STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

June 19, 2018

Addendum No. 1

Contract No.:	C 203970
TIP No.:	I-5507 / R-0211EC / U-4714AB
County:	Mecklenburg
Project Description:	I-485 from I-77 to US 74 (Independence Boulevard); I-485 / Weddington Road Interchange; and I-485 / East John Street – Old Monroe Road Interchange

RE: Addendum No. 1 to Final RFP

August 21, 2018 Letting

To Whom It May Concern:

Reference is made to the Final Request for Proposals dated May 7, 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:

The first, second and third pages of the *Table of Contents* have been revised. Please void the first, second and third pages in your proposal and staple the revised first, second and third 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. 64 of the *Price Adjustments for Asphalt Binder* Project Special Provision has been revised. Please void Page No. 64 in your proposal and staple the revised Page No. 64 thereto.

Page Nos. 280, 281, 282, 284, 287, 288, 289 and 290 of the *Roadway* Scope of Work have been revised. Please void Page Nos. 280, 281, 282, 284, 287, 288, 289 and 290 in your proposal and staple the revised Page Nos. 280, 281, 282, 284, 287, 288, 289 and 290 thereto.

Page Nos. 300 and 301 of the *Structures* Scope of Work have been revised. Please void Page Nos. 300 and 301 in your proposal and staple the revised Page Nos. 300 and 301 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. 304, 305, 306 and 309 of the *Pavement Management* Scope of Work have been revised. Please void Page Nos. 304, 305, 306 and 309 in your proposal and staple the revised Page Nos. 304, 305, 306 and 309 thereto.

Page Nos. 315, 316 and 317 of the *Hydraulics* Scope of Work have been revised. Please void Page Nos. 315, 316 and 317 in your proposal and staple the revised Page Nos. 315, 316 and 317 thereto.

Page No. 438 of the *Utilities Coordination* Scope of Work has been revised. Please void Page No. 438 in your proposal and staple the revised Page No. 438 thereto.

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

Sincerely,

DocuSigned by:
Ronald E. Davenport, Jr.
F81B6038A47A442...

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

RED/mcw

cc: Ron Hancock, PE
Scott Cole, PE
Teresa Bruton, PE
Zak Hamidi, PE
Tim McFadden, CPM
File

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COVER SHEET

PROPOSAL SHEETS

PROJECT SPECIAL PROVISIONS *PAGE NO.*

STANDARD SPECIAL PROVISIONS

The Design-Build Team shall prepare an Estimate of Quantities that they anticipate incorporating into the completed project and upon which the Price Proposal was based. The quantity breakdown shall include all items of work that appear in the *Fuel Usage Factor Chart and Estimate of Quantities* sheet. Only those items of work which are specifically noted in the *Fuel Usage Factor Chart and Estimate of Quantities* sheet will be subject to fuel price adjustments.

Submittal The submittal shall be signed and dated by an officer of the Design-Build Team. The information shall be copied and submitted in a separate sealed package with the outer wrapping clearly marked "Fuel Price Adjustment" and shall be delivered at the same time and location as the Technical and Price Proposal. The original shall be submitted in the Price Proposal.

Trade Secret Information submitted on the *Fuel Usage Factor Chart and Estimate of Quantities* sheet will be considered "Trade Secret" in accordance with the requirements of G.S. 66-152(3) until such time as the Price Proposal is opened.

(B) **Base Index Price**

The Design-Build Team's Estimate of Quantities will be used on the various partial payment estimates to determine fuel price adjustments. The Design-Build Team shall 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 **$2.4505** 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.

Submittals for Review During Construction

The Design-Build Team shall submit the unconfined compressive strength test results for review and acceptance.

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 **$501.67** per ton.

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on June 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 6-15, Article 609-11 and Page 6-31, 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. 8-3-15) 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:

ROADWAY SCOPE OF WORK (6-18-18)

It should be noted that TIP Project, I-5507, as referenced throughout this Request for Proposals (RFP), represents TIP Project I-5507, R-0211EC and U-4714AB. All references to TIP Projects I-5507, R-0211EC and U-4714 in material provided by the Department shall apply to this project.

Throughout this RFP, references to the Design Map shall denote the I-5507 / R-0211EC / U-4714AB Design Map.

Project Details

- The Design-Build Team shall design and construct an eastbound and westbound express lane within the I-485 median from I-77 to US 74 (Independence Boulevard). Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall design and construct the -L- Line providing the same or better access, widening, improvements and traffic measures of effectiveness, in the Department's sole discretion, included in the Design Map provided by the Department. The limits of -L- Line construction shall be of sufficient length to tie to existing based upon the current NCDOT guidelines and standards. Unless noted otherwise elsewhere in this RFP, the -L- Line shall be designed and constructed to meet a 75 mph design speed for a rolling urban freeway designed to interstate standards. The Design-Build Team shall provide all other design criteria in the Technical Proposal.

