrieve and store detection data from the sensors and that the software transmits data from the laptop to each detector.

Contractor shall not install detector units on poles unless preapproved by the Engineer.

The Department may conduct field-testing to ensure the accuracy of completed microwave or radar detection systems.

VIDEO IMAGING LOOP DETECTOR SYSTEM

Div 7 (7-17-2018)

The Contractor shall install Department furnished Video Imaging Loop Detector System units in accordance with the manufacturer's recommendations, including recommended cables and hardware, and in accordance with the plans and specifications

A video imaging loop detector system will be considered as adding one or more video imaging detectors to a new system that has no existing video imaging loop detector system in operation. The Contractor will be paid for a video imaging loop detector system for the installation of one or more cameras regardless of configuration. The Contractor will not be paid separately for each video detection unit or camera when a new system is installed; payment will be made for the "system only". Should an existing system require additional camera(s) the Contractor will be paid for the installation of a *Department Furnished Video Loop Detector Unit on Existing System*.

The Contractor shall furnish all cables, hardware and mounting hardware including but not limited to straps, nails, bolts, bands and buckles. All mounting hardware not provided by the Department shall be from the ITS and Signals QPL.

The Department will furnish all required camera sensor units, loop emulator processor units, hardware and software packages, cabling, poles, mast arms, harnesses, camera mounting assemblies and surge protection panels. The Contractor shall supply and install all grounding systems, messenger cable and cabling that are on the pre-approved ITS and Signals QPL that are not provided by Department. Contractor shall be able to display detection zones superimposed on an image of the roadway on a monitor or laptop computer screen. The Contractor shall ensure that detection zones can be defined and data entered using a simple keyboard or mouse and monitor, or using a laptop PC with furnished software.

The Contractor shall install the necessary processing and communications equipment in the signal controller cabinet. Make all necessary modifications to install equipment, cabling harnesses, and camera sensor interface panels with surge suppression.

The Contractor shall install furnished cables from each video detection unit to the signal controller cabinet along signal cabling routes, install surge protection and terminate all cable conductors. The Contractor shall perform modifications to camera sensor unit gain, sensitivity, and iris limits necessary to complete the installation.

Do not install camera sensor units on poles unless preapproved by the Engineer.

The Contractor shall have a certified manufacturer's representative on site to supervise and assist with installation, set up, and testing of the system.

The Department may conduct field-testing to ensure the accuracy of completed video imaging loop emulator detection systems.

WIRELESS MAGNETIC SENSOR VEHICLE DETECTION SYSTEM

Div 7 (7-17-2018)

The Department will furnish vehicle detection systems that use battery-powered magnetic field sensors for pavement installation that communicate traffic detection data by wireless communication to a transceiver for a local traffic signal cabinet. The Contractor shall ensure each sensor responds to the change in the earth's local magnetic field resulting from the presence and passage of a vehicle. The Contractor shall ensure the system contains sensor(s), transceiver(s), and any other required device(s) to provide detection data to a traffic signal controller.

The Department will provide magnetic sensors to detect vehicle traffic such as cars, trucks, and motorcycles. Sensors will be sized for installation into a 4-inch diameter by 7-inch-deep core drilled hole if NO clamshell is to be used and 4.5-inch diameter by 7-inch-deep core drilled hole if clamshell is to be used. The Contractor shall ensure that the sensor provides vehicle traffic data for volume and occupancy. The Contractor shall ensure that the sensor holds each detection call when a vehicle is stopped in its detection field. The Contractor shall install a sensor to simulate a detection zone of a 6' x 6' inductive loop, arrange a combination of sensors to simulate a detection zone of a 6' x 40' quadrupole inductive loop and a 6' x 60' quadrupole inductive loop, or as

determined by Engineer and signal plans. The Contractor shall ensure that sensors operate in accordance with the intersection design plans.

The Contractor shall furnish all cables, hardware and mounting hardware including but not limited to straps, nails, bolts, bands, and buckles. All mounting hardware not provided by the Department shall be from the ITS and Signals QPL.

All sensor locations shall be marked by the Contractor and verified by the Engineer prior to drilling. No payment will be made for sensor units installed without the approval of installation locations. Should the Contractor install sensor units without the approval of the Engineer, the Contractor shall reimburse the Department for the cost of the sensor unit.

Any of the following shall be considered an *Additional Magnetic Sensor Cored Hole*:

- A sensor pod is removed and not replaced, and the hole is filled with approved material.
- A sensor pod is removed and replaced in the same hole.
- A hole is deemed unacceptable due to circumstances beyond the Contractor's control, not human error, and the Contractor is required to fill the hole with approved material.

The Department may provide a clear injection molded clamshell style case made of polypropylene for protecting the sensor in the roadway. The Contractor shall ensure the case protects the sensor from sealant material, that the case holds the sensor in place and is form-fitting such that the cured sealant does not collapse when exposed to traffic loads.

The Department will furnish software and transceivers to provide detection data to the traffic signal cabinet and ensure the traffic signal controller receives each sensor detection call. The Contractor shall ensure that the traffic signal controller receives both presence mode and pulse mode detection calls, that the provided software can retrieve and store detection data from the sensors and that the software transmits data from the laptop to each sensor through the transceiver by wireless communication. The Contractor shall provide any update to the firmware in each sensor by wireless communication.

The Contractor shall install the necessary receivers, processing, and communications equipment in the signal controller cabinet at designated locations or as recommended by the manufacturer's representative or signal plans. The Contractor shall make all necessary modifications to install equipment in the cabinet and ensure watertight integrity of the installation.

The Contractor shall place a copy of all manufacturer equipment specifications and instruction and maintenance manuals in the equipment cabinet.

The Contractor shall have a certified manufacturer's representative on site to supervise and assist with installation, set up, and testing of the system.

The Department may conduct field-testing to ensure the accuracy of completed wireless magnetic sensor vehicle detection systems.

BEACON CONTROLLER CABINET

Div 7 (7-17-2018)

Install Flasher Cabinet in accordance with Section 1755 (Beacon Controller Assemblies) of the *2018 Standards and Specifications for Roads and Structures*.

SIGNAL CABINET

Div 7 (7-17-2018)

Install Cabinet (Base Mounted, Pole Mounted) in accordance with Section 1751 (Controllers with Cabinets) of the *2018 Standards and Specifications for Roads and Structures*. *The Contractor shall install cabinets, controllers, detector sensor units and hardware that provide required phasing, color sequence, flash sequence, interconnection, railroad and emergency vehicle clearance preemption.*

Measurement and Payment

No payment for the assembly of department furnished parts for the following items as this will be considered incidental to the payment of the item.

Department Furnished Wood Post, regardless of size that has been installed, inspected, and accepted.

Department Furnished Signal Foundation, that has been installed, inspected, and accepted.

Department Furnished Flasher Head Assembly (Span Mount), *Department Furnished Vehicle Signal Head* and *Department Furnished Pedestrian Signal Head*, regardless of type, size, color or symbol, that has been installed, successfully tested and accepted. Payment will be per each no matter the size or configuration of the head(s).

Department Furnished Flashers (Post/Pedestal Mount) that has been installed, successfully tested and accepted. When two flashers are installed on a single post, this will NOT be considered a Flasher Head Assembly. Only one measurement and payment will be made when more than one (1) *Department Furnished Flashers (Post/Pedestal Mount)* is installed on the same post. No separate payment will be made if the power source is solar as this will be considered incidental and payment for conduit and wire will be paid for separately as described elsewhere in this contract.

Department Furnished Replacement Vehicle Signal Led Module that has been installed, successfully tested, and accepted.

Department Furnished Replacement Pedestrian Signal Led Module that has been installed, successfully tested, and accepted.

No separate payment will be made for minor adjustments of signal heads to final position as directed by the Engineer prior to acceptance of the completed project.

Separate payment will be made for electrical service, poles, trenching, foundation, cabinet, span wire, sign, riser, and cable.

Department Furnished Sign (Post Mounted) will be measured and paid as the actual number of Department furnished sign (post mounted) that have been installed and accepted.

Department Furnished Sign (Span Mounted) will be measured and paid as the actual number of Department furnished sign (span mounted) that have been installed and accepted

Department Furnished Microwave Vehicle Detector will be measured and paid as the actual number of department furnished microwave vehicle detectors that have been installed and accepted.

No measurement or payment will be made for cables or hardware, adjustment of the microwave or radar as these will be considered incidental to installing microwave or radar vehicle detectors.

Department Furnished Video Imaging Loop Detector System will be measured and paid as the actual number of department furnished video imaging loop detector systems that have been installed and accepted.

Department Furnished Video Imaging Loop Detector Unit on Existing System will be measured and paid as the actual number of department furnished video imaging loop detector units on existing systems that have been installed and accepted.

No measurement or payment will be made for cables or hardware or adjustment of the video detection units, as these will be considered incidental to installing video detection units.

Department Furnished Wireless Magnetic Sensor Vehicle Detector System will be measured and paid as the actual number of department furnished wireless magnetic sensor vehicle detector system that have been installed and accepted.

Additional Magnetic Sensor Cored Hole will be made when the Contractor is required to add a sensor pod to an existing wireless magnetic sensor vehicle detection system. One payment will be made regardless of the diameter of the cored hole. Payment will be made after successful testing and acceptance of the sensor pod.

No measurement or payment will be made for cables or hardware or adjustment of the wireless communication devices, as these will be considered incidental to installing wireless magnetic sensor vehicle detection system.

Department Furnished Flasher Cabinet (Pole or Post Mounted) will be measured and paid as the actual number of department furnished flasher cabinet (pole or post mounted) that have been installed and accepted.

Separate payment will be made for electrical service, pole, riser and cable.

No payment will be made for the removal of a cabinet when the Department furnished flasher cabinet will be mounted on the same pole or post.

Department Furnished Cabinet (Base Mounted) W/Base Adapter will be measured and paid as the actual number of department furnished cabinet (base mounted) w/base adapter that have been installed and accepted.

Department Furnished Cabinet (Pole Mounted) will be measured and paid as the actual number of department furnished cabinet (pole mounted) that have been installed and accepted.

Separate payment will be made for electrical service, poles, trenching, foundation, riser and cable.

No payment will be made for the removal of a cabinet when the Department furnished cabinet will be mounted on the same pole, post or foundation.

Payment will be made under:	Pay Unit
Department Furnished Wood Post (regardless of size)	EA
Department Furnished Vehicle Signal Head	EA
Department Furnished Flasher Head Assembly, (Span Mount)	EA
Department Furnished Flashers (Post/Pedestal Mount)	EA
Department Furnished Pedestrian Signal Head	EA
Department Furnished Pedestrian Push Button and Sign	EA
Department Furnished Replacement Vehicle Signal Led Module	EA
Department Furnished Replacement Pedestrian Signal Led Module	EA
Department Furnished Sign (Post Mounted)	EA
Department Furnished Sign (Span Mounted)	EA
Department Furnished Flasher Cabinet (Pole or Post Mounted)	EA
Department Furnished Microwave Vehicle Detector	EA
Department Furnished Radar Vehicle Detector	EA
Department Furnished Video Imaging Loop Detector System	EA
Department Furnished Video Imaging Loop Detector Unit	EA
Department Furnished Wireless Magnetic Sensor Vehicle Detector System	EA
Additional Magnetic Sensor Cored Hole	EA
Department Furnished Flasher Cabinet (Pole or Post Mounted)	EA
Department Furnished Cabinet (Base Mounted) W/Base Adapter	EA
Department Furnished Cabinet (Pole Mounted)	EA

PROJECT SPECIAL PROVISIONS - CONTRACTOR FURNISHED ITEMS

RELOCATE EXISTING VEHICLE SIGNAL HEADS

Div 7 (7-17-2018)

Description

The Contractor shall relocate existing vehicle signal heads as shown on the plans or directed by the Engineer.

Construction Methods

Relocate existing vehicle signal heads by placing an existing vehicle signal head at a different location and running and attaching new signal cable to the vehicle signal head at the new location. Complete signal cable runs before disconnecting service to the existing vehicle signal heads. Do not disconnect existing vehicle signal heads until the new signal cable runs are wired into the

controller cabinet and ready to be connected for immediate reactivation of vehicle signal heads. Disconnect, immediately relocate, and reactivate the existing vehicle signal heads. Relocation of Signal Heads shall conform to lane design changes.

Measurement and Payment

Measurement and payment will be made per each vehicle signal head that is relocated, rewired, placed into service, and accepted. **Should a signal head be relocated multiple times, only one measurement and payment will be made per signal head per project** unless otherwise agreed upon in advance by the Engineer.

No separate payment will be made for minor adjustments of signal heads to final position as directed by the Engineer prior to acceptance of the completed project.

No additional payment will be made for the lashing, re-lashing or adjustment of signal cable as this will be considered incidental to the work of *Relocate Existing Vehicle Signal Head*.

Payment will be made under:	Pay Unit
Relocate Existing Vehicle Signal Head	EA

CONDUIT REPAIR AND CABLE REPLACEMENT

Div 7 (7-17-2018)

Description

Locate and repair risers or underground conduit and replace existing cable. Conduit shall be in accordance with Article 1091-3 of the *2018 Standard Specifications for Roads and Structures*.

Construction Methods

The Contractor shall furnish and install material and hardware under this section that is on the ITS and Signals QPL.

The Contractor shall locate damaged underground conduit using the method of his choice with approval of the Engineer.

Contractor shall repair damaged conduit such that water tightness is restored. Repair shall be by any method approved for electrical service.

The Contractor shall remove all cables from damaged conduit for inspection. Should the Engineer determine that the existing cable is too damaged to be reused, the Contractor shall replace the existing cable with new cable of the same type. Should the condition of the existing cable allow, as determined by the Engineer, the cable shall be spliced or reused. The Contractor shall then re-pull the cable through the repaired conduit and reconnect the ends per the specifications, then test cables and wire connections.

Should existing cable be transferred to a new span on existing poles, the Contractor is to un-lash from old span and re-lash to new span. This will be considered *Cable Replacement*.

Should cables be located in a riser that has damage and the conduit is to be replaced on the same pole, the Contractor shall pull the existing cable from the riser, undo any splices, disconnect from terminals and/or make any new splice locations as determined and approved by the Engineer, then re-run the cables back to the location of disconnection or splice point upon replacement of the riser.

The Contractor shall backfill trench at locations along the trench path where non-movable objects, such as rocks and boulders, cannot be avoided. The Contractor shall compact the soil below the conduit line to prevent excessive bending while backfilling above the repaired line. Each layer of backfill material shall be compacted with a mechanical tamp until compacted density is at least 95% of original density

After installation of conduit and upon completion of backfilling and tamping, perform a mandrel test on each conduit to ensure no conduit has been damaged. Furnish a non-metallic mandrel having a diameter of approximately 50% of the inside diameter of the conduit in which it is to be pulled through. If damage has occurred, replace the entire length of conduit, ensure a pull line is left in place and tie off at both ends, regardless of whether the Contractor reinstalls cables.

Measurement and Payment

Conduit Repair measurement and payment will be made for each 10' section of repair made to conduit that is completed, verified and accepted. One price will be used regardless of the type and size of the conduit.

Cable Replacement measurement will be of the total length of new cable that is installed, successfully tested, and accepted by the Department. Measurement will be from point to point with no allowance for sag or turns in junction boxes and with 25 feet allowed for vertical segments up or down poles. One price will be used regardless of the type and gauge of cable installed. Removal of damaged cable of any size and type will not be paid when new cable is installed, the removal will be considered incidental. Distinction will be made between installation of new cable, as found elsewhere in this document, and cable replacement.

Other items required to complete this work will be measured and paid as described elsewhere in this document.

The above prices and payments will be full compensation for all work covered by this provision, including but not limited to, removal of large rocks and debris, furnishing soil backfill material to fill rock and debris indentations and holes, fittings, hardware, non-detectable marker tape, locating damaged conduit and repair of adjacent shoulders and landscaping.

Payment will be made under:	Pay Unit
Conduit Repair	EA
Cable Replacement	LF

ADJUST SPAN & GUY WIRE

Div 7 (7-17-2018)

Description

For this provision, “adjust” and “transfer” is considered the same work. Adjust existing span and/or guy wire attachments as needed to meet required height. Transfer existing communication, signal cable or lead-in cable to new locations on existing poles to meet required clearance elevations.

Construction methods

The Contractor shall adjust span wires, existing communication, signal cable or lead-in cable of any type and guy wire heights on existing signals, such that wires and signal heads meet established clearances. Transfer existing cables on existing pole to be relocated to an approved elevation above or below existing location to meet required signal head or utility clearance elevations. Furnish and install any new attachment hardware required to complete work.

The Contractor is to maintain proper utility clearance when adjusting spans, unless otherwise directed by the Engineer.

Measurement and payment

Adjust Span & Guy Wire will be measured and paid as the actual number of span adjustments or cable transfers to proper clearance elevations, made on existing poles, which have been verified, and accepted. Payment will be made for one adjustment when span and guy wire are attached to the same point on an existing pole.

The above price and payment include, but are not limited to, installation of required new hardware, removal and disposal of abandoned hardware, tools or equipment as this work is considered incidental.

Payment will be made under:**Pay Unit**

Adjustment of Span and or Guy Wire Attachment

EA

SPAN AND CABLE TRANSFER TO NEW POLE

Div 7 (7-17-2018)

Description

Work covered by this provision shall be in accordance with Section 1735 of the *2018 Standard Specifications for Roads and Structures* and the following additions: Cables may include span wire, existing communications, signal cable or lead-in cable. For the purpose of this provision, “cable” will mean any of the above.

The Contractor is to maintain proper utility clearance when transferring spans, unless otherwise directed by the Engineer.

Measurement and Payment

Span and Cable Transfer to New Pole will be measured and paid as the actual number of each cable transfer with attachment hardware to new poles furnished, installed, and accepted. Such price

and payment will include, but not be limited to, installation of required new hardware, removal and disposal of abandoned hardware, tools or equipment as this work is considered incidental.

Payment will be made under:

Pay Unit

Span and Cable Transfer to New Pole

EA

REMOVAL OF EXISTING TRAFFIC SIGNAL ITEMS

Div 7 (7-17-2018)

Description

At locations where a traffic signal is being upgraded or modified the Contractor shall remove all existing equipment that will be taken out of service.

General:

The Engineer will determine what signal equipment is to be removed. The Contractor shall maintain and repair existing traffic signals and all associated equipment within the limits of the project until the traffic signal has been upgraded or modified and is operational.

Construction Method

Dismantle and remove existing traffic signal equipment and associated equipment and hardware, excluding joint use poles. Disconnect and remove all Department owned equipment from joint use poles in a manner that will not damage the poles or existing utilities. The Contractor shall repair any damage caused by him or his forces to the satisfaction of the Engineer. No payment will be made for repair of damages caused by the Contractor.

Cut electrical conduit(s) and remove to at least eighteen (18) inches below finished grade unless otherwise directed by the Engineer.

The Contractor shall either cut off damaged concrete foundations for any type of signal or signal cabinet at least eighteen (18) inches below ground level or completely remove foundations.

The Contractor shall clean the work site of debris of all types and backfill any holes or trenches left in the earth resulting from **any of this work** with clean earth material placed in 6 inch lifts. Each layer shall be compacted with a mechanical tamp until compacted density is at least 95% of original density. The excavated area shall be properly shaped, smoothed, seeded and mulched.

When **work of any type causes damage to sidewalks**, the Contractor shall repair the damaged sidewalk to the same thickness of the existing sidewalk. The sidewalk shall be cut along a neat edge, removed, formed, and poured. New sidewalk shall be in accordance with Section 825 and 848 of the *Standard Specifications* except that the thickness of the concrete sidewalk will not be considered. *Concrete Sidewalk* will be measured and paid as the actual square yards of concrete installed and accepted.

When a screw-in helical foundation anchor assembly is to be removed the Contractor may take possession of this item for possible use elsewhere on a department owned project unless otherwise directed by the Engineer.

The Contractor shall not reuse any removed signal, lead-in, communications cable, messenger cable, junction boxes, pole attachment hardware or abandoned risers, unless otherwise specified. Return used equipment to the Engineer as directed by the Engineer or the plans.

Final acceptance of the project is contingent upon the removal of the existing traffic signal including all associated hardware, poles, conduit and other materials and equipment. Removal of the existing traffic signal is part of the work required by the final completion date set by the Engineer.

VEHICULAR SIGNAL HEADS

The Contractor shall remove **vehicular signal heads** of any size and configuration and all associated hardware including but not limited to signal head, hanger, balance adjuster, span wire clamp (saddle clamp).

FLASHER HEAD ASSEMBLIES

The Contractor shall remove **flasher head assemblies** of any size, configuration and type of mount and all associated hardware including but not limited to span wire, head(s), hanger(s), balance adjuster(s), span wire clamp(s) (saddle clamp), signs, conduit, risers and fittings.

PEDESTRIAN ASSEMBLY

The Contractor shall remove **pedestrian assembly** and all hardware including but not limited to conduit, risers, fittings, bracket(s), slip fitter, head(s), foundation, post and pedestal, push button(s), sign(s)

AERIAL SPAN WIRE AND COMMUNICATION CABLE

The Contractor shall remove **aerial span wire** without cable attached or an aerial guy.

The Contractor shall remove existing **aerial communications cable** this work includes but is not limited to proper disposal of signal cable, lead-in cable, communications cable, messenger cable and mounting hardware, including abandoned risers and junction boxes,

SIGNAL CABINETS OF ALL TYPES OF MOUNTS

The Contractor shall remove *Signal Cabinets of all types of mounts*, properly disconnect electrical power from cabinets and remove electrical service if not being reused. Remove all cable from conduits and conduits prior to removing cabinet from pole or *Cabinet Foundation*. Cut underground electrical and cable conduit(s) and remove to at least eighteen (18) inches below finished grade unless otherwise directed by the engineer. This extent of removal shall be performed only when the cabinet is not going to be replaced or is going to be replaced at a different location.

When a pedestal underground electrical service is removed from service with a cabinet and foundation then the removal of the underground electrical service will be considered incidental in the *Removal Of The Cabinet Foundation* and hardware.

EXISTING RISERS OF ANY SIZE AND TYPE

The Contractor shall *Remove Existing Risers* of any size and type that are to be taken out of service. This work shall include but not be limited to the removal of all nails, screws, straps, brackets, weatherheads, angled conduit, condulets, LBs, and elbows.

EXISTING ELECTRICAL SERVICE

The Contractor shall remove and dispose of *Existing Electrical Services* and associated equipment and hardware as directed by the Engineer and as shown on plans.

EXISTING WOOD POST

The Contractor shall remove and dispose of *Existing Wood Posts* and associated equipment and hardware as directed by the Engineer and as shown on plans.

EXISTING WOOD SIGNAL POLES

The Contractor shall remove and dispose of *Existing Wood Signal Poles* and associated equipment and hardware as directed by the Engineer and shown on the plans. The Contractor shall unscrew anchor rods from anchors or cut the rod shaft eighteen (18) inches below the surface.

Disposal and Stockpiling:

The Contractor shall take ownership and remove from the project all materials not specified by the Engineer to be returned to the department. This includes but is not limited to span wire, signal cable, wood poles, and all foundation material, messenger cable, lead-in cable, communication cable, and associated hardware. The Contractor shall assume ownership and immediately transport the removed materials off the project site.

Other equipment and associated hardware not used in the upgrade or modification of a signal shall be disconnected and stockpiled at the Traffic Services Yard.

Return equipment between the hours of 8:00 a.m. and 12:00 p.m. Monday through Thursday, or at a time mutually agreed upon by the Contractor and the Engineer. Replace or repair all equipment that is lost or damaged during removal or transit. Label all returned equipment to indicate its original location.

The Contractor shall make no changes to equipment that is to be returned to the Department. Prohibited changes include but are not limited to timing, phasing, and adding or removing components.

Measurement and Payment

All equipment considered for payment under any “removal” item shall have been installed and in service prior to work on the project and shall have had no changes made to it including, but not limited to, phasing or timing removal of components or addition of components by the Contractor during the life of the project (excluding equipment for maintenance), and shall have been removed as a part of the project.

No separate payment will be made for the removal of signs, regardless of type or location, as removal of signs is considered incidental to the various work items.

No separate payment will be made for the removal of any item for which a like item will be installed in approximately the same location. This includes, but is not limited to, signal, lead-in, or communication cable and pole attachment hardware, as this will be considered incidental to the installation of new cable and hardware.

Measurement and payment will be made per each of the actual number of *signal heads, pedestrian signal head* or *flasher head assemblies* removed, regardless of type, size, foundation, or configuration, except as shown in the below list of pay items.

Separate payment will not be made for removal of any signal heads when the associated span wire is removed.

Measurement and payment for *Removal of Signs for Signals* shall be the number of signs removed.

There will be no distinction between the size, attachment method and or type of signs for removal

Separate payment will not be made for *Removal Of Any Sign(S)* when the associated span wire or post is removed or replaced within 5' of the original and or same span

Measurement and payment for *Removal of span wire* shall be the actual length of span wire removed.

Separate payment will not be made for removal of any signal head(s), cable(s) or sign(s) when the associated span wire is removed.

No measurement of sag, vertical segments, coiled, or spare segments of signal cable, lead-in cable and or communications cable will be made, as this work will be considered incidental to the removal of the existing span wire.

No payment will be made for the removal of span wire pole attachment hardware as this is considered incidental to this pay item

Measurement and payment will be made of existing horizontal sections, per linear foot, of *Removal of Existing Cable* of any type or size that has been removed and accepted.

One measurement will be made per horizontal section regardless of the number of cables to be removed.

One measurement will be made per underground conduit regardless of the number of cables in the conduit.

No separate payment will be made for unlashing and re-lashing when a cable(s) is to be removed from a span.

Measurement and payment will be made per each of the actual number of *Removal of Base Mounted Cabinet* which are removed.

Measurement and payment will be made per each of the actual number of *Removal of Pole Mounted Signal Cabinets* which are removed.

Measurement and payment will be made per each of the actual number of *Pole Mounted Beacon Controller Cabinets* which are removed.

Measurement and payment will be made per each of the actual number of *Risers* which are removed.

Measurement and payment will be made per each of the actual number of *Wood Signal Poles* that are removed and disposed of regardless of the size of the pole.

Measurement and payment will be made per each of the actual number of *Wood Posts* that are removed and disposed of as a part of a service pedestal or to which a flasher head assembly is attached.

No additional payment will be made for the removal of associated attached hardware on *Wood Signal Poles or Wood Posts* except that which is called out individually in this document.

Payment will be made under:	Pay Unit
Removal of Existing Vehicular Traffic Signal Head	EA
Removal of Existing Flasher Head Assembly (Span Mount)	EA
Removal of Existing Flasher Head Assembly (Post Mount)	EA
Removal of Existing Pedestrian Signal	EA
Removal of Existing Signs for Signals	EA
Removal of Existing Span Wire	LF
Removal of Existing Cable	LF
Removal of Existing Base Mounted Cabinet	EA
Removal of Existing Pole Mounted Cabinet	EA
Removal of Existing Pole Mounted Beacon Controller Cabinet	EA
Removal of Base Mounted Foundation and Hardware	EA
Removal of Existing Risers	EA
Removal of Existing Electrical Service	EA
Removal of Existing Wood Post	EA
Removal of Existing Wood Signal Pole	EA

EMERGENCY MOBILIZATION

(9-28-2021) (Rev. 3-17-2021)

Div. 7

Please reference the EMERGENCY MOBILIZATION FOR ID/IQ section on page 33 of this contract for description of this provision. In addition, the following will apply:

MEASUREMENT AND PAYMENT

Emergency Mobilization will be measured and paid for by the number of times the Contractor successfully mobilizes and begins the required work as directed by the Engineer.

Additional Pay items will be discussed prior to arrival to the work site to determine what work will be required to complete the Response.

Only one payment will be made per emergency notification no matter how many sites are serviced.

No additional payment will be made for day of week or time of day.

Travel to and from the work site, equipment, labor, tools, and other items necessary to complete the work will be considered incidental.

The quantity of items shown on the Summary of Quantities is an estimate based on anticipated work to be scheduled.

Payment will be made under the Pay Item in EMERGENCY MOBILIZATION FOR ID/IQ.

**PROJECT SPECIAL PROVISIONS SIGNALS AND INTELLIGENT
TRANSPORTATION SYSTEMS – (Version 18.6)**

METAL POLE SUPPORTS

12.1 METAL POLES

A. General:

Furnish and install metal poles, grounding systems, and all necessary hardware. Work covered under this special provision includes requirements for design, fabrication, and installation of standard and custom/site-specific designed metal pole supports and associated foundations.

Comply with applicable sections of the *2018 Standard Specifications for Roads & Structures*, hereinafter referred to as the *Standard Specifications*. Provide designs of completed assemblies with hardware equaling or exceeding *AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals* 6th Edition, 2013 (hereinafter called 6th Edition AASHTO), including the latest interim specifications. Provide assemblies with a round or near-round (18 sides or more) cross-section, or a multi-sided cross section with no less than six sides. The sides may be straight, convex, or concave.

For bid purposes, pole heights shown on plans are estimated from available data. Prior to furnishing metal poles, use field measurements and adjusted cross-sections to determine whether pole heights will meet required clearances. If pole heights do not meet required clearances, the Contractor should immediately notify the Engineer of the required revised pole heights.

Standard Drawings for Metal Poles are available that supplement these project special provisions. The drawings are located on the Department's website:

<https://connect.ncdot.gov/resources/safety/pages/ITS-Design-Resources.aspx>

Comply with article 1098-1B of the *Standard Specifications* for submittal requirements. Furnish shop drawings for approval. Provide copies of detailed shop drawings for each type of structure as summarized below. Ensure shop drawings include material specifications for each component. Ensure shop drawings identify welds by type and size on the detail drawing only, not in table format. **Do not release structures for fabrication until shop drawings have been approved by NCDOT.** Ensure shop drawings contain an itemized bill of materials for all structural components and associated connecting hardware.

Comply with article 1098-1A of the *Standard Specifications* for Qualified Products List (QPL) submittals. All shop drawings must include project location description, signal or asset inventory number(s) and project number or work order number.

Summary of information required for metal pole review submittal:

Item	Electronic Submittal	Comments / Special Instructions
Sealed, Approved Signal or ITS Plan/Loading Diagram	1 set	All structure design information needs to reflect the latest approved Signal or ITS plans
Custom Pole Shop Drawings	1 set	Submit drawings on 11" x 17" format media. Show NCDOT signal or asset inventory number(s), Contractor's name and relevant revision number in the title block. All drawings must have a <u>unique drawing number</u> for each project.
Standard Strain Pole Shop Drawings (from the QPL)	1 set	Submit drawings on 11" x 17" format media. Show NCDOT signal inventory number(s), Contractor's name and relevant revision number in the title block. All drawings must have a <u>unique drawing number</u> for each project.
Structure Calculations	1 set	Not required for Standard QPL Poles
Standard Strain Pole Foundation Drawings	1 set	Submit drawings on 11" x 17" format media. Submit a completed Standard Foundation Selection form for each pole using foundation table on Metal Pole Drawing M8.
Custom Foundation Drawings	1 set	Submit drawings on 11" x 17" format media. Show NCDOT signal or asset inventory number(s), Contractor's name and relevant revision number in the title block. All drawings must have a <u>unique drawing number</u> for each project. If QPL Poles are used, include the corresponding QPL pole shop drawings with this submittal.
Foundation Calculations	1 set	Submit copies of LPILE input, output, and pile tip deflection graph per Section titled Drilled Pier Foundations for Metal Poles of this specification for each foundation. Not required for Standard Strain Poles (from the QPL)

Soil Boring Logs and Report	1 set	Report shall include a location plan and a soil classification report including soil capacity, water level, hammer efficiency, soil bearing pressure, soil density, etc. for each pole.
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NOTE – All shop drawings and custom foundation design drawings must be sealed by a Professional Engineer licensed in the state of North Carolina. All geotechnical information must be sealed by either a Professional Engineer or Geologist licensed in the state of North Carolina. Include a title block and revision block on the shop drawings and foundation drawings showing the NCDOT signal or asset inventory number(s).

Shop drawings and foundation drawings may be submitted together or separately for approval. However, shop drawings must be approved before foundations can be reviewed. Foundation designs will be returned without review if the associated shop drawing has not been approved. Boring reports shall include the following: Engineer’s summary, boring location maps, soil classification per AASHTO Classification System, hammer efficiency, and Metal Pole Standard Foundation Selection Form. Incomplete submittals will be returned without review. The Reviewer has the right to request additional analysis and copies of the calculations to expedite the approval process.

B. Materials:

Fabricate metal pole from coil or plate steel that meet the requirements of ASTM A 595 Grade A tubes. For structural steel shapes, plates, and bars use, as a minimum, ASTM A572 Gr 50, AASHTO M270 Gr 50, ASTM A709 Gr 50, or an approved equivalent. Provide pole shafts of round or near round (18 sides or more) cross-section, or multi-sided tubular cross-section with no less than six sides, having a uniform linear taper of 0.14 in/ft. Construct shafts from one piece of single-ply plate or coil. For anchor base fabrication, conform to the applicable bolt pattern and orientation as shown on Metal Pole Standard Drawing Sheet M2.

Use the submerged arc process, or other NCDOT previously approved process suitable for shafts, to continuously weld pole shafts along their entire length. Finish the longitudinal seam weld flush with the outside contour of the base metal. Ensure shaft has no circumferential welds except at the lower end joining the shaft to the pole base. Use full penetration groove welds with backing ring for all tube-to-transverse-plate connections in accordance with 6th Edition AASHTO. Provide welding that conforms to Article 1072-18 of the *Standard Specifications*. No field welding on any part of the pole will be permitted unless approved by a qualified Engineer.

After fabrication, hot-dip galvanize steel poles and all assembly components in accordance with section 1076-3 of the *Standard Specifications*. Design structural assemblies with weep holes large enough and properly located to drain molten zinc during the galvanization process. Galvanize hardware in accordance with section 1076-4 of the *Standard Specifications*. Ensure threaded material is brushed and retapped as necessary after galvanizing. Perform repair of damaged galvanizing in accordance with section 1076-7 of the *Standard Specifications*. Ensure all hardware is galvanized steel or stainless steel. The Contractor is responsible for ensuring the

Designer/Fabricator specifies connecting hardware and/or materials that prevent a dissimilar metal corrosive reaction.

Ensure each anchor rod is 2-inch minimum diameter and 60-inch length. Provide 10-inch minimum thread projection at the top of the rod, and 8-inch minimum at the bottom of the rod. Use anchor rod assembly and drilled pier foundation materials complying with SP09_R005, hereinafter referred to as *Foundations and Anchor Rod Assemblies for Metal Poles*.

Ensure anchor bolt hole diameters are ¼-inch larger than the anchor bolt diameters in the base plate.

Provide a circular anchor bolt lock plate securing the anchor bolts at the embedded end with two (2) washers and two (2) nuts. Provide a base plate template matching the bolt circle diameter of the anchor bolt lock plate. Construct plates and templates from ¼-inch minimum thick steel with a minimum width of 4 inches. Hot-dip galvanizing is not required for both plates.

Provide four (4) heavy hex nuts and four (4) flat washers for each anchor bolt. For nuts, use AASHTO M291 grade 2H, DH, or DH3 or equivalent material. For flat washers, use AASHTO M293 or equivalent material. Ensure anchor bolts have required diameters, lengths, and positions, and will develop strengths comparable to their respective poles.

For each pole, provide a grounding lug with a ½-inch minimum thread diameter, coarse thread stud and nut that will accommodate #4 AWG ground wire. Ensure the lug is electrically bonded to the pole and is conveniently located inside the pole at the hand hole.

Provide a removable pole cap with stainless steel attachment screws for the top of each pole. Ensure cap is cast aluminum conforming to Aluminum Association Alloy 356.0F. Furnish cap attached to the pole with a sturdy stainless-steel chain that is long enough to permit cap to hang clear of the pole-top opening when cap is removed.

Where required by the plans, furnish couplings 42 inches above bottom of the pole base for mounting of pedestrian pushbuttons. Provide mounting points consisting of 1½-inch internally threaded half-couplings complying with the NEC, mounted within the poles. Ensure that couplings are essentially flush with the outside surfaces of the poles and are installed before any required hot-dip galvanizing. Provide a threaded plug in each mounting point. Ensure the surface of the plug is essentially flush with the outer end of the mounting point when installed and has a recessed slot that will accommodate a ½ “drive standard socket wrench.

Metal poles may be erected and fully loaded after concrete has attained a minimum allowable compressive strength of 3,000 psi.

Connect poles to grounding electrodes and bond them to the electrical service grounding electrodes.

When field drilling is necessary for wire or cable entrances into the pole, comply with the following requirements:

- Do not drill holes within 2 inches of any welds.

- Do not drill any holes larger than 3 inches in diameter without checking with the ITS & Signals Structure Engineers.
- Avoid drilling multiple holes along the same cross section of tube shafts.
- Install rubber grommets in all field drilled holes that wire, or cable will directly enter unless holes are drilled for installation of weather heads or couplings.
- Treat the inside of the drilled holes and repair all galvanized surfaces in accordance with Section 1076-7 of the latest edition of the *Standard Specification prior to installing grommets, caps, or plugs*.
- Cap or plug any existing field drilled holes that are no longer used with rubber, aluminum, or stainless-steel hole plugs.

Install a ¼-inch thick plate for a concrete foundation tag to include the following information: concrete grade, depth, diameter, and reinforcement sizes of the installed foundation. Install galvanized wire mesh to cover gap between the base plate and top of foundation for debris and pest control. Refer to standard drawing M7 for further details.

Immediately notify the Engineer of any structural deficiency that becomes apparent in any assembly, or member of any assembly, because of the design requirements imposed by these specifications, the plans, or the typical drawings.

C. Design:

Unless otherwise specified, design all metal pole support structures using the following 6th Edition AASHTO specifications:

- Design for a 50-year service life as recommended by Table 3.8.3-2.
- Use wind pressure map developed from 3-second gust speeds, as provided in Section 3.8.
- Assume wind loads as shown in Figures 3.9.4.2-2 and 3.9.4.2-3 of the 6th Edition AASHTO for Group III loading with Ice.
- Ensure metal pole support structures include natural wind gust loading and truck-induced gust loading for fatigue design, as provided in Sections 11.7.1.2 and 11.7.1.3, respectively. Designs need not consider periodic galloping forces.
- Assume 11.2 mph natural wind gust speed in North Carolina. For natural wind fatigue stress calculations, utilize a drag coefficient (C_d) based on the yearly mean wind velocity of 11.2 mph.
- When selecting Fatigue Importance Factors, utilize Fatigue Importance Category II, as provided for in Table 11.6-1, unless otherwise specified.
- Calculate all stresses using applicable equations from Section 5. The Maximum allowable stress ratio for all metal pole support designs is 0.9.
- Conform to Sections 10.4.2 and 11.8 for deflection requirements.

- Assume the combined minimum weight of a messenger cable bundle (including messenger cable, signal cable and detector lead-in cables) is 1.3 lbs/ft. Assume the combined minimum diameter of the cable bundle is 1.3 inches.

Unless otherwise specified by special loading criteria, the following computed surface area for ice load on signal heads shall be used:

- 3-section, 12-inch, Surface area: 26.0 ft²
- 4-section, 12-inch, Surface area: 32.0 ft²
- 5-section, 12-inch, Surface area: 42.0 ft²

Design a base plate for each pole. The minimum base plate thickness for all poles is determined by the following criteria:

Case 1

Circular or rectangular solid base plate with the upright pole welded to the top surface of base plate with full penetration butt weld, where no stiffeners are provided. A base plate with a small center hole, which is less than 1/3 of the upright diameter, and located concentrically with the upright pole, may be considered as a solid base plate.

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

M = bending moment at the critical section of the base plate induced by one (1) anchor bolt

P = anchoring force of each anchor bolt

D₁ = horizontal distance between the anchor bolt center and the outer face of the upright, or the difference between the bolt circle radius and the outside radius of the upright

Locate the critical section at the face of the anchor bolt and perpendicular to the bolt circle radius. The overlapped part of two (2) adjacent critical sections is considered ineffective.

Case 2

Circular or rectangular base plate with the upright pole socketed into and attached to the base plate with two (2) lines of fillet weld, and where no stiffeners are provided, or any base plate with a center hole that is larger in diameter than 1/3 of the upright diameter.

The magnitude of bending moment induced by the anchoring force of each anchor bolt is $M = P \times D_2$, where

P = anchoring force of each anchor bolt

D₂ = horizontal distance between the face of the upright and the face of the anchor bolt nut

Locate the critical section at the face of the anchor bolt top nut and perpendicular to the radius of the bolt circle. The overlapped part of two (2) adjacent critical sections is considered ineffective. If the base plate thickness calculated for Case 2 is less than Case 1, use the thickness calculated for Case 1.

The following additional requirements apply concerning pole base plates.

- Ensure that whichever case governs as defined above, the anchor bolt diameter is set to match the base plate thickness. If the minimum diameter required for the anchor bolt exceeds the thickness required for the base plate, set the base plate thickness equal to the required bolt diameter.
- For all metal poles, use a full penetration groove weld with a backing ring to connect the pole upright component to the base. Refer to Metal Pole Standard Drawing Sheet M3 or M4.

The Professional Engineer is wholly responsible for the design of all poles. Review and acceptance of these designs by the Department does not relieve the said Professional Engineer of his or her responsibility.

D. Strain Poles:

Refer to Metal Pole Standard Drawing Sheets M2 and M3 for fabrication details.

Provide two (2) messenger cable (span wire) clamps and associated hardware for attachment of messenger cable. Ensure diameter of the clamp is appropriate to its location on the pole and is appropriately designed for adjustment from 1'-6" below the top, down to 6'-6" below the top of the pole. Do not attach more than one (1) support cable to a messenger cable clamp.

Provide a minimum of three (3) 2-inch holes equipped with an associated coupling and weatherhead on the messenger cable load side of the pole to accommodate passage of signal cables from inside the pole. Provide galvanized threaded plugs for all unused couplings at pole entrance points. Refer to Metal Pole Standard Drawing Sheet M3 for fabrication details.

Provide designs with a 6" x 12" hand hole with reinforcing frame for each pole.

Provide a terminal compartment with cover and screws in each pole encompassing the hand hole and containing a 12-terminal barrier type terminal block. Provide two (2) terminal screws with a removable shorting bar between them for each termination. Furnish terminal compartment covers attached to the pole by a sturdy chain or cable approved by the Engineer. Ensure chain or cable is long enough to permit cover to hang clear of the compartment opening when cover is removed and is strong enough to prevent vandalism. Ensure chain or cable will not interfere with service to cables in the pole base.

Have poles permanently stamped above the hand holes with the identification tag details as shown on Metal Pole Standard Drawing Sheets M2 and M3.

Provide grounding lug(s) in the approximate vicinity of the messenger cable clamp for bonding and grounding messenger cable. Lugs must accept #4 AWG wire to bond messenger cables to the pole in order to provide an effective ground fault circuit path. Refer to Metal Pole Standard Drawing Sheet M6 for construction details.

Install metal poles, hardware, and fittings as shown on the manufacturer's installation drawings. Ensure the installed pole, when fully loaded, is within 1 degree 40 minutes (1°40') of vertical.

Install poles with the manufacturer’s recommended “rake.” Where required, use threaded leveling nuts to establish rake.

E. Mast Arm Poles:

Refer to Metal Pole Standard Drawing Sheets M2 through M5 for fabrication details.

Fabricate metal arm shaft from coil or plate steel that meet the requirements of ASTM A 595 Grade A tubes. Provide arm shafts of round or near round (18 sides or more) cross-section, or multi-sided tubular cross-section with no less than six sides, having a uniform linear taper of 0.14 in/ft. Construct shafts from one piece of single-ply plate or coil, eliminating circumferential weld splices.

Use the submerged arc process, or other NCDOT previously approved process suitable for arm shafts, to continuously weld arm shafts along their entire length. The longitudinal seam weld shall be finished flush to the outside contour of the base metal. Ensure arm shaft has no circumferential welds except at the lower end joining the shaft to the arm flange plate. Use full penetration groove welds with backing ring for all tube-to-transverse-plate connections in accordance with 6th Edition AASHTO. Provide welding that conforms to Article 1072-18 of the *Standard Specifications*, except no field welding on any part of the arm shaft will be permitted unless approved by a qualified Engineer.

After fabrication, hot-dip galvanize steel arm shafts and all assembly components per section 1076 of the *Standard Specifications*. Design arm shafts with weep holes large enough and properly located to drain molten zinc during the galvanization process. Provide hot-dip galvanizing on steel arm shafts that meets or exceeds ASTM Standard A-123, AASHTO M111, or an approved equivalent. Perform repair of damaged galvanizing that complies with the following *Standard Specifications* article:

Repair of GalvanizingArticle 1076-7

Ensure metal arm shafts permit cables to be installed inside arm shafts. For holes in arm shafts used to accommodate cables, provide full-circumference grommets. Wire access holes for arm flange plates should be deburred, non-grommited, and oversized to fit around 4-inch diameter grommited wire access holes for shaft flange plates.

Provide a minimum of four (4) 1-1/2” diameter high strength bolts for connection between arm plate and pole plate. Increase number of bolts to a minimum of six (6) 1-1/2” diameter high strength bolts when arm lengths are greater than 50’-0” long.

Provide designs with a 6” x 12” hand hole with reinforcing frame for each pole.

Provide a terminal compartment with cover and screws in each pole encompassing the hand hole and containing a 12-terminal barrier type terminal block. Provide two (2) terminal screws with a removable shorting bar between them for each termination. Furnish terminal compartment covers attached to the pole by a sturdy chain or cable approved by the Engineer. Ensure chain or cable is long enough to permit cover to hang clear of the compartment opening when cover is removed and

is strong enough to prevent vandalism. Ensure chain or cable will not interfere with service to cables in the pole base.

Have poles permanently stamped above the hand holes with the identification tag details as shown on Metal Pole Standard Drawing Sheets M2 and M4.

Provide a removable end cap with stainless steel attachment screws for the end of each mast arm. Ensure cap is cast aluminum conforming to Aluminum Association Alloy 356.0F. Furnish cap attached to arm with a sturdy chain or cable approved by the Engineer. Ensure chain or cable is long enough to permit cap to hang clear of arm end opening when cap is removed.

Provide pole flange plates and associated gussets and fittings for attachment of required mast arms. As part of each mast arm attachment, provide a cable passage hole in pole to allow passage of cables from pole to arm. Provide a grommeted 4-inch diameter cable passage hole on the shaft side of the connection to allow passage of cables from pole to arm.

Furnish all arm plates and necessary attachment hardware, including bolts and brackets.

Provide two (2) extra bolts for each arm.

Provide arms with weatherproof connections for attaching to the pole shaft.

Provide hardware that is galvanized steel, stainless steel, or corrosive-resistant aluminum.

Install metal poles, hardware, and fittings as shown on the manufacturer's installation drawings. Ensure the installed pole, when fully loaded, is within 1 degree 40 minutes (1°40') of vertical. Install poles with the manufacturer's recommended "rake." Where required, use threaded leveling nuts to establish rake.

Install horizontal-type arms with a manufactured rise preventing arm from deflecting below arm attachment height.

Ensure maximum angular rotation of the top of mast arm pole does not exceed 1 degree 40 minutes (1°40'). Ensure allowable mast arm deflection does not exceed that allowed per 6th Edition AASHTO. For all group load combinations specified under Section 3 of 6th Edition AASHTO, restrict tip of fully loaded arm from going below arm attachment point with the pole.

12.2. DRILLED PIER FOUNDATIONS FOR METAL POLES

A. Description:

Furnish and install foundations for NCDOT metal poles with all necessary hardware in accordance with the plans and specifications.

Metal Pole Standards have been developed and implemented by NCDOT for use at signalized intersections in North Carolina. If the plans call for a standard strain pole, then a standard foundation may be selected from the plans. However, the Contractor is not required to use a standard foundation. If the Contractor chooses to design a non-standard site-specific foundation

for a standard strain pole or if the plans call for a non-standard site-specific pole, design the foundation to conform to the applicable provisions in the NCDOT Metal Pole Standard Drawings and Section B4 (Non-Standard Foundation Design) below. If non-standard site-specific foundations are designed for standard QPL approved strain poles, the foundation designer must use the design moment specified by load case on Metal Pole Standard Drawing Sheet M8. Failure to conform to this requirement will be grounds for rejection of the design.

If the Contractor chooses to design a non-standard foundation for a standard strain pole and the soil test results indicate a standard foundation is feasible for the site, the Contractor will be paid the cost of the standard foundation. Any additional cost associated with a non-standard site-specific foundation including additional materials, labor and equipment will be considered incidental to the cost of the standard foundation. All costs for the non-standard foundation design will be considered incidental to the cost of the standard foundation.

B. Soil Test and Foundation Determination:

1. General:

Drilled piers are reinforced concrete sections, cast-in-place against in situ, undisturbed material. Drilled piers are of straight shaft type and vertical.

2. Soil Test:

Perform a soil test at each proposed metal pole location. Complete all required fill placement and excavation at each pole location to finished grade before drilling each boring. Soil tests performed that are not in compliance with this requirement may be rejected and will not be paid. Drill one boring to a depth of 26 feet within a 25-foot radius of each proposed foundation.

Perform standard penetration tests (SPT) in accordance with ASTM D 1586 at depths of 1, 2.5, 5, 7.5, 10, 15, 20 and 26 feet. Discontinue the boring if one of the following occurs:

- A total of 100 blows have been applied in any two consecutive 6-inch intervals.
- A total of 50 blows have been applied with < 3-inch penetration.

Describe each pole location along the project corridor in a manner that is easily discernible to both the Contractor's Designer and NCDOT Reviewers. If the pole is at an intersection, label the boring the "Intersection of (Route or SR #), (Street Name) and (Route or SR #), (Street Name), _____ County, Signal or Asset Inventory No. _____". Label borings with "B- N, S, E, W, NE, NW, SE or SW" corresponding to the quadrant location within the intersection.

If the pole location is located between intersections, provide a coordinate location and offset, or milepost number and offset. Pole numbers should be made available to the Drill Contractor. Include pole numbers in the boring label if they are available. If they are not available, ensure the boring labels can be cross-referenced to corresponding pole numbers. For each boring, submit a legible (hand-written or typed) boring log signed and sealed by a licensed Geologist or Professional Engineer registered in North Carolina. Include on each boring the SPT blow counts and N-values at each depth, depth of the boring, hammer efficiency, depth of water table and a general description of the soil types encountered using the AASHTO Classification System.

Borings that cannot be easily correlated to their specific pole location will be returned to the Contractor for clarification; or if approved by the Engineer, the foundation may be designed using the worst-case soil condition obtained as part of this project.

3. Standard Foundation Determination:

Use the following method for determining the Design N-value:

$$N_{AVG} = \frac{N_{@1'} + N_{@2.5'} + \dots + N_{@Deepest\ Boring\ Depth}}{\text{Total Number of } N \text{ values}}$$

$$Y = (N_{@1'})^2 + (N_{@2.5'})^2 + \dots + (N_{@Deepest\ Boring\ Depth})^2$$

$$Z = N_{@1'} + N_{@2.5'} + \dots + N_{@Deepest\ Boring\ Depth}$$

$$N_{STD\ DEV} = \sqrt{\left(\frac{(\text{Total Number of } N \text{ values} \times Y) - Z^2}{(\text{Total Number of } N \text{ values}) \times (\text{Total Number of } N \text{ values} - 1)} \right)}$$

Design N-value equals lesser of the following two conditions:

$$N_{AVG} - (N_{STD\ DEV} \times 0.45)$$

OR

$$\text{Average of First Four (4) } N \text{ values} = \frac{N_{@1'} + N_{@2.5'} + N_{@5'} + N_{@7.5'}}{4}$$

Note:

If less than four (4) N-values are obtained because of criteria listed in Section 2 above, use average of N-values collected for second condition. Do not include the N-value at the deepest boring depth for above calculations if the boring is discontinued at or before the required boring depth because of criteria listed in Section 2 above. Use N-value of zero (0) for weight of hammer or weight of rod. If N-value is greater than fifty (50), reduce N-value to fifty (50) for calculations.

If standard NCDOT strain poles are shown on the plans and the Contractor chooses to use standard foundations, determine a drilled pier length, “L,” for each signal pole from the Standard Strain Pole Foundations Chart (sheet M8) based on the Design N-value and the predominant soil type. For each standard pole location, submit a completed “Metal Pole Standard Foundation Selection Form” signed by the Contractor’s representative. Signature on form is for verification purposes only. Include the Design N-value calculation and resulting drilled pier length, “L,” on each form. If non-standard site-specific poles are shown on the plans, submit completed boring logs collected in accordance with Section 2 (Soil Test) along with pole loading diagrams from the plans to the Contractor-selected pole Fabricator to assist in the pole and foundation design.

If one of the following occurs, the Standard Foundations Chart shown on the plans may not be used and a non-standard foundation may be required. In such case, contact the Engineer.

- The Design N-value is less than four (4).
- The drilled pier length, “L”, determined from the Standard Foundations Chart, is greater than the depth of the corresponding boring.

In the case where a standard foundation cannot be used, the Department will be responsible for the additional cost of the non-standard foundation.

Foundation designs are based on level ground around the traffic signal pole. If the slope around the edge of the drilled pier is steeper than 8:1 (H:V) or the proposed foundation will be less than 10 feet from the top of an embankment slope, the Contractor is responsible for providing slope information to the foundation Designer and to the Engineer so it can be considered in the design.

The “Metal Pole Standard Foundation Selection Form” may be found at:

<https://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx>

If assistance is needed, contact the Engineer.

4. Non-Standard Foundation Design:

Design non-standard foundations based upon site-specific soil test information collected in accordance with Section 2 (Soil Test). Design drilled piers for side resistance in accordance with Section 4.6 of the *2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition*. Use computer software LPILE version 6.0 or later manufactured by Ensoft, Inc. to analyze drilled piers. Use computer software gINT V8i or later manufactured by Bentley Systems, Inc. with the current NCDOT gINT library and data template to produce SPT boring logs. Provide a drilled pier foundation for each pole with a length and diameter resulting in horizontal lateral movement less than 1 inch at top of the pier, and horizontal rotational movement less than 1 inch at the edge of pier. Contact the Engineer for pole loading diagrams of standard poles used for non-standard foundation designs. Submit non-standard foundation designs including drawings, calculations, and soil boring logs to the Engineer for review and approval, before construction.

C. Drilled Pier Construction:

Construct drilled pier foundation and Install anchor rod assemblies in accordance with the *Foundations and Anchor Rod Assemblies for Metal Poles* Standard Special Provision SP09-R005 located at:

<https://connect.ncdot.gov/resources/Specifications/Pages/2018-Specifications-and-Special-Provisions.aspx>

12.3 METAL POLE REMOVALS

A. Description:

Remove and dispose of existing metal support poles, and remove and dispose of existing foundations, associated anchor bolts, electrical wires and connections.

B. Construction Methods:

5. Foundations:

Remove and promptly dispose of the metal support pole foundations including reinforcing steel, electrical wires, and anchor bolts to a minimum depth of 2 feet below the finished ground elevation. At the Contractor's option, remove the complete foundation.

6. Metal Poles:

Consult Division Traffic Services regarding ownership of poles. If the Division chooses to maintain these structures in their inventory for future use, permanently mark the pole with the signal inventory number, asset inventory number or some identifying information that identifies where the pole came from

Remove the metal support poles, and promptly transport the metal support poles from the project. Use methods to remove the metal support poles and attached equipment that will not result in damage to other portions of the project or facility. Repair damages that are a result of the Contractor's actions at no additional cost to the Department.

Transport and properly dispose of the materials.

Backfill and compact disturbed areas to match the finished ground elevation. Seed unpaved areas. Use methods to remove the foundations that will not result in damage to other portions of the project or facility. Repair damages that are a result of the Contractor's actions at no cost to the Department.

12.4 POLE NUMBERING SYSTEM

A. New Poles

Attach an identification tag to each pole shaft section as shown on Metal Pole Standard Sheet M2 "Typical Fabrication Details for All Metal Poles."

B. Department Furnished Poles

Do not remove the original identification tag(s) from the pole shaft sections. Add a new identification tag based on the new location for any Department furnished poles.

12.5 DEPARTMENT FURNISHED POLE SHAFTS

Provide shop drawings along with new foundation designs for review and approval prior to furnishing and/or installing any Department furnished metal poles. Use the same requirements as specified for new materials as stated above in these Special Provision.

12.6 DEPARTMENT FURNISHED MAST ARM SHAFTS

For Department furnished pole shaft and mast arm combinations, it is preferable to use the original shafts and arms that were used together at the time of original installation.

12.7 MEASUREMENT AND PAYMENT

Actual number of metal strain signal poles (without regard to height or load capacity) furnished, installed and accepted.

Actual number of department furnished metal strain signal poles (without regard to height or load capacity) installed and accepted.

Actual number of designs for metal strain poles furnished and accepted.

No measurement will be made for foundation designs prepared with metal pole designs, as these will be considered incidental to designing Traffic Signal support structures.

Actual number of metal poles with single mast arms furnished, installed, and accepted.

Actual number of metal poles with dual mast arms furnished, installed, and accepted.

Actual number of department furnished metal poles with single or dual mast arms installed and accepted. (without regard to height, load capacity, number of arms or length)

Actual number of designs for mast arms with metal poles furnished and accepted (without regard to height, load capacity, number of arms or length).

Actual number of metal signal pole foundations removed and disposed.

Actual number of metal signal poles removed and disposed.

Actual number of soil tests with SPT borings drilled furnished and accepted.

Actual volume of concrete poured in cubic yards of drilled pier foundation furnished, installed and accepted. No additional payment will be made for drilling through rock or soil as this is incorporated into the cost of Drilled Pier Foundation.

Payment will be made under:

Metal Strain Signal Pole	Each
Department Furnished Metal Strain Signal Pole	Each
Metal Strain Pole Design	Each
Metal Pole with Single Mast Arm	Each
Metal Pole with Dual Mast Arm	Each
Department Furnished Metal Pole with Mast Arm(s)	Each
Mast Arm with Metal Pole Design	Each
Metal Pole Foundation Removal	Each
Metal Pole Removal	Each
Soil Test	Each
Drilled Pier Foundation	CY

PROTECTIVE COATING FOR METAL POLES

13.1. Description

Protective coating for metal poles is a supplemental durable color coating that is applied to galvanized steel and aluminum traffic signal structures installed in locations where maintaining an aesthetic appearance is important. Powder Coating is the preferred supplemental protective coating process for coating galvanized steel and aluminum structures. However, for the purposes of this special provision, an Acrylic Primer and topcoat paint system is included as an acceptable alternative when protective color coating is required.

Provide protective coating over galvanization for all steel poles including all necessary hardware in accordance with the plans and specifications. Any aluminum components do not need to be galvanized before application of protective coating.

12.8 Materials

With the exception of aluminum components, furnish all metal poles with galvanic protection along with a tough and durable application of protective coating. Aluminum components shall have a durable powder coating application. Galvanization is not required for aluminum components.

Furnish pole caps that have a low gloss powder finish applied over a hot-dipped galvanized surface. Comply with the applicable provisions of Section 442-10 and 442-13 of the 2018 *Standard Specifications*.

Ensure the selected color for protective coating has been verified and approved by the Engineer prior to fabrication.

12.9 Coating Shop Approval

Approve the coating shop facility prior to the application of any coating process. Submit all requests, procedures, and documents electronically to:

- Mr. Cabell Garbee, P.E., Manufactured Products Engineer
 - cgarbee@ncdot.gov
- A) Submit a quality control procedure that the company has established to ensure a quality and durable coating. The quality control procedure shall contain at a minimum the following:
- Qualified / Certified personnel to manage the QC Program and to conduct Quality Control tests
 - Qualified / certified coaters
 - Source and type of powder
 - How the powder will be stored
 - Powder application facility (heated or unheated)
 - Surface pre-treatment
 - Surface preparation including profile
 - Application methods
 - Curing conditions (conventional or infrared)
 - Curing Temperature

- Adhesion & Holiday Detection
 - Repair Procedure
 - Storage and protection of coated items
 - Shipping and handling (packing, protection, and wrapping)
- B) Submit a powder certification from the manufacturer
- C) Submit the following to the Chemical Testing Engineer a minimum of four weeks prior to coating application.
1. Two test panels of ASTM A36 steel, $\frac{1}{4}$ or greater in thickness measuring 8 inches by 11 inches using the proposed color of the final coat; a powder coated over galvanized test panel and a powder coated over un-galvanized test panel.
 2. In addition, provide two (2) samples of the same or comparable material and thickness as production pieces. Ensure production piece replicas do not exceed twelve inches (12”) in length and width nor 50 pounds in weight.
 3. Submit all test panels with inspection reports and records according to *Standard Specifications*, Section 442, Section 1072, Section 1076, and Section 1080.
 4. Acceptance of the panels is determined by meeting the requirements of ASTM D-4541 of 800 psi for both galvanized and un-galvanized and production piece test panels.
 5. Send all panels to:

Materials and Tests Unit
1801 Blue Ridge Road
Raleigh, NC 27607
Attn: Chemical Testing Engineer

12.10 POWDER COATING

A. Galvanizing

Galvanize steel products in accordance with Section 1076 of the *Standard Specifications*. Ensure the fabricator or designated representative(s) that is supplying the components to be galvanized communicates with the galvanizer to indicate that the galvanized pieces will be powder coated to avoid water or chromate quenching.

B. Surface Preparation

Comply with manufacturer’s recommended surface coating specifications, Steel Structure Painting Council (SSPC) specifications and applicable articles of Section 442 (Painting Steel Structures) of the *Standard Specifications*. Ensure that surface preparations and treatments are performed and meet the requirements of the above referenced specifications.

Some pole components, specifically steel plates $\frac{3}{4}$ inches or more in thickness, may need blast cleaning prior to structure assembly to remove impurities and non-metallic foreign materials. Mechanically remove all weld flux after structure is assembled.

Degrease and prepare steel structure for zinc coating after assembly using full immersion baths and pickling processes in heat-controlled caustic and acid solutions. Rinse and clean structure to remove caustic or acid solutions by immersion in a circulating freshwater bath. Immerse structure in a heat controlled concentrated zinc ammonium chloride flux solution and air dry as a final prep before hot-dip galvanization.

Ensure that the surface preparation is no less than specified by the powder manufacturer's recommendations. Prepare all components to be coated in accordance with SSPC SP-2 (Hand Tool Cleaning) and/or SSPC SP-3 (Power Tool Cleaning). Remove all drainage spikes, high spots, protrusions, or other surface defects using hand or power tools. Do not remove the galvanization below the limits set forth in AASHTO M111.

Remove grease, oils, moisture, scale, rust or any other foreign matter prior to powder coating to ensure ideal adhesion and coating performance. Prepare and coat the galvanized surface as soon as possible after the galvanization process.

C. Powder Coating Application and Curing

Prepare galvanized finish for powder coating by brush blasting in accordance with SSPC-SP7. Ensure all threaded components of the structure are protected from damage during blasting process.

Use thermosetting powder resin that meets 5A or 5B classifications of ASTM D3359. Apply powder coating electrostatically. Follow manufacturer's recommended preheating requirements. Ensure the topcoat finish is applied uniformly to all surfaces with a dry film thickness of between 3.0 to 5.0 mils. Cure the topcoat by heating the structure to manufacturer recommended temperatures at the duration required to ensure complete and uniform bond.

D. Quality Control

Ensure the applicator provides all test reports and documentation and inspects all coated material as outlined in the *Standard Specifications*, Section 442, Section 1072, Section 1076, and Section 1080. Ensure the quality control inspection is kept separate from the production functions.

E. Storage, Shipping, and Handling

Store all powder coated material inside or as directed by the Engineer.

Protect the product from incurring damage during all shipping, handling, and storing activities. Do not store the product directly on the ground or in areas where water may pool; the Engineer determines the effectiveness of all storage, shipping and handling methods.

G. Repair of Powder Coated Material

Repair all damage to the coating by the original method of application as outlined in the coating facility's repair procedure. Ensure all repair areas meet the original requirements for adhesion as stated in this Project Special Provision.

Photograph, document, and report all damages upon delivery to the project site prior to unloading. Provide documented damage notifications to the Engineer or to their authorized representative so the application firm can be notified. The Engineer has the authority to accept or reject the material as outlined in the *Standard Specifications*.

Submit to the Engineer a repair procedure for damaged coatings which occur during storage, transporting, handling and or installation. Utilize a liquid paint approved by the Department, compatible with the powder applied product. Ensure all repair areas demonstrate an adhesion rating of 400 psi in accordance with ASTM D-4541. Obtain Engineer's acceptance of the final finish.

12.11

ACRYLIC PRIMER AND TOP COAT PAINT SYSTEM

A. Description

Follow NCDOT procedures for Powder Coating over Galvanizing. Provide an Acrylic Primer and top coat when a substitute for powder coating is necessary.

Provide supplemental coating for all mast arms with metal signal poles and all necessary hardware for the signalized intersection in accordance with the Structural Steel Shop Coatings Program, NCDOT Standard specifications – sections 442 and 1080, as contained herein, and as shown on the plans. The Structural Steel Shop Coatings Program can be found at the following link: <https://connect.ncdot.gov/resources/Materials/MaterialsResources/Structural%20Steel%20Shop%20Coatings%20Program.pdf>

Ensure all painting work for new structures, except field touch-up and bolt painting is performed in the shop.

Coatings Shop Approval

Use only NCDOT approved shop coating facilities meeting the requirements outlined in the current edition of the Structural Steel Shop Coatings Program. This program is available on the Materials and Tests website.

Provide shop certification in accordance with the Structural Steel Shop Coatings Program (Shop facilities that are currently certified and in good standing with the American Institute Steel Construction (AISC) / Sophisticated Paint Endorsement (SPE) and/or the Society of Protective Coatings (SSPC) Qualification Procedure Three (QP-3).

B. Surface Preparation

Ensure all surface preparation is not less than that specified by the paint manufacturer's recommendations.

Clean galvanized surfaces to be painted with a 2,500 psi pressure washer. Allow surfaces to dry completely before beginning surface preparation.

Ensure all components to be coated are prepared in accordance with SSPC SP2 (Hand Tool Cleaning and or SSPC SP-3 (Power Tool Cleaning). Smooth high spots and rough edges, such as metal drip lines, of galvanized surfaces in accordance with ASTM D6386. Do not remove the galvanization below the limits set forth in AASHTO M111.

Perform abrasive sweep blasting in accordance with ASTM D6386. Refer to this section for a description of the abrasive blast material to be used. Use a material and technique capable of stripping action to remove corrosion products and to provide a rough surface profile while leaving base zinc layers intact.

Blow down all blasted surfaces with clean compressed air to provide a clean, dry surface.

Ensure all surfaces are free of visible zinc oxides or zinc hydroxides.

C. Materials

Use an approved/qualified waterborne paint meeting the requirements of NCDOT Standard specification section 1080. Do not apply paint until each batch has been tested by the Department. Provide color as specified in the contract documents.

Ensure all paint used on this contract is produced by the same manufacturer.

D. Painting

Apply paint in accordance with the requirements of the Structural Steel Shop Coatings Program, Section 442 and Section 1080 of the *Standard Specifications* as modified herein.

**System for Paint over Galvanize
Acrylic Primer and Topcoats**

Coat	Material	Mils Dry/Wet Film Thickness	Mils Dry/Wet Film Thickness
		Minimum	Maximum
Primer	1080-9 White	3.0 DFT	5.0 DFT
Stripe	1080-9 *	4.0 WFT	7.0 WFT
Topcoat	1080-9 *	2.0 DFT	4.0 DFT
Total		5.0 DFT	9.0 DFT

***Ensure the selected color for protective coating has been verified and approved by the Engineer prior to fabrication.**

The time between blast and coating application shall be in accordance with ASTM D6386 time requirements. In no case shall the prepared surface extend beyond 8 hours.

Mask off and do not paint all data plates and faying surfaces prior to application.

Spray apply all coatings except for the stripe coat. Brush apply the stripe coat to all plate edges, welds, bolt holes and bolts prior to applying the finish coat.

E. Curing

Follow manufacturer recommendations.

F. Inspection

Quality Control shall conduct the required quality control tests as outlined in the Structural Steel Shop Coatings Program and report the minimum information required by the appropriate ASTM test methods. At a minimum, quality control forms shall be on company letterhead with logo that provides a daily inspection report form equivalent to the information required on the M&T-611 Form. The M&T-611 Form can be found in the Structural Steel Shop Coatings Program. Dry Film Thickness (DFT) measurements shall be obtained on all coating layers, including the galvanized layer and shall incorporate the use of a Type 2 gauge as defined in SSPC PA-2.

Ensure all material is of a uniform appearance free of runs, drips, and sags.

G. Handling

Do not handle, ship, or erect coated members until paint is thoroughly dry.

Protect all shipping and handling either from the coating facility to project site and or storage site to area(s) to construction location from incurring damage to product. Wood blocks and nylon slings are recommended for securing, loading, hoisting or storing members.

H. Repair of Damaged Coating

Repair damage occurring to the galvanized portion of the coating during shipment or installation in accordance with Articles 1076-7 and 1080-7 of the *Standard Specifications*. Repair damage occurring to the painted portion of the coating during shipment or installation by applying 4.0-7.0

wet mils of topcoat with a brush or roller and feather or taper this to be level with the surrounding areas.

13.6 MEASUREMENT AND PAYMENT

Actual number of strain poles with protective coating applied furnished, installed, and accepted.

Actual number of single mast arm poles with protective coating applied furnished, installed, and accepted.

Actual number of dual mast arm poles with protective coating applied furnished, installed, and accepted.

Actual number of signal pedestals with protective coating applied furnished, installed, and accepted.

Actual number of pushbutton posts with protective coating applied furnished, installed, and accepted.

Payment will be made under:

Protective Coating for Strain Pole	Each
Protective Coating for Single Mast Arm Pole	Each
Protective Coating for Dual Mast Arm Pole	Each
Protective Coating for Signal Pedestal	Each
Protective Coating for Pushbutton Post	Each

PROJECT SPECIAL PROVISIONS - ROADWAY

BURNING RESTRICTIONS:

(7-1-95)

200, 210, 215

SP2 R05

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

SUPPLEMENTAL SURVEYING:

(4-20-21)

801

SP8 R03

Revise the *2018 Standard Specifications* as follows:

Page 8-7, Article 801-3 MEASUREMENT AND PAYMENT, lines 10-11, replace with the following:

Supplemental Surveying Office Calculations will be paid at the stated price of \$85.00 per hour. *Supplemental Field Surveying* will be paid at the stated price of \$145.00 per hour.

MATERIAL AND EQUIPMENT STORAGE & PARKING OF PERSONAL VEHICLES:

11-17-21

1101

SP11 R03

Revise the *2018 Standard Specifications* as follows:

Page 11-2, Article 1101-8 MATERIAL AND EQUIPMENT STORAGE, line 35-38, delete and replace with the following:

When work is not in progress, keep all personnel, equipment, machinery, tools, construction debris, materials and supplies away from active travel lanes that meets Table 1101-1.

TABLE 1101-1 MATERIAL AND EQUIPMENT STORAGE FROM ACTIVE TRAVEL LANES	
Posted Speed Limit (mph)	Distance (ft)
40 or less	≥ 18
45-50	≥ 28
55	≥ 32
60 or higher	≥ 40

When vehicles, equipment and materials are protected by concrete barrier or guardrail, they shall be offset at least 5 feet from the barrier or guardrail.

Page 11-2, Article 1101-9 PARKING OF PERSONAL VEHICLES, line 40-41, delete and replace with the following:

Provide staging areas for personal vehicle parking in accordance with section 1101-8 or as directed by the Engineer before use.

WORK ZONE INSTALLER:

(7-20-21)

1101, 1150

SP11 R04

Provide the service of at least one qualified work zone installer during the setup, installation, and removal of temporary traffic control within the highway right of way. The qualified work zone installer shall serve as crew leader and shall be on site and directing the installation and removal of temporary traffic control. If multiple temporary traffic control installations or removals are occurring simultaneously, then each shall have a qualified work zone installer.

The work zone installer shall be qualified by an NCDOT approved training agency in the safe and competent set up of temporary traffic control. For a complete listing of approved training agencies, see the Work Zone Safety Training webpage.

A work zone supervisor, in accordance with Article 1101-13 of the *Standard Specifications*, may fulfill the role of the work zone installer during the setup, installation, and removal of temporary traffic control within the highway right of way provided they are on site and directing the installation and removal of temporary traffic control.

All other individuals participating in the setup, installation, and removal of temporary traffic control within the highway right of way shall be certified as a qualified flagger in accordance with Article 1150-3 of the *Standard Specifications*, even if flagging is not being performed as part of the traffic control.

Provide the name and contact information of all qualified work zone installers to the Engineer prior to or at the preconstruction conference. Additionally, provide a qualification statement that all other individuals participating in the setup, installation, and removal of temporary traffic control are qualified flaggers that have been properly trained through an NCDOT approved training agency.

STANDARD SPECIAL PROVISIONS**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*.

ERRATA

(10-16-18) (Rev.1-18-22)

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 10-121, Article 1076-7, REPAIR OF GALVANIZING, line 8, replace article number “1080-9” with “1080-7”.

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

Page 17-15, Subarticle 1715-3(E) Bore and Jack, line 5, replace article number “1540-4” with “1550-4”.

Page 17-15, Subarticle 1715-3(E) Bore and Jack, lines 10 & 11, replace "*NCDOT Policies and Procedures for Accommodating Utilities on Highway Rights of Way*" with "*NCDOT Utilities Accommodations Manual*".

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.

MINIMUM WAGES

(7-21-09)

Z-5

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

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

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

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

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

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

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

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 (a) through (f) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor shall take action with respect to any subcontract or procurement as the Recipient or the FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.
- (2) **Title VI Nondiscrimination Program (23 CFR 200.5(p))**
The North Carolina Department of Transportation (NCDOT) has assured the USDOT that, as a condition to receiving federal financial assistance, NCDOT will comply with Title VI of the Civil Rights Act of 1964 and all requirements imposed by Title 49 CFR part 21 and related nondiscrimination authorities to ensure that no person shall, on the ground of race, color, national origin, limited English proficiency, sex, age, or disability (including religion/creed or income-level, where applicable), be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any programs, activities, or services conducted or funded by NCDOT. Contractors and other organizations under contract or agreement with NCDOT must also comply with Title VI and related authorities, therefore:
- (a) During the performance of this contract or agreement, contractors (e.g., subcontractors, consultants, vendors, prime contractors) are responsible for complying with NCDOT's Title VI Program. Contractors are not required to prepare or submit Title VI Programs. To comply with this section, the prime contractor shall:
- 1. Post NCDOT's Notice of Nondiscrimination and the Contractor's own Equal Employment Opportunity (EEO) Policy in conspicuous locations accessible to all employees, applicants and subcontractors on the jobsite.

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

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

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

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

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

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

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

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

4. Format for Complaints

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

5. Discrimination Complaint Form

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

6. Complaint Basis

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

**TABLE 103-1
COMPLAINT BASIS**

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

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

- (b) The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
 - (c) Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
 - (d) Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability) and 49 CFR Part 27;
 - (e) The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
 - (f) Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
 - (g) The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
 - (h) Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
 - (i) The Federal Aviation Administration's Nondiscrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
 - (j) Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
 - (k) Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
 - (l) Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).
 - (m) Title VII of the Civil Rights Act of 1964 (42 U.S.C. § 2000e et seq., Pub. L. 88-352), (prohibits employment discrimination on the basis of race, color, religion, sex, or national origin).
- (4) **Additional Title VI Assurances**
- **The following Title VI Assurances (Appendices B, C and D) shall apply, as applicable*
- (a) Clauses for Deeds Transferring United States Property (1050.2A, Appendix B)
The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of Assurance 4.

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

(HABENDUM CLAUSE)

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

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

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

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

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

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

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

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

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

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

ON-THE-JOB TRAINING

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

Z-10

Description

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

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

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

Minorities and Women

Developing, training and upgrading of minorities and women toward journeyman level status is a primary objective of this special training provision. Accordingly, the Contractor shall make every

effort to enroll minority and women as trainees to the extent that such persons are available within a reasonable area of recruitment. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

Assigning Training Goals

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

Training Classifications

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

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

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

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

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

The Contractor may allow trainees to be trained by a subcontractor provided that the Contractor retains primary responsibility for meeting the training and this provision is made applicable to the

subcontract. However, only the Contractor will receive credit towards the annual goal for the trainee.

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

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

Records and Reports

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

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

Trainee Interviews

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

Trainee Wages

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

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

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

Achieving or Failing to Meet Training Goals

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

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

Measurement and Payment

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

WORK ZONE TRAFFIC CONTROL Project Special Provisions

Table of Contents

Special Provision (Division Traffic Operations)	Page
Temporary Traffic Control (Each)	TC-2



DocuSigned by:
Chris Smitherman
EA7926E3CDA446A...
7/19/2021

TEMPORARY TRAFFIC CONTROL

(06/24/2021)

GENERAL REQUIREMENTS

The Contractor shall maintain traffic on all roads during construction and shall furnish, install, relocate, maintain, and remove traffic control devices as shown in the *Roadway Standard Drawings* or as directed by the Engineer.

Maintain traffic in accordance with Divisions 10, 11 and 12 of the *2018 Standard Specifications* and the following provisions:

Install Work Zone Advance Warning Signs in accordance with Standard Drawing No. 1101.01 of the *2018 Roadway Standard Drawings* prior to beginning any other work.

Remove lane closure devices from the lane when work is not being performed behind the lane closure or when a lane closure is no longer needed or as directed by the Engineer.

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

When personnel and/or equipment are working on the shoulder adjacent to an undivided facility and within 5 ft. of an open travel lane, close the nearest open travel lane using Roadway Standard Drawing No. 1101.02 of the *2018 Roadway Standard Drawings unless the work area is protected by barrier or guardrail.*

When personnel and/or equipment are working on the shoulder adjacent to a divided facility and within 10 ft. of an open travel lane, close the nearest open travel lane using Roadway Standard Drawing No. 1101.02 of the *2018 Roadway Standard Drawings, unless the work area is protected by barrier or guardrail.*

When personnel and/or equipment are working within a lane of travel of an undivided or divided facility, close the lane using Roadway Standard Drawing No. 1101.02 of the *2018 Roadway Standard Drawings* or as directed by the Engineer. Conduct the work so that all personnel and/or equipment remain within the closed travel lane. Perform work only when weather and visibility conditions allow safe operations as directed by the Engineer.

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

Notify the Engineer prior to any traffic pattern alteration.

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

TC-3

Division 7

Law Enforcement shall be used to maintain traffic through the work area and/or intersections as directed by the Engineer.

Contractor shall maintain sidewalk access at all times. Contractor shall be responsible to provide temporary sidewalks (concrete, asphalt, or other suitable material as approved by the engineer) at all locations where the open pedestrian travel way has been closed/removed for construction operations. ADA compliant pedestrian barricades/channelizing devices shall be used to close sidewalks and redirect pedestrians along the temporary sidewalk, as directed by the Engineer. Mount appropriate sidewalk closure and pedestrian detour signs to these barricades/channelizing devices to inform pedestrians of the closure and pedestrian detour.

When lane closures are not in effect, space channelizing devices in work areas no greater in feet than twice the posted speed limit (MHP), except 10 ft. on-center in radii, and 3 ft. off the edge of an open travel way. Refer to *2018 Standard Specifications* Sections 1130 (Drums), 1135 (Cones), and 1180 (Skinny Drums) for additional requirements.

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

Time Restrictions for Lane Closure and Road Closure Activities

All lane closure and road closure activities shall be performed in compliance with the Day and Time restrictions listed and defined in this Contract.

Any activities performed outside of these requirements will be subject to the Liquidated Damages unless approved by the Engineer prior to beginning the activity.

The Contractor may place/pre-stage all required signs and traffic control devices necessary for lane closures prior to the closure time as approved by the Engineer. The travel lane(s) are to be closed at the prescribed times defined in this Contract.

For removal, the lane(s) must be reopened in compliance with the times defined in this Contract. It is acceptable to remove the signs and traffic control devices from the shoulder/staging area after the lane(s) are reopened to traffic.

TEMPORARY TRAFFIC CONTROL (TTC)

Refer to Standard Drawing No. 1101.01, 1101.02, 1101.04, 1101.11, 1110.01, 1110.02, 1115.01, 1130.01, 1135.01, 1145.01, 1150.01, 1165.01, and 1180.01 of the *2018 Roadway Standard Drawings* when closing a lane of travel in the work zone.

Drums are recommended for all lane closure operations occurring at night. If the contractor elects to use skinny drums at night, the contractor shall space skinny drums no greater than 20 ft. apart in the tangent sections of the lane closure. Skinny drums shall not be used for tapers. When covering work zone signs, use an opaque material that prevents reading of the sign at night by a driver using high beam headlights. Use material which does not damage the sign sheeting. Tape shall not be affixed to the sign sheeting at any time.

TRAFFIC OPERATIONS

1. Project Requirements:

The Contractor shall comply with the following requirements. Non-compliance will result in a suspension of all work operations:

- A. Submit a written construction sequence for traffic control and construction lighting to the Engineer prior to the first pre-construction meeting. The sequence must be approved before beginning work or closing a lane of traffic. The Contractor and Engineer will coordinate with the Regional Work Zone Traffic Control Engineer for additional traffic control guidance, as necessary.
- B. Obtain written approval of the Engineer before working in more than one location or setting up additional lane closures.
- C. The Contractor on this and any adjacent projects, or subcontractors working within this project shall coordinate lane closure location, type, and direction with the Engineer to best maintain lane continuity through the limits of this and adjacent projects.
- D. Operate equipment and conduct operations in the same direction as the flow of traffic unless the operation is protected by barrier or guardrail or as directed by the Engineer. Maintain vehicular access in accordance with Section 1101-05 of the *2018 Standard Specifications*.
- E. Provide appropriate construction lighting in accordance with Section 1413 of the *2018 Standard Specifications*.

2. Work Zone Signing:

A. Description

Install and maintain signing in accordance with the Divisions 10 and 11 of the *2018 Standard Specifications*.

B. Installation

All stationary Advance/General warning work zone signs require notification to existing

Utility owners per Article 105-8 of the *2018 Standard Specifications* within 3 to 12 full working days prior to installation.

Install all Advance/General warning work zone signs before beginning work. If signs are installed more than three (3) calendar days prior to the beginning of work, cover the signs until the work begins. Install each work zone Advance/General warning sign separately and not on the same post or stand with any other sign except where an advisory speed plate or directional arrow is used.

All sign locations to be verified by the Engineer prior to installation.

If there is a period of construction inactivity longer than fourteen (14) calendar days, remove or cover advance/general warning work zone signs. Uncover advance/general warning work zone signs no more than three (3) calendar days before work resumes.

All other operations may be suspended upon failure to comply with the above requirements. Such suspended operations would not be resumed until the above requirements are fulfilled.

C. Sign Removal

Once the Project is substantially completed, the Contractor shall remove the Stationary Work Zone Signs. Any remaining punch list items requiring traffic control are to be completed with portable work zone signing.

MEASUREMENT AND PAYMENT

Temporary Traffic Control shall include but not be limited to providing Signs (portable, stationary, or barricade), including detour signing, Truck Mounted Attenuators (TMA), Portable Changeable Message Signs (PCMS), Flashing Arrow Boards (FAB), Pilot Vehicle, Flaggers, Cones, Skinny Drums and Drums as shown in the applicable Roadway Standard Drawings and all labor, tools, equipment and incidentals necessary to furnish, install, maintain and remove traffic control devices when no longer required.

Law Enforcement will be measured and paid in accordance with Article 1190-3.

TC-6

Division 7

Measurement for *Temporary Traffic Control* will be made on the following applicable operations:

Traffic Control Lane Closure shall be paid when a single lane or single lane and turn lane is closed on a two-lane one-way or a two or more lanes undivided with two-way traffic in accordance with the *2018 Roadway Standard Drawings*.

- When traffic is narrowed and channeled through traffic control around the work area, the traffic control shall be paid for as a **Lane Closure**.
- When traffic is controlled with the use of flagman in accordance with the *2018 Roadway Standard Drawings*, the traffic control shall be paid for as a **Lane Closure** regardless of the number of lanes closed.

Traffic Control Shoulder Closure shall be paid when a shoulder is closed, and work is being performed from or equipment is on the shoulder adjacent to a divided or undivided facility in accordance with the *2018 Roadway Standard Drawings*.

- This work is not for **Divided Multilane Roadway** when used as a median shoulder closure, this will require a **Divided Multilane Roadway Single Lane Closure** set up.
- If work being performed is over the travel lane but the equipment is on the shoulder, traffic control shall be set up for closing the lanes in which work is being performed over.

Traffic Control Divided Multilane Roadway Single Lane Closure shall be paid when a single lane is closed, and more than a **Shoulder Closure** is required in accordance with the *2018 Roadway Standard Drawings*.

- There is no difference in payment when the closure is for the median or outside shoulder and a single lane is closed.
- When work is being performed in the median over the barrier wall, a separate traffic control shall be set up and will be paid for as a second **Divided Multilane Roadway Single Lane Closure**.

Traffic Control Divided Multilane Roadway Two or more Lane Closure shall be paid when two more lanes are closed, and more than a shoulder with a single lane closure is required in accordance with the *2018 Roadway Standard Drawings*.

TC-7

Division 7

Payment will be made under:

Pay Item	Pay Unit
Traffic Control Lane Closure	EA
Traffic Control Shoulder Closure	EA
Traffic Control Divided Multilane Roadway Single Lane Closure	EA
Traffic Control Divided Multilane Roadway Two or more Lane Closures	EA

LISTING OF MBE/WBE SUBCONTRACTORS

Sheet of

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

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

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

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

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

LISTING OF MBE/WBE SUBCONTRACTORS

Sheet of

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

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

MBE Percentage of Total Contract Bid Price _____%

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

WBE Percentage of Total Contract Bid Price _____%

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

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

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

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

ADDENDA

ADDENDUM #1

I, _____
(SIGNATURE)

representing _____

Acknowledge receipt of Addendum #1.

ADDENDUM #2

I, _____
(SIGNATURE)

representing _____

Acknowledge receipt of Addendum #2.

ADDENDUM #3

I, _____
(SIGNATURE)

representing _____

Acknowledge receipt of Addendum #3.

ITEMIZED PROPOSAL FOR CONTRACT D7POC387

CONTRACT ID# D7POC387

WBS ELEMENT NO. 7.1041SM, 7.2041SM, 7.1079SM, 7.2079SM

COUNTY: GUILFORD & ROCKINGHAM

TYPE OF WORK: TRAFFIC SIGNAL INSTALLATION, UPGRADE & REPAIRS

Line Item#	Sect. #	ITEM DESCRIPTION	QTY	UNIT	UNIT PRICE	AMOUNT BID
1	848	4" CONCRETE SIDEWALK	20	SY		
2	1190	TRAFFIC CONTROL LAW ENFORCEMENT	120	HR		
3	1700	GENERIC SIGNAL ITEM, GROUNDING	15	EA		
4	1700	GENERIC SIGNAL ITEM, MODIFY EXISTING ELECTRICAL SERVICE	5	EA		
5	1700	NEW ELECTRICAL SERVICE	10	EA		
6	1705	LOUVER	5	EA		
7	1705	PEDESTRIAN SIGNAL HEAD (16", 1 SECTION W/COUNTDOWN)	20	EA		
8	1705	PEDESTRIAN SIGNAL HEAD (16", 2 SECTION W/COUNTDOWN)	12	EA		
9	1705	SIGNAL CABLE	8500	LF		
10	1705	VEHICLE SIGNAL HD (12", 3 SECT)	40	EA		
11	1705	VEHICLE SIGNAL HD (12", 4 SECT)	8	EA		
12	1705	VEHICLE SIGNAL HD (12", 5 SECT)	4	EA		
13	1705	VEHICLE SIGNAL HEAD FLASHER ASSEMBLY	8	EA		
14	1706	VEHICLE SIGNAL HEAD BACKPLATE	20	EA		
15	1710	MESSENGER CABLE (1/4")	1000	LF		
16	1710	MESSENGER CABLE (3/8")	5000	LF		
17	1715	DIRECTIONAL DRILL (1,2")	750	LF		
18	1715	DIRECTIONAL DRILL (2) (2")	125	LF		
19	1715	PAVED TRENCHING (1,2")	100	LF		
20	1715	PAVED TRENCHING (2,2")	100	LF		
21	1715	TRACER WIRE	1000	LF		
22	1715	UNPAVED TRENCHING (1,2")	1500	LF		
23	1715	UNPAVED TRENCHING (2,2")	1000	LF		
24	1716	JUNCTION BOX (OVER-SIZED, HEAVY DUTY)	5	EA		
25	1716	JUNCTION BOX (STANDARD SIZE)	40	EA		
26	1720	WOOD POLE (40',CLASS 1)	22	EA		

CONTRACT ID# D7POC387

WBS ELEMENT NO. 7.1041SM, 7.2041SM, 7.1079SM, 7.2079SM

COUNTY: GUILFORD & ROCKINGHAM

TYPE OF WORK: TRAFFIC SIGNAL INSTALLATION, UPGRADE & REPAIRS

Line Item#	Sect. #	ITEM DESCRIPTION	QTY	UNIT	UNIT PRICE	AMOUNT BID
27	1721	GUY ASSEMBLY W/METAL GUARD	45	EA		
28	1722	1" RISER W/WEATHERHEAD	5	EA		
29	1722	2" RISER W/HEAT SHRINK TUBING	3	EA		
30	1722	2" RISER W/WEATHERHEAD	25	EA		
31	1722	HEAT SHRINK TUBE KIT	3	EA		
32	1725	INDUCTIVE LOOP SAW CUT	4000	LF		
33	1726	LEAD-IN CABLE, (14-2)	15000	LF		
34	1730	COMMUNICATION CABLE (12-FIBER)	3000	LF		
35	1730	COMMUNICATION CABLE (24-FIBER)	3000	LF		
36	1730	COMMUNICATION CABLE (36-FIBER)	2000	LF		
37	1731	INTERCONNECT CENTER	2	EA		
38	1731	MODIFY SPLICE ENCLOSURE	2	EA		
39	1731	SPLICE ENCLOSURE	2	EA		
40	1732	FIBER-OPTIC TRANSCEIVER-DROP & REPEAT	2	EA		
41	1732	FIBER-OPTIC TRANSCEIVER-SELF-HEALING RINGER	2	EA		
42	1736	900MHZ SPECTRUM RADIO	6			
43	1743	TYPE I POST W/ FOUNDATION	16	EA		
44	1743	TYPE II PED W/ FOUNDATION	12	EA		
45	1743	TYPE III POST W FOUNDATION	8	EA		
46	1747	LED BLANKOUT SIGN	4	EA		
47	1750	DETECTOR CARD (TYPE 2070)	40	EA		
48	1750	SIGNAL CABINET FOUNDATION	5	EA		
49	1751	CONTLRS WITH CBNT (TYPE 2070LX, BASE MOUNTED)	5	EA		
50	1751	CONTLRS WITH CBNT (TYPE 2070LX, POLE MOUNTED)	5	EA		
51	1752	CONDUIT ENTRANCE INTO EXISTING FOUNDATION	5	EA		

CONTRACT ID# D7POC387

WBS ELEMENT NO. 7.1041SM, 7.2041SM, 7.1079SM, 7.2079SM

COUNTY: GUILFORD & ROCKINGHAM

TYPE OF WORK: TRAFFIC SIGNAL INSTALLATION, UPGRADE & REPAIRS

Line Item#	Sect. #	ITEM DESCRIPTION	QTY	UNIT	UNIT PRICE	AMOUNT BID
52	1753	CABINET BASE ADAPTER WITH UTILITY PEDESTAL	5	EA		
53	1753	CABINET BASE EXTENDER	5	EA		
54	1755	BEACON CONTROLLER ASSEMBLIES	3	EA		
55	SP	TRAFFIC CONTROL MULTILANE	5	EA		
56	SP	TRAFFIC CONTROL SHOULDER	25	EA		
57	SP	TRAFFIC CONTROL SINGLE LANE	25	EA		
58	SP	TRAFFIC CONTROL TWO WAY	15	EA		
59	SP	EMERGENCY MOBILIZATION	5	EA		
60	SP	DEPARTMENT FURNISHED WOOD POST	10	EA		
61	SP	DEPARTMENT FURNISHED SIGNAL CABINET FOUNDATIONS	10	EA		
62	SP	DEPARTMENT FURNISHED SIGNAL HEADS	50	EA		
63	SP	DEPARTMENT FURNISHED FLASHERS (POST/Pedestal MOUNT)	6	EA		
64	SP	DEPARTMENT FURNISHED REPLACEMENT VEHICLE SIGNAL LED MODULE	10	EA		
65	SP	DEPARTMENT FURNISHED SIGN (POST MOUNTED)	6	EA		
66	SP	DEPARTMENT FURNISHED SIGN (SPAN MOUNTED)	12	EA		
67	SP	DEPARTMENT FURNISHED MICROWAVE VEHICLE DETECTION	6	EA		
68	SP	DEPARTMENT FURNISHED VIDEO IMAGING LOOP DETECTOR SYSTEM	5	EA		
69	SP	DEPARTMENT FURNISHED VIDEO IMAGING LOOP DETECTOR UNIT	6	EA		
70	SP	DEPARTMENT FURNISHED DETECTOR, WIRELESS MAGNETIC SYSTEM	5	EA		
71	SP	INSTAL AND OR REPLACE ADDITIONAL MAGNETIC SENSOR W/CORED HOLE	5	EA		
72	SP	DEPARTMENT FURNISHED BEACON CONTROLLER ASSEMBLY	8	EA		
73	SP	DEPARTMENT FURNISHED CABINET (BASE MOUNTED) W/BASE EXTENDER	5	EA		
74	SP	DEPARTMENT FURNISHED CABINET (POST MOUNTED)	5	EA		

CONTRACT ID# D7POC387

WBS ELEMENT NO. 7.1041SM, 7.2041SM, 7.1079SM, 7.2079SM

COUNTY: GUILFORD & ROCKINGHAM

TYPE OF WORK: TRAFFIC SIGNAL INSTALLATION, UPGRADE & REPAIRS

75	SP	RELOCATE EXISTING VEHICLE SIGNAL HEAD	6	EA		
76	SP	CONDUIT REPAIR	5	EA		
77	SP	CABLE REPLACEMENT	3000	LF		
78	SP	ADJUSTMENT OF SPAN OR GUY WIRE ATTACHMENT	10	EA		
79	SP	SPAN AND CABLE TRANSFER TO NEW POLE	5	EA		
80	SP	REMOVAL OF EXISTING VEHICULAR TRAFFIC SIGNAL HEAD	45	EA		
81	SP	REMOVAL OF EXISTING PEDESTRIAN SIGNAL HEAD	10	EA		
82	SP	REMOVAL OF EXISTING FLASHER HEAD ASSEMBLY (POST MOUNT)	4	EA		
83	SP	REMOVAL OF EXISTING FLASHER HEAD ASSEMBLY (SPAN MOUNT)	4	EA		
84	SP	REMOVAL OF EXISTING SIGNS FOR SIGNALS	4	EA		
85	SP	REMOVAL OF EXISTING SPAN WIRE	1000	LF		
86	SP	REMOVAL OF EXISTING CABLE	1500	LF		
87	SP	REMOVAL OF EXISTING BASE MOUNTED CABINET	5	EA		
88	SP	REMOVAL OF EXISTING POLE MOUNTED CABINET	6	EA		
89	SP	REMOVAL OF EXISITING POLE MOUNTED BEACON CONTROLLER CABINET	2	EA		
90	SP	REMOVAL OF BASE MOUNTED CABINET FOUNDATION AND HARDWARE	5	EA		
91	SP	REMOVAL OF EXISTING RISERS	8	EA		
92	SP	REMOVAL OF EXISTING ELECTRICAL SERVICE	4	EA		
93	SP	REMOVAL OF EXISTING WOOD POST	2	EA		
94	SP	REMOVAL OF EXISTING WOOD SIGNAL POLE	10	EA		
95	SP	METAL STRAIN SIGNAL POLE	6	EA		
96	SP	DEPARTMENT FURNISHED METAL STRAIN POLE	8	EA		
97	SP	METAL STRAIN POLE DESIGN	6	EA		
98	SP	METAL STRAIN POLE WITH DUAL MAST ARM	2	EA		
99	SP	METAL STRAIN POLE WITH SINGLE MAST ARM	2	EA		
100	SP	DEPARTMENT FURNISHED MAST ARM(S) POLE	2	EA		

CONTRACT ID# D7POC387

WBS ELEMENT NO. 7.1041SM, 7.2041SM, 7.1079SM, 7.2079SM

COUNTY: GUILFORD & ROCKINGHAM

TYPE OF WORK: TRAFFIC SIGNAL INSTALLATION, UPGRADE & REPAIRS

Line Item#	Sect. #	ITEM DESCRIPTION	QTY	UNIT	UNIT PRICE	AMOUNT BID
101	SP	MAST ARM WITH METAL POLE DESIGN	6	EA		
102	SP	METAL SIGNAL POLE REMOVAL	4	EA		
103	SP	METAL POLE FOUNDATION REMOVAL	2	EA		
104	SP	SOIL TEST	10	EA		
105	SP	DRILLED PIER FOUNDATION	50	CY		
106	SP	PROTECTIVE COATING FOR STRAIN POLE	4	EA		
107	SP	PROTECTIVE COATING FOR SINGLE MAST ARM POLE	2	EA		
108	SP	PROTECTIVE COATING FOR DUAL MAST ARM POLE	2	EA		
109	SP	PROTECTIVE COATING FOR SIGNAL PEDESTAL	12	EA		
110	SP	PROTECTIVE COATING FOR PUSHBUTTON POST	10	EA		
TOTAL AMOUNT BID						

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

BY

Signature of Witness or Attest

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

BY

Signature of Witness or Attest

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

BY

Signature of Witness or Attest

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.

D7POC387

U - 9

Guilford and Rockingham Counties

EXECUTION OF CONTRACT

Contract No: D7POC387

County: Guilford and Rockingham Counties

ACCEPTED BY THE DEPARTMENT

Proposals Engineer

Date

EXECUTION OF CONTRACT AND BONDS
APPROVED AS TO FORM:

Division Engineer

Date

Signature Sheet (Bid) - ACCEPTANCE SHEET