STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

February 14, 2018

Addendum No. 1

Contract No.:	C204088
TIP No.:	U-2579D, E & F
Counties:	Forsyth
Project Description:	Future I-74 - Winston-Salem Northern Beltway from west of NC 66 / SR 4000 (University Parkway) to US 311 (New Walkertown Road)

RE: Addendum No. 1 to Final RFP

March 20, 2018 Letting

To Whom It May Concern:

Reference is made to the Final Request for Proposals dated January 26, 2018 recently furnished to you on the above project. We have since incorporated changes, and have attached a copy of Addendum No. 1 for your information. Please note that all revisions have been highlighted in gray and are as follows:

On the COVER SHEET, please change the WBS Element No. to 34839.3.GV7 and change the Federal-Aid No. to NHP-0074(213). Please mark through the WBS Element No. and Federal-Aid No. shown on the January 26, 2018 (Labeled) Final RFP and insert the new WBS Element No. and Federal-Aid No. These corrections must be done in ink and initialed and dated by your Team's primary contractor (reference the attached example). The corrected Final RFP must be used to submit the Price Proposal for return to this office.

The first and second pages of the *Table of Contents* have been revised. Please void the first and second pages in your proposal and staple the revised first and second pages thereto.

Page No. 5 of the *Submittal of Quantities, Fuel Base Index Price and Opt-Out Option* Project Special Provision has been revised. Please void Page No. 5 in your proposal and staple the revised Page No. 5 thereto.

Page No. 50 of the *Price Adjustments for Asphalt Binder* Project Special Provision has been revised. Please void Page No. 50 in your proposal and staple the revised Page No. 50 thereto.

Page Nos. 106 and 107 of the *Geotextile for Pavement Stabilization* Project Special Provision have been revised. Please void Page Nos. 106 and 107 in your proposal and staple the revised Page Nos. 106 and 107 thereto.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
CONTRACT STANDARDS AND
DEVELOPMENT UNIT
1591 MAIL SERVICE CENTER
RALEIGH, NC 27699-1591

Telephone: (919) 707-6900
Fax: (919) 250-4119
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
CENTURY CENTER COMPLEX
ENTRANCE B-2
1020 BIRCH RIDGE DRIVE
RALEIGH, NC 27610

Page Nos. 144 – 147, 151 and 153 of the *Roadway Scope of Work* have been revised. Please void Page Nos. 144 – 147, 151 and 153 in your proposal and staple the revised Page Nos. 144 – 147, 151 and 153 thereto.

Page No. 164 of the *Pavement Management Scope of Work* has been revised. Please void Page No. 164 in your proposal and staple the revised Page No. 164 thereto.

Page No. 183 of the *Hydraulics Scope of Work* has been revised. Please void Page No. 183 in your proposal and staple the revised Page No. 183 thereto.

Page No. 198 of the *Environmental Permits Scope of Work* has been revised. Please void Page No. 198 in your proposal and staple the revised Page No. 198 thereto.

Page No. 216 of the *Transportation Management Scope of Work* has been revised. Please void Page No. 216 in your proposal and staple the revised Page No. 216 thereto.

Page Nos. 281 and 282 of the *Utilities Coordination Scope of Work* have been revised. Please void Page Nos. 281 and 282 in your proposal and staple the revised Page Nos. 281 and 282 thereto.

Page No. 288 of the *Right of Way Scope of Work* has been revised. Please void Page No. 288 in your proposal and staple the revised Page No. 288 thereto.

If you have any questions or need additional information, I can be reached by telephone at (919) 707-6900.

Sincerely,

Ronald E. Davenport, Jr., PE
State Contract Officer

RED/kbc

cc: Chris Werner, PE
Greg Burns, PE
Teresa Bruton, PE
Ron McCollum, PE
Karen Capps, PE
File

EXAMPLE

-- STATE OF NORTH CAROLINA--
DEPARTMENT OF TRANSPORTATION
RALEIGH, N.C.

FINAL REQUEST FOR PROPOSALS

DESIGN-BUILD PROJECT

TIP U-2579D, E & F

January 26, 2018

VOID FOR BIDDING

DATE AND TIME OF TECHNICAL AND PRICE PROPOSAL SUBMISSION: **February 27, 2018** BY **4:00 PM**

DATE AND TIME OF PRICE PROPOSAL OPENING: **March 20, 2018 AT 2:00 PM**

CONTRACT ID: C204088

WBS ELEMENT NO. ~~34839.3.7~~ 34839.3.GV7 Initial, Date

FEDERAL-AID NO. ~~NHP-0074(011)~~ NHP-0074(213) Initial, Date

COUNTIES: Forsyth

ROUTE NO. Future I-74

MILES: 6.9

LOCATION: Future I-74 – Winston-Salem Northern Beltway from west of NC 66 / SR 4000 (University Parkway) to US 311 (New Walkerton Road)

TYPE OF WORK: DESIGN-BUILD AS SPECIFIED IN THE SCOPE OF WORK CONTAINED IN THE REQUEST FOR PROPOSALS

NOTICE:

ALL PROPOSERS 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 PROPOSER 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. PROPOSERS 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. NOT WITHSTANDING THESE LIMITATIONS ON BIDDING, THE PROPOSER WHO IS AWARDED ANY PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF BID OPENING, REGARDLESS OF FUNDING SOURCES.

_____

5% BID BOND OR BID DEPOSIT REQUIRED

_____

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submit a payment request for quantities of work completed based on the work completed for that estimate period. The quantities requested for partial payment shall be reflective of the work actually accomplished for the specified period. The Design-Build Team shall certify that the quantities are reasonable for the specified period. The base index price for DIESEL #2 FUEL is **$ 2.2321** per gallon.

(C) **Opt Out of Fuel Price Adjustment**

If the Design-Build Team elects not to pursue reimbursement for Fuel Price Adjustments, a quantity of zero shall be entered for all quantities in the *Fuel Usage Factor Chart and Estimate of Quantities* sheet and the declination box shall be checked. Failure to complete this form will mean that the Design-Build Team is declining the Fuel Price Adjustments for this project.

(D) **Change Option**

The proposer will not be permitted to change the option after the Price Proposal and the copy of the *Fuel Usage Factor Chart and Estimate of Quantities* sheet are submitted.

(E) **Failure to Submit**

Failure to submit the completed *Fuel Usage Factor Chart and Estimate of Quantities* sheet separately and in the Price Proposal will result in the Technical and Price Proposal being considered irregular by the Department and the Technical and Price Proposal may be rejected.

INDIVIDUAL MEETINGS WITH PROPOSERS

(9-1-11) DB1 G048

The Department will provide at least two Question and Answer Sessions to meet with each proposer individually to specifically address questions regarding the draft Requests for Proposals.

The Department will attempt to arrange for a meeting between each individual proposer and the affected utility owners. The Department will attempt to arrange for a meeting between each individual proposer and the Norfolk Southern Railway.

The Department will afford each proposer one additional meeting with the Department (maximum two-hour time limit per each meeting) to discuss project specifics and address the proposer's concerns and questions. This meeting may occur at any time after the first Question and Answer Session with the proposers and before two weeks prior to the Technical and Price Proposals submittal date. The proposer shall request this meeting in writing to the State Contract Officer, providing the Department a minimum of one week advance notice of the requested date. The proposer shall also state in the request those disciplines within the Department that are requested to be in attendance. The Department makes no assurance that the request may be honored on that specific date or that all disciplines requested can be in attendance.

PRICE ADJUSTMENTS FOR ASPHALT BINDER

(9-1-11) (Rev. 9-8-17) DB6 R25

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

When it is determined that the monthly selling price of asphalt binder on the first business day of the calendar month during which the last day of the partial payment period occurs varies either upward or downward from the Base Price Index, the partial payment for that period will be adjusted. The partial payment will be adjusted by adding the difference (+ or -) of the base price index subtracted from the monthly selling price multiplied by the total theoretical quantity of asphalt binder authorized for use in the plant mix placed during the partial payment period involved.

The base price index for asphalt binder for plant mix is **$414.00** per ton.

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on **February 1, 2018**.

PRICE ADJUSTMENTS - ASPHALT CONCRETE PLANT MIX

(9-1-11) (Rev. 9-8-17) DB6 R26

Revise the 2018 *Standard Specifications for Roads and Structures* as follows:

Page 6-18, Article 609-11 and Page 6-35, Article 610-14

Add the following paragraph before the first paragraph:

The "Asphalt Price" used to calculate any price adjustments set forth in this section shall be $40.00 per theoretical ton. This price shall apply for all mix types.

FIELD OFFICE

(6-1-07) (Rev. 6-22-15) DB 08-01

Description

This work consists of furnishing, erecting, equipping, and maintaining a field office for the exclusive use of Department Engineers and Inspectors at a location on the project approved by the Engineer. Provide a field office that complies with the current A.D.A. Design and Accessibility Standards, the National Electric Code, local, state, and federal regulations, and the following:

Procedures

The field office and equipment shall remain the property of the Design-Build Team upon completion of the contract. The field office must be separated from buildings and trailers used by the Design-Build Team and shall be erected and functional as an initial operation. Failure to have the field office functional when work first begins on the project will result in withholding payment of the Design-Build Team's monthly progress estimate. The field office must be

3.3 CONSTRUCTION METHODS

CCTV Metal Poles

Install anchor rod assemblies in accordance with the *Foundations and Anchor Rod Assemblies for Metal Poles* Project Special Provision found elsewhere in this RFP.

Erect CCTV metal poles only after concrete has attained a minimum allowable compressive strength of 3,000 psi. For further construction methods, see construction methods for Metal Strain Pole.

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

For holes in the poles used to accommodate cables, install grommets before wiring pole or arm. Do not cut or split grommets.

Attach the hand hole covers to the pole by a sturdy chain or cable. Ensure the chain or cable is long enough to permit the cover to hang clear of the opening when the cover is removed, and is strong enough to prevent vandalism. Ensure the chain or cable will not interfere with service to the cables in the pole.

Attach cap to pole with a sturdy chain or cable. Ensure the chain or cable is long enough to permit the cap to hang clear of the opening when the cap is removed.

Perform repair of damaged galvanizing that complies with the 2018 *Standard Specifications for Roads and Structures*, Article 1076-7 "Repair of Galvanizing."

Install galvanized wire mesh around the perimeter of the base plate to cover the gap between the base plate and top of foundation for debris and pest control.

Install a ¼ inch thick plate for concrete foundation tag to include: concrete grade, depth, diameter, and reinforcement sizes of the installed foundation.

Install CCTV metal poles, hardware, and fittings as shown on the manufacturer's installation drawings. Install poles so that when the pole is fully loaded it is within 2 degrees of vertical.

Drilled Pier Foundations

Construct drilled pier foundations in accordance with the *Foundations and Anchor Rod Assemblies for Metal Poles* Project Special Provision found elsewhere in this RFP.

GEOTEXTILE FOR PAVEMENT STABILIZATION

(5-7-14) (Rev. 2-9-18) DB 08-05

Description

Supply and install geotextile for pavement stabilization in accordance with the Geotechnical Engineering Scope of Work found elsewhere in this RFP. Geotextile for pavement stabilization may be required 12 to 18 inches below subgrade elevation to prevent pavement cracking at locations shown in the plans developed by the Design-Build Team and as directed by the Engineer. Where Class IV subgrade stabilization in lieu of chemical stabilization is used, the geotextile for pavement stabilization may be used in place of the geotextile for soil stabilization,

Type 4 provided the construction methods described in this section are followed. (Reference the *Class IV Subgrade Stabilization in Lieu of Chemical Stabilization* Standard Special Provision found elsewhere in this RFP)

Materials

Refer to Division 10 of the 2018 *Standard Specifications for Roads and Structures*.

Item	Section
Geotextiles	1056

Provide Type 5 geotextile for geotextile for pavement stabilization that meets the following tensile strength requirements in the machine direction (MD) and cross-machine direction (CD):

GEOTEXTILE FOR PAVEMENT STABILIZATION REQUIREMENTS		
Tensile Strength	**Requirement (MARV[A])**	**Test Method**
Tensile Strength @ 5% Strain (MD & CD[A])	1,900 lb/ft	ASTM D4595
Ultimate Tensile Strength (MD & CD[A])	4,800 lb/ft	ASTM D4595

A. MD, CD and MARV per Article 1056-3 of the 2018 *Standard Specifications for Roads and Structures*

Construction Methods

The Design-Build Team shall determine if geotextile for pavement stabilization is required. The Design-Build Team shall show proposed locations in the plan views developed by the Design-Build Team and other locations as directed by the Engineer. Use of geotextile for pavement stabilization will be based on sampling and testing for chemical stabilization. This sampling can be done when the embankment is completed to within two feet of subgrade elevation.

Place geotextile for pavement stabilization 12 to 18 inches below subgrade elevation as shown in the plans developed by the Design Build Team. Pull geotextiles taut so they are in tension and free of kinks, folds, wrinkles or creases. Install geotextile for pavement stabilization perpendicular to the survey or lane line in the MD and adjacent to each other in the CD as shown in the plans developed by the Design-Build Team. Continuous geotextiles are required in the MD, i.e., do not splice or overlap geotextiles so seams are parallel to the survey or lane line. Completely cover stabilized subgrades or subbases with geotextile for pavement stabilization. Overlapping geotextiles in the CD is permitted but not required. Overlap geotextiles in the direction that soil or aggregate will be placed to prevent lifting the edge of the top geotextile. Hold geotextiles in place with wire staples or anchor pins as needed.

Do not damage geotextile for pavement stabilization when placing soil or aggregate. Place and compact soil or aggregate in accordance with this scope of work and the 2018 *Standard Specifications for Roads and Structures*. Do not operate heavy equipment on geotextiles any more than necessary to construct base courses or subgrades. Replace any damaged geotextiles to the satisfaction of the Engineer.

ROADWAY SCOPE OF WORK (2-14-18)

It should be noted that all references to TIP Projects U-2579, U-2579D, U-2579E and U-2579F in material provided by the Department shall apply to this project.

Throughout this RFP, references to the Preliminary Roadway Plans shall denote the U-2579 Transportation Corridor Official Map (Rolls 1, 2 and 3 of 7) and the 02-13-2018 Additional Y-Line Overlay Map.

Project Details

- The Design-Build Team shall design and construct a six-lane divided facility for the extension of Future I-74 from Station 198+37.73 -L-, based upon the R-2247EB Project, (R-2247EB tie point) west of NC 66 / SR 4000 (University Parkway) to Station 392+50 -L-, based upon the U-2579C Project, west of US 311 (New Walkertown Road) in Forsyth County. Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall design and construct the -L- Line (mainline) providing the same or better access, widening, improvements and traffic measures of effectiveness, in the Department's sole discretion, included in the Preliminary Roadway Plans provided by the Department. The limits of the mainline construction shall be of sufficient length to tie to existing based upon the current NCDOT guidelines and standards. The mainline shall be designed and constructed to meet a 70 mph design speed for a rolling rural freeway designed to interstate standards. The mainline shall be designed and constructed in accordance with the AASHTO *A Policy on Geometric Design of Highways and Streets*, Table 3-10b (e_{max} = 8%). The Design-Build Team shall provide all other design criteria in the Technical Proposal.

- The Design-Build Team shall design and construct 12-foot mainline travel lanes. Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall design and construct the mainline shoulders as follows:

  - Design and construct minimum 14-foot outside shoulders (12-foot useable shoulder width plus two feet), 12-foot of which shall be full depth paved shoulders, including all acceleration, deceleration and auxiliary lanes, and ramps / loops to the back of the gore (12-foot width).

  - Design and construct minimum 14-foot median shoulders (12-foot useable shoulder width plus two feet), 12-foot of which shall be full depth paved shoulders.

- At the R-2247EB tie point, the mainline final vertical alignment elevation shall be 902.44 feet and the grade shall be + 2.4200%.

- In accordance with the requirements below, the Design-Build Team shall design and construct one eastbound auxiliary lane and one westbound auxiliary lane along the mainline (four lanes total in each direction) that connects the US 52 interchange, being constructed under R-2247EB, with the NC 66 / SR 4000 (University Parkway) interchange. The aforementioned auxiliary lanes shall begin at the beginning of the project and extend to the

NC 66 / SR 4000 (University Parkway) interchange loop deceleration lane and loop acceleration lane.

- From the beginning of the project to Station 18+00, -L-, as shown on the Preliminary Plans provided by the Department, the Design-Build Team will only be required to grade the mainline, including all acceleration, deceleration, and auxiliary lanes to an elevation six inches above the future subgrade and construct all required drainage, including but not limited to cross pipes, median drainage and drainage structures.

- Unless required by the Design-Build Team's design, the Design-Build Team will not be required to design or construct the auxiliary lanes connecting the NC 66 / SR 4000 (University Parkway) interchange and NC 8 (Germanton Road) interchange, as shown on the Preliminary Roadway Plans provided by the Department. Between the aforementioned interchanges, the Design-Build Team shall design and construct ramp / loop acceleration lengths required to achieve a LOS A and deceleration lengths required to achieve a LOS B.

- As shown on the U-2579C Final Roadway Plans and Construction Revision to be provided by the Department, the U-2579C contractor will construct a section of the Winston-Salem Northern Beltway. The Design-Build Team shall be responsible for completing all remaining design and construction activities necessary to complete the mainline and the mainline / US 311 (New Walkertown Road) interchange and open them to traffic in the final traffic pattern. These aforementioned design and construction activities shall include but not be limited to, final grading, paving, guardrail installation, shoulder berm gutter installation, drainage structure installation and / or elevation adjustment, signing installation, signal modifications, final pavement markings and sound barrier wall installation.

- The Design-Build Team shall coordinate with Project U-2579C and Project R-2247EB design and construction to ensure accurate sound barrier walls, hydrology, capacity, horizontal and vertical ties that adhere to the design criteria and Design Noise Reports. The Design-Build Team shall not make any design or construction revisions that impact the design or construction of Project U-2579C or Project R-2247EB without prior written approval from the Design-Build Unit. The aforementioned, prior written approval shall occur through coordination and / or submittals to the Design-Build Unit after Award. (Reference the *Cooperation Between Contractors* Project Special Provision found elsewhere in this RFP)

NOTE Deleted bullet regarding temporary tie to SR 1840

- The mainline median width shall be 46 feet throughout the entire project limits.

- The mainline grade point shall be located at the median edge of the lane. In a normal crown section, the mainline travel lanes shall slope towards the outside at a 0.025 cross slope.

- The minimum mainline right of way width shall be 350 feet.

- The Design-Build Team shall design and construct one-lane ramps that provide a minimum 16-foot lane width. The Design-Build Team shall design and construct two-lane ramps that provide minimum 12-foot lanes. All ramps shall have 14-foot outside shoulders, four-foot of which shall be full depth paved shoulder and 12-foot inside shoulders, four-foot of which shall be full depth paved shoulder.

- The Design-Build Team shall design and construct loops that adhere to Table 3-29, Design Widths of Pavements for Turning Roadways, shown in the 2011 AASHTO *A Policy on Geometric Design of Highways and Streets* - Case II / Condition C for one-lane loops; Case III / Condition C for two-lane loops. All loops shall have 12-foot outside shoulders, four-foot of which shall be full depth paved shoulders. All loops shall have 2'-6" curb and gutter along the inside edge of pavement, with a 14-foot berm. The minimum loop design shall be 30 mph with a minimum 230-foot radius.

- Excluding a DDI interchange configuration, the Design-Build Team shall design and construct the NC 8 (Germanton Road) interchange ramps and bridge(s) to accommodate a future loop in the northeast quadrant. The Design-Build Team will not be required to design or construct ramps or bridges that accommodate future loops at other interchanges.

- The Design-Build Team shall design and construct all diverging diamond interchanges (DDI), in accordance with the requirements noted below:

  - Between and through the DDI crossovers, the Design-Build Team shall design and construct lane widths that accommodate a WB-67; however, the minimum lane width between and through the DDI crossovers shall be 15 feet. All approach / departure lanes to / from the crossovers shall be tapered to the crossover lane-width prior to entering / after exiting the curve approaching / departing the crossover.

  - The Design-Build Team shall design and construct lane widths for all spurs (right and left turn movements from / to the ramps) that accommodate a WB-67; however, the minimum spur lane width shall be 15 feet. All approach / departure ramp lanes to / from the spurs shall be tapered to the spur lane width prior to entering / after exiting the spur. Regardless of the spur lane width, all spur alignments shall be located 15 feet from the outside edge of travel lane.

  - The four ramp channelization islands shall be raised grass islands bordered with 2'-6" curb and gutter. Within the aforementioned ramp channelization islands, the Design-Build Team shall provide a minimum five-foot wide pedestrian accommodation that accesses the pedestrian median accommodation noted below.

  - Between the DDI crossovers, the Design-Build Team shall provide a minimum ten-foot wide pedestrian accommodation within the -Y- Line median. Along both sides of the aforementioned ten-foot pedestrian accommodation, the Design-Build Team shall provide barrier (2'-6" concrete dual flat-faced barrier with metal handrail and no glare screen) that extends a minimum of 42" above the walking surface. The barrier shall meet AASHTO Manual for Assessing Safety Hardware, TL-2 crash test requirements and terminate with a ten-foot taper that reduces the barrier height to 2'-3". Excluding within

the aforementioned ten-foot taper, the handrail shall be installed in accordance with the 10-30-2013 Proposed Pedestrian Safety Rail Detail provided by the Department.

- The curves approaching / departing the crossovers shall slope from the median to the outside at a 0.02 cross slope.

- Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall design and construct -Y- Lines, ramps, service roads, and cul-de-sacs / turnarounds providing the same or better access, widening, improvements and traffic measures of effectiveness, in the Department's sole discretion, included in the Preliminary Roadway Plans provided by the Department. The limits of -Y- Line construction shall be 1) of sufficient length to tie to existing based upon the current NCDOT guidelines and standards or 2) to the construction limits shown on the 02-13-2018 *Additional Y-Line Overlay Map* provided by the Department, whichever is greater.

- The Design-Build Team will not be required to design and construct a cul-de-sac at the Tickle Road western terminus.

- Unless noted otherwise elsewhere in this RFP, throughout the NC 66 / SR 4000 (University Parkway) proposed curb and gutter limits, the Design-Build Team shall design and construction NC 66 / SR 4000 (University Parkway) in accordance with the *Future NC 66 - SR 4000 (University Parkway) Typical Section Revised* document provided by the Department. Excluding the proposed bridge on NC 66 / SR 4000 (University Parkway), the Design-Build Team will not be required to design or construct sidewalks along NC 66 / SR 4000 (University Parkway). (Reference the Structures Scope of Work found elsewhere in this RFP)

- The Design-Build Team shall design and construct SR 1928 (Stanleyville Drive) with minimum eight-foot shoulders, five-foot of which shall be full-depth paved shoulders.

- The Design-Build Team shall connect Old Rural Hall Road to the realigned NC 66 (Old Hollow Road). Within the NC 66 (Old Hollow Road) realignment limits, in proximity to the proposed bridge at NC 66 (Old Hollow Road) and Future I-74, the Design-Build Team shall 1) remove and dispose of the existing NC 66 (Old Hollow Road) pavement structure, 2) re-grade the existing roadbed, including but not limited to the pavement area, embankments, and / or roadway ditches and 3) return the area to a condition similar to its surroundings.

- Throughout the SR 1929 (Merry Dale Drive), SR 2216 (Davis Road) and SR 2219 (Dippen Road) construction limits, the Design-Build Team shall design and construction minimum 12-foot lanes and six-foot shoulders.

- In lieu of removing the portions of SR 2348 (North Hampton Drive) and SR 2349 (Hammock Farm Road) as shown on the Preliminary Roadway Plans provided by the Department, the Design-Build Team shall retain the aforementioned roadways, including but not limited to

be paid for as extra work in accordance with Subarticle 104-8-(A) of the NCDOT *Standard Specifications for Roads and Structures*.

- If variations to the Department's proposed design and / or construction methods require additional service road(s), the service road(s) design and construction, as well as all associated NEPA requirements, shall be included in the Design-Build Team's lump sum bid for the entire project.

- The Design-Build Team shall design and construct all service roads to meet a minimum 40 mph design speed using the 0.04 superelevation chart. The Design-Build Team shall design and construct all service roads with two 12-foot lanes and six-foot minimum shoulders with a Type "B" ditch as per the NCDOT *Roadway Design Manual.*

- Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall provide cul-de-sacs / turnarounds on all roads that are dead-ended. The Design-Build Team shall provide the roadway terminus type, cul-de-sac or turnaround, in accordance with the type shown on the 02-13-2018 *Additional Y-Line Overlay Map* provided by the Department. For dead-ended roads not shown on the aforementioned overlay map, the Design-Build Team shall provide a cul-de-sac on paved roads and a turnaround on nonpaved roads. At a minimum, all cul-de-sacs / turnarounds shall accommodate an S-BUS-36 school bus design vehicle.

- Excluding (1) roadway sections shown on the 02-13-2018 *Additional Y-Line Overlay Map* provided by the Department, (2) U-2579C mainline, -Y1RPB-, -Y1RPC- and -Y1RPD- roadway sections constructed without the final surface course layer, and (3) construction areas that consist solely of pavement marking obliterations / revisions, gravel / soil roads, and haul roads, the Design-Build Team shall design and construct resurfacing grades for all roadways impacted by construction. All resurfacing grades shall adhere to the design criteria and standards, provide all required pavement wedging (Reference the Pavement Management Scope of Work found elsewhere in this RFP) and adhere to the minimum requirements noted below:

  - The Design-Build Team shall resurface all lanes and shoulders of an undivided facility throughout the limits of proposed widening and construction.

  - The Design-Build Team shall resurface each one-way roadway of a divided facility throughout the limits of the one-way roadway widening and construction, allowing varying resurfacing limits for the opposing directions of travel.

  - Unless noted otherwise elsewhere in this RFP, for both divided and undivided facilities, the Design-Build Team shall resurface all lanes and shoulders within the outermost construction limits of all proposed widening and construction, including any gaps along the facility where construction activities are not required. The Design-Build Team will not be required to resurface the sections of NC 66 (Old Hollow Road) below solely to adhere to the requirement to resurface gaps along a facility where construction activities are not required:

and dispose of all metal caps and fiberglass markers used to temporarily delineate the proposed right of way. For all parcels, the Design-Build Team shall locate and install metal caps with fiberglass markers that delineate all proposed permanent easements within the project limits. The Design-Build Team shall replace all existing right of way and permanent easement markers / monuments damaged and / or relocated during construction. In accordance with NCDOT Policy, the Department will furnish the metal caps with fiberglass markers.

- The Design-Build Team shall evaluate the **entire** U-2579D, E & F Project, post Award, and develop the Design Noise Report (DNR) based on the plans developed by the Design-Build Team regardless of changes to the Department's preliminary design. The DNR shall be developed in accordance with the NCDOT 2011 Traffic Noise Abatement Policy and NCDOT 2011 Traffic Noise Analysis and Abatement Manual and be reviewed and accepted by NCDOT. Prequalification under Discipline Code 441 shall be required for the firm developing the DNR. The Design-Build Team shall include all costs associated with developing the DNR, including but not limited to field investigations, TNM modeling, wall envelope details, panel drawings, etc., in the lump sum price bid for the entire project.

  Excluding sound barrier walls eliminated by the balloting process, the Design-Build Team shall design and construct the sound barrier walls listed in the DNR developed by the Design-Build Team and accepted by the Department. The design and construction of all sound barrier walls, including any additional geotechnical investigations necessary to design the foundations, will be paid for as extra work in accordance with Subarticle 104-8(a) of the NCDOT *Standard Specifications for Roads and Structures*.

  The Department will ballot all benefited receptors to determine which sound barrier walls recommended in the accepted DNR will be constructed. The Design-Build Team shall (1) develop and provide the information required by the Department to complete the balloting process, and (2) attend and / or speak at all balloting meetings and workshops. The Department will require four months to complete the balloting process. The Department will not honor any requests for additional contract time or compensation for the sound barrier wall construction unless the aforementioned four-month timeframe is exceeded. If time were granted, it would only be for that time exceeding the four-month period, which shall begin on the date the Department accepts the DNR developed by the Design-Build Team. The Design-Build shall not construct any sound barrier walls until the balloting process has been completed by the Department.

  At all sound barrier walls, the Design-Build Team shall provide 1) a four-foot berm between the wall and fill / cut slopes steeper than 6:1 and 2) a parallel concrete ditch at locations where the final grade slopes toward the wall.

  To satisfy the FHWA's Abatement Measure Reporting requirements, the Design-Build Team shall prepare and concurrently submit a summary of the sound barrier walls to be constructed on the project with the final sound barrier wall working drawings submittal. The Design-Build Team shall submit the sound barrier wall summary directly to the NCDOT Traffic Noise and Air Quality Group and include the information noted in Title 23 Code of

Throughout the limits of SR 2456 (Old Walkertown Road) constructed without the final surface course layer, the Design-Build Team shall uniformly overlay the existing pavement with 1.5" of S9.5B.

Throughout the construction limits of NC 66 / SR 4000 (University Parkway), NC 8 (Germanton Road), SR 1928 (Stanleyville Rd), NC 66 (Old Hollow Road) and SR 2211 (Baux Mountain Road) where resurfacing and / or wedging asphalt depths are less than four inches above the existing roadway surface, the Design-Build Team shall mill 3.0" of pavement and resurface with a minimum 3.0" S9.5B. Throughout the construction limits of SR 1929 (Merry Dale Drive), SR 2216 (Davis Road) and SR 2219 (Dippen Road) where resurfacing and / or wedging asphalt depths are less than four inches above the existing roadway surface, the Design-Build Team shall mill 2.5" of pavement and resurface with a minimum 2.5" S9.5B. For all other -Y- Lines, the Design-Build Team shall resurface the existing pavement with a minimum depth that equals the full thickness of surface course as provided in **Table 2** above. (Reference the Roadway Scope of Work found elsewhere in this RFP).

Throughout the construction limits that consist solely of pavement marking obliterations and / or revisions, the Design-Build Team shall uniformly overlay the existing pavement with a pavement depth that equals half the full thickness of the surface course as provided in **Tables 1 and 2** above. For all roadway sections shown on the 02-13-2018 *Additional -Y- Line Overlay Map* provided by the Department, the Design-Build Team shall uniformly overlay the existing pavement with 1.5" of S9.5B.

On all ramps and loops, the adjacent through lane pavement design shall extend to the back of the gore (12-foot width).

Longitudinal joints of all surface course layers shall not be located in the final traffic pattern wheel path. If applicable, the Design-Build Team shall indicate in the Technical Proposal where all underlying longitudinal joints will be located and demonstrate how the underlying longitudinal joint location will minimize reflective cracking.

Unless noted otherwise elsewhere in this RFP, the minimum widened width shall be six feet. The minimum widened width may be reduced to four feet only if the Design-Build Team demonstrates that their equipment properly compacts narrow widening and obtains prior Department written approval. Tapers that tie proposed pavement to existing pavement are excluded from the narrow widening requirements noted above.

In areas where the existing -Y- Line or ramp paved shoulders are proposed to be incorporated into a permanent travel lane, the Design-Build Team shall be responsible for evaluating the existing paved shoulder regarding its suitability for carrying the projected traffic volumes. In the event that the existing paved shoulder is found to be inadequate, the Design-Build Team shall be responsible for upgrading the existing paved shoulder to an acceptable level or replacing the existing paved shoulder. The Design-Build Team shall submit their evaluation and proposed use of existing paved shoulders to the Design-Build Unit for review and acceptance or rejection.

Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall pave from 1) the edge of all paved shoulders to the face of all single face barrier / guardrail, excluding median locations that the NCDOT Roadway Standard Drawings do not require paving to the face of

- All existing and proposed storm drainage systems shall maintain a hydraulic grade line that is a minimum of 0.5 feet below the inlet rim elevation or top of junction box; and shall adhere to all other requirements as identified in Chapter 10 of the *Guidelines for Drainage Studies and Hydraulic Design*.

- In the Technical Proposal, Volume II, the Design-Build Team shall provide a *Box Culverts and Cross Pipes Hydraulic Assessment Table* that contains the attributes noted below for all new location box culverts and cross pipes:

    - Station
    - Proposed drainage structure details
    - Drainage Area
    - Percent Impervious or "C" value used
    - Built-Out Discharges (Design Year and 100 Year)
    - FEMA Crossing (Yes / No)
    - Water Surface Elevation Natural Condition
    - Water Surface Elevation with Drainage Structure
    - HW/D for Build-out Discharges
    - Hydraulic Freeboard for Build-out Discharges
    - Comments

- For all cross structures greater than a 54-inch pipe that are located under the mainline (-L-) or an NC route, including pipes upsized to allow for a buried inlet / outlet condition, a box culvert shall be required.

- The Design-Build Team shall produce Culvert Survey Reports for **all** box culverts, regardless of the hydraulically effective waterway opening.

- For box culverts that require baffles, the Design-Build Team shall place native bed material between the sills. Native materials shall consist of material that is excavated from the stream bed or floodplain at the project site during culvert construction. The use of native material supplemented with rip rap shall be subject to approval by the Engineer and the appropriate resource agencies.

- Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall remove or fill with flowable fill all pipes not retained for drainage purposes.

- Throughout the project limits, the Design-Build Team shall analyze all drainage structures for hydraulic and structural deficiencies that are located within the existing / proposed right of way. The Design-Build Team will not be required to analyze drainage structures within -Y- Line construction limits that consist solely of uniformly overlaying the existing pavement structure or pavement marking obliterations / revisions. Using the hydraulic discharges for the future build-out land use projections, drainage structures that do not adhere to the requirements in Sections 9.5.1.3 and 9.5.2.3 of the *Guidelines for Drainage Studies and Hydraulic Design*, including all addenda, memos and revisions, and / or the freeboard and HW/D requirements noted above, shall be deemed hydraulically deficient. Based on these analyses, the following shall be adhered to:

    - The Design-Build Team shall provide the appropriate hydraulic mitigation for 1) all hydraulically deficient drainage structures and 2) all hydraulically and structurally

ENVIRONMENTAL PERMITS SCOPE OF WORK (2-14-18)

Note: It is the Department's intention that whenever this scope of work references permit "application", this would include permit application or modification of existing permits depending on the situation.

General

The Department has obtained a phased US Army Corps of Engineers (USACE) Section 404 Permit and the NC Department of Environmental Quality Division of Water Resources (NCDWR) Section 401 Water Quality Certification for the Winston-Salem Northern Beltway. The Design-Build Team shall be responsible for preparing all design and documents needed to obtain a permit modification for the Winston-Salem Northern Beltway (U-2579D, E & F) final design. Permit applications shall be required for the: USACE Section 404 Permit and the NCDWR Section 401 Water Quality Certification. The Winston-Salem Northern Beltway (R-2247 Sections B Phase 2, CA, CB, CD, D, EA, EB, EC and U-2579 Sections AA, AB, C Phase 2, D, E, F) phased permit may be referenced on the website noted below:

https://xfer.services.ncdot.gov/pdea/PermIssued/R-2247_U-2579_U-2579A%20Forsyth%20January%2031%202018.pdf

The Design-Build Team shall not begin ground-disturbing activities, including utility relocation in jurisdictional areas, until the environmental permits have been issued (this does not include investigative borings covered under a Nationwide Permit No. 6 and utility relocation work outside jurisdictional resources noted below).

The Design-Build Team shall coordinate with the Design-Build Unit to determine if a Preconstruction Notification (PCN) is required for the Nationwide Permit No. 6. If a PCN is required, the Design-Build Team shall submit all necessary documents and forms to the Design-Build Unit for submittal to the appropriate agencies; and shall not perform any geotechnical investigative work within the jurisdictional resource(s) requiring a PCN prior to obtaining the required approval. If a PCN is not required, the Design-Build Team may proceed with geotechnical investigations inside and outside jurisdictional resources, provided all of the Nationwide Permit No. 6 General Conditions are followed.

The Design-Build Team may begin utility relocation work prior to obtaining the aforementioned permits provided that (1) the Department is notified in writing and provides approval prior to beginning work; (2) such activities are outside jurisdictional resources; and (3) a meeting is held with the Department and permitting agencies prior to beginning work, if necessary.

The Department will allow no direct contact between the Design-Build Team and representatives of the environmental agencies. No contact between the Design-Build Team and the environmental agencies shall be allowed either by phone, e-mail or in person, without representatives of the Department's Environmental Analysis Unit (EAU) - Environment Coordination and Permitting Group (ECAP) or the Division's Environmental Officer (DEO) present. A representative from the Design-Build Unit shall be included on all correspondence.

number of calendar days proposed by the Design-Build Team in the Technical Proposal, and such number of calendar days proposed shall not be greater than the days noted above.

Liquidated Damages for Intermediate Contract Time #6 for the above road closure time restrictions for SR 2216 (Davis Road) and SR 2219 (Dippen Road) are $1,000.00 per calendar day or any portion thereof.

4. Intermediate Contract Time #7 for Culvert / Hydraulic Mitigation Construction

With an approved offsite detour, SR 2211 (Baux Mountain Road) may be closed for the maximum duration listed below to construct the culvert or hydraulic mitigation at Mill Creek.

Road Name	Day	Time Restriction
SR 2211 (Baux Mountain Road)	Monday through Sunday	120 consecutive days

The time of availability for ICT #7 shall be 6:00 p.m. on the date the Design-Build Team elects to close SR 2211 (Baux Mountain Road). The Design-Build Team shall provide the Engineer a minimum of 21 days written notice prior to the time of availability. The time of completion shall be 7:00 a.m. on the date that corresponds to the number of calendar days proposed by the Design-Build Team in the Technical Proposal, and such number of calendar days proposed shall not be greater than the days noted above.

Liquidated Damages for Intermediate Contract Time #7 for the above road closure time restriction for SR 2211 (Baux Mountain Road) are $500.00 per calendar day or any portion thereof.

B. Hauling Restrictions

The Design-Build Team shall adhere to the hauling restrictions noted in the NCDOT *Standard Specifications for Roads and Structures*.

The Design-Build Team shall conduct all hauling operations as follows:

- The Design-Build Team shall not conduct any hauling operations against the flow of traffic of an open travelway unless an approved temporary traffic barrier or guardrail separates the traffic from the hauling operation.

- All hauling entrances, exits and crossings shall be shown on the TMP and be in

Utility Owner	Utility Type	Cost Responsibility
AT&T	Telecommunications	AT&T
CenturyLink	Telecommunications	CenturyLink (normally)
Windstream Communications	Telecommunications	Windstream (normally)
Sprint	Telecommunications	Sprint (normally)
Duke Energy	Power	NCDOT (normally)
Winston-Salem / Forsyth County-City Utilities	Water and Sewer	Design-Build Team (NCDOT will obtain an agreement with Winston-Salem / Forsyth County-City Utilities allowing the Design-Build Team to work on their facilities)
Piedmont Natural Gas	Gas	Piedmont Gas (normally)
Spectrum	CATV	Spectrum (normally)
** NOTE ** Deleted Sprint duplication		
** NOTE ** Deleted Windstream duplication		

Water and Sewer

If the Design-Build Team's design and / or construction requires the relocation and / or encasement of existing water and / or sewer facilities, designs shall be coordinated with the NCDOT Utilities Unit. All costs associated with the design and construction for relocation and / or encasement of these existing water and / or sewer facilities shall be the responsibility of the Design-Build Team and shall be included in the lump sum bid for the project. The Design-Build Team shall develop designs; prepare all plans for needed agreements and permits; submit permits directly to the agencies and obtain approval from the agencies. The Design-Build Team shall be responsible for all permit fees.

For all parcels with access to existing water and / or sewer facilities that the project subdivides, the Design-Build Team shall design and construct water / sewer facility extensions to all sub-divided parcels, including but not limited to the sub-divided parcel with the existing water / sewer access, if necessary. The aforementioned water facility extensions shall be installed completely within the right of way. The aforementioned sewer facility extensions shall be installed completely within the right of way or a recorded easement. All costs associated with the design and construction of water / sewer facility extensions to sub-divided parcels shall be included in the Design-Build Team’s lump sum bid for the project.

Designs shall be coordinated with the NCDOT Utilities Unit and the utility owners or their representatives. In .pdf format, the Design-Build Team shall electronically submit one half-size set and one full size set of utility construction drawings to the State Utilities Manager, via the Design-Build Unit, for further handling. Each set shall include a title sheet, plan sheets, profiles and special provisions, if required. Once accepted by the State Utilities Manager, the plans, with the appropriate agreement, will be sent to the utility owner for their review and concurrence.

The relocation and / or encasement of all water and sewer facilities shall be done in accordance with the NCDOT policies and standards, as well as the latest - Winston-Salem / Forsyth County Utilities Division's water and sewer design requirements / specifications. In the event of conflicting design parameters in the requirements noted above, the proposed design shall adhere to the most conservative values. The materials and appurtenances proposed by the Design-Build Team shall require approval by both NCDOT and the aforementioned appropriate utility owner prior to installation.

For all waterlines that require relocation, the Design-Build Team shall:

- Replace all existing fire hydrants that are 30 years old, or older, with a new fire hydrant
- Replace all existing waterline meter boxes that do not meet current code(s) with new waterline meter boxes
- Replace all galvanized pipe water service lines from the main waterline to the existing service

The City of Winston-Salem will provide the new fire hydrants and waterline meter boxes noted above. The Design-Build Team shall coordinate with the City of Winston-Salem to obtain the new fire hydrants and waterline meter boxes.

Utility Relocation Plans

Excluding water and sewer conflicts, if the Design-Build Team's design and / or construction create a utility conflict, the Design-Build Team shall request that the utility owner submit relocation plans (Highway Construction Plans to be provided by the Design-Build Team to utility owners) that show existing utilities and proposed utility relocations for approval by the NCDOT.

In .pdf format, the Design-Build Team shall electronically submit one half-size set and one full size set of the Utility Relocation Plans to the NCDOT State Utilities Manager, via the Design-Build Unit, for review and approval. The Department shall approve the Utility Relocation Plans prior to any utility relocation work beginning. The Design-Build Team shall also be responsible for submitting the appropriate agreements to be used with the Utility Relocation Plans (See Agreements Section found elsewhere in this Scope of Work). After the review process is complete, the NCDOT Utilities Unit will submit an electronic copy of the authorization letter to the Design-Build Team. The NCDOT Utilities Unit will also submit an electronic copy of the approved Utility Relocation Plans, estimate and agreement to the Department's Resident Engineer. If the Utility Relocation Plans are approved subject to changes, it shall be the Design-Build Team's responsibility to coordinate these changes with the appropriate utility owner.

Cost Responsibility

The Design-Build Team shall be responsible for all costs associated with relocating and / or encasing water and sewer facilities, as described in the Water and Sewer Section of this Scope of Work.

The NCDOT will be responsible for all other non-betterment utility relocation cost when the utility owner has prior rights of way / compensable interest. The utility owner shall be responsible for the relocation costs if they cannot furnish evidence of prior rights of way or a

RIGHT OF WAY SCOPE OF WORK (2-14-18)

**** NOTE ** Prior to negotiating property acquisition with property owners, the Design-Build Team shall meet with the appropriate NCDOT Location and Surveys, Right of Way and Design-Build personnel.**

U-2579D, E & F Active Inverse Claim Parcels

The **Department** will acquire the right of way and / or control of access, and settle the Transportation Corridor Map Act (Map Act) active inverse claims for the parcels highlighted on the December 19, 2017 *U-2579DEF Corridor Protection Parcel Map* provided by the Department. The right of way and / or control of access to be acquired by the Department will be as shown on the *U-2579 Transportation Corridor Official Map* provided by the Department. Within ten business days of contract execution, the Design-Build Team shall provide the Department a list that prioritizes the processing order of active inverse claims for parcels highlighted on the December 19, 2017 *U-2579DEF Corridor Protection Parcel Map* provided by the Department.

For the U-2579D, E & F parcels highlighted on the December 19, 2017 *U-2579DEF Corridor Protection Parcel Map* that the Department has completed the right of way and / or control of access acquisitions, and settled the Map Act active inverse claim, the Design-Build Team shall be responsible for acquiring any additional right of way, easements and / or control of access beyond that shown on the *U-2579 Transportation Corridor Official Map,* in accordance with the provisions of this Scope of Work. The Design-Build Team shall be responsible for the cost of the acquisition services to acquire the additional right of way, easements, and / or control of access as required by the Design-Build Team's design and / or construction methods (including all erosion control measures). The Department will be responsible for the actual cost of the additional right of way, easements, and / or control of access for the aforementioned parcels.

For the U-2579D, E & F parcels highlighted on the December 19, 2017 *U-2579DEF Corridor Protection Parcel Map* that the Department has not completed the right of way and / or control of access acquisition and settled the Map Act active inverse claim, the Design-Build Team shall provide CADD descriptions of the **total** right of way, easements, and / or control of access to the Department. The Department will be responsible for amending the appraisals and completing the acquisition.

U-2579D, E & F All Other Parcels

For all remaining right of way, easements, and / or control of access acquisitions required by the Design-Build Team's design and construction methods, the Design-Build Team shall carry out the following responsibilities:

The Design-Build Team shall employ qualified, competent personnel who are currently **approved by the NCDOT Right of Way Unit,** herein after referred to as the Department, to provide all services necessary to perform all appraisal (except appraisal reviews and updated appraisals required solely for condemned parcels), negotiation and relocation services required for all right of way, control of access and easements, including but not limited to permanent utility easements, necessary for completion of the project in accordance with G.S. 136-28.1 of the General Statutes of North Carolina, as amended, and in accordance with the requirements set forth in the *Uniform Appraisal Standards and General Legal Principles for Highway Right of Way*, the *North Carolina Department of Transportation's Right of Way Manual*, the *North Carolina Department of Transportation's Rules and Regulations for the Use of Right of Way Consultants*, the *Code of Federal Regulations*, and Chapter 133 of the *General Statutes of North Carolina* from Section 133-5 through 133-18, hereby incorporated by reference, including the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.