- Within the section of I-485 constructed under TIP Project R-4902, the Design-Build Team will not be required to modify the -L- Line solely to adhere to the aforementioned 75 mph design speed. However, the Design-Build Team shall design and construct new and modified ramps / loops within the section of I-485 constructed under TIP Project R-4902 that adhere to a 75 mph design speed.

- Excluding the section of I-485 constructed under TIP Project R-4902, the Design-Build Team shall design and construct minimum 12-foot outside shoulders, ten-foot of which shall be full depth paved shoulders along the -L- Line including all acceleration, deceleration and auxiliary lanes, and ramps / loops / Direct Connections to the back of the gore (12-foot width Within the section of I-485 constructed under TIP Project R-4902, the Design-Build Team shall not reduce the existing -L- Line outside shoulder width, including but not limited to the paved shoulder width. From NC 16 (Providence Road) to the end of the project, the Design-Build Team will not be required to remove the existing shoulder section beyond the minimum shoulder widths noted above. (Reference the Pavement Management Scope of Work found elsewhere in this RFP)

- The Design-Build Team shall design and construct the I-485 / Rea Road Interchange Loop A and Loop C acceleration lengths to meet a 75 mph design speed.

- The Design-Build Team shall design and construct the Johnston Road Loop C acceleration length to meet a 75 mph design speed.

- From the beginning of the project to Rea Road, the Design-Build Team shall design and construct a full depth paved median along the -L- Line at the minimum widths shown on the Design Map. From Rea Road to the end of the project, the Design-Build Team shall design

and construct a minimum 26-foot median. Throughout the project limits, the Design-Build Team shall design and construct Type "T" double-faced concrete median barrier on the aforementioned full depth median pavement.

- Throughout the project limits, the Design-Build Team shall design and construct a delineation area between the express lane and the general purpose lanes at the minimum widths shown on the Design Map. Unless noted otherwise elsewhere in this RFP, the Design-Build Team may shift the express lane entry and exit points a maximum of 500 feet, in either direction, from the locations shown on the Design Map. (Reference the Pavement Marking Scope of Work found elsewhere in this RFP) The full weave lane (delineation area) for the express lane entry and exit points shown on the Design Map between Johnston Road and Rea Road shall be located between Station 439+50 -L- and Station 454+50 -L-, in both directions.

- From Endhaven Lane to Elmstone Drive, the Design-Build Team shall design and construct Elm Lane with 1) two 12-foot travel lanes, 2) one 12-foot center turn lane, 3) 2'-6" curb and gutter on both sides of the roadway, 4) a minimum 16-foot berm with 12-foot sidewalk on the west side and, 5) a minimum ten-foot berm with eight-foot sidewalk on the east side. (Reference the Structures Scope of Work found elsewhere in this RFP)

- Immediately beyond the guardrail anchor units, the Design-Build Team shall transition the proposed Ballantyne Road bridge width to the existing roadway facility with 8:1 tapers. (Reference the Structures Scope of Work found elsewhere in this RFP)

- The Design-Build Team shall design and construct a minimum 450-foot long exclusive northbound left turn lane and taper on East Westinghouse Boulevard that accesses Old Nations Ford Road.

- The Design-Build Team shall design and construct a minimum 350-foot long exclusive northbound right turn lane and taper on East Westinghouse Boulevard that accesses the -Y1DCA- Direct Connector (I-485 eastbound).

- The Design-Build Team shall design and construct a minimum 300-foot long exclusive westbound right turn lane and taper on the -Y1DCA- Direct Connector that accommodates the I-485 westbound to East Westinghouse Boulevard northbound movement.

- The Design-Build Team shall design and construct observation and enforcement areas that adhere to the design parameters in the December 1, 2016 Concept Plan for *I-5507 Observation and Enforcement Areas Memorandum*. West of Rae Road, the Design-Build Team shall not overlap any portion of the eastbound and westbound observation and enforcement areas. The Design Build Team shall design and construct observation and enforcement areas at the following locations:

  - I-485 Eastbound

    - AET 1.2 - The observation area shall be 100 feet beyond the tolling point. The enforcement area shall be between Westinghouse Boulevard and NC 51 / Pineville-Matthews Road.

- AET 2.2 – The observation area shall be 100 feet beyond the tolling point. The enforcement area shall be within the wider median shoulder section east of Rea Road.

- AET 3.2 – The observation area shall be 100 feet beyond the tolling point. The enforcement area shall be immediately beyond the observation area, between Providence Road and Weddington Road.

➢ I-485 Westbound

- AET 3.1 – The observation area shall be 100 feet beyond the tolling point. The enforcement area shall be immediately beyond the observation area, between John Street and Weddington Road.

- AET 2.1 – The observation area shall be 100 feet beyond the tolling point located west of the Ballantyne Commons Parkway overpass. The enforcement area shall be immediately beyond the observation area, east of the Rea Road interchange.

- AET 1.1 – The observation area shall be 100 feet beyond the tolling point. The enforcement area shall be immediately beyond the observation area, between Johnston Road and NC 51 / Pineville-Matthews Road

- The Design-Build Team shall design and construct Weddington Road in accordance with the June 18, 2018 Weddington Road typical section provided by the Department.

- The Design-Build Team shall coordinate with Projects U-4714A and U-4714B design and construction to ensure accurate hydrology, capacity, and horizontal and vertical ties that adhere to the design criteria. The Design-Build Team shall not make any design or construction revisions that impact the design or construction of projects U-4714A and U-4714B without prior written approval from the Design-Build Unit (Reference the *Cooperation Between Contractors* Project Special Provision found elsewhere in this RFP).

- Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall design and construct -Y- Lines, ramps, loops and Direct Connections providing the same or better access, widening, improvements and traffic measures of effectiveness, in the Department's sole discretion, included in the Design Map provided by the Department. The limits of -Y- Line construction shall be of sufficient length to tie to existing based upon the current NCDOT guidelines and standards.

- The Design-Build Team shall design and construct all -Y- Lines such that the through movement is not required to change lanes throughout the limits of construction.

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

shall be located such that the express lane, in each direction of travel, slopes toward the median, and the remaining lanes and buffer slope towards the outside. The Design-Build Team will not be required to shift the existing crown point within the section of I-485 constructed under TIP Project R-4902 to adhere to the aforementioned requirement.

- Unless allowed otherwise elsewhere in this RFP, the Design-Build Team shall design and construct at-grade intersections with the lane configurations noted in the *I-485 Express Lanes Traffic Operations Technical Memorandum*, the August 31, 2007 *R-0211EC – Capacity Analysis of Roadway Plans Memorandum*, the July 2015 *U-4714 Build Traffic Operations Technical Memorandum*, and the April 2018 *I-5507 Minimum Storage Length / Lane Configuration Diagram* provided by the Department. At all intersections impacted by the Design-Build Team's design and / or construction, excluding resurfacing, the Design-Build Team shall design and construct turn lanes that adhere to the greater of the following, unless allowed otherwise elsewhere in this RFP:

  - All turn lane lengths shall adhere to the NCDOT minimum turn lane lengths as defined in the NCDOT Roadway Design Manual (Reference Section 9-1, Figure 4).

  - All lengths for the turn lanes required by the aforementioned Memorandums / Diagram provided by the Department shall adhere to the NCDOT Recommended Treatment for Turn Lanes, as defined in the NCDOT *Roadway Design Manual* - Section 9-1, Figures F-4A and F-4B. These lengths shall be determined by adding the storage length defined in the aforementioned Memorandums / Diagram and the minimum deceleration length, as defined in the NCDOT Roadway Design Manual (Reference Section 9-1, Figure F-4A).

  - Right turn lanes / tapers shall be provided in accordance with the NCDOT Right Turn Lane Warrants, as defined in the Roadway Design Manual (Reference Section 9-1, Figure F-4C).

- 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-

- 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.

- If -Y- Line construction limits begin beyond an interchange ramp terminal and / or terminate prior to an interchange ramp terminal, the Design-Build Team shall extend the resurfacing limits to the furthest ramp terminal in both directions.

- The Design-Build Team shall provide turn-arounds on all roads that are dead- ended.

- Excluding the changes required herein, the Design-Build Team shall inform the Design-Build Unit, in writing, of all proposed design revisions, including but not limited to the following:

  - The Design-Build Team shall note in the Technical Proposal any proposed deviations to the preliminary design shown on the Design Map provided by the Department. The Design-Build Team shall be responsible for all activities, as deemed necessary by the Department or the FHWA, resulting from changes to the NCDOT preliminary design, including but not limited to, public involvement, NEPA re-evaluation and / or coordination with other stakeholders. The Department will not honor any requests for additional contract time or compensation for completion of the required activities resulting from changes to the NCDOT preliminary design.

  - After the contract has been awarded, the Design-Build Team shall inform the Design-Build Unit, in writing, of all proposed changes to the design shown in the Technical Proposal.

  - After the Department has reviewed and accepted the Design-Build Team's design submittals, the Design-Build Team shall inform the Design-Build Unit, in writing, of any changes to previously reviewed submittals.

  The proposed design revisions noted above shall be subject to the Department's review and acceptance.

- The Department prefers not to have design exceptions for the -L- Line or -Y- Lines. Excluding locations where bridge piers, concrete barrier, overhead sign assemblies, express lane entry points or express lane exit points reduce the median shoulder width to less than ten feet, design exceptions will not be allowed for the -L- Line, including all ramps, loops and Direct Connections. Excluding locations where bridge piers, concrete barrier or overhead sign assemblies reduce the median width to less than four feet within the section of I-485 constructed under TIP Project R-4902, design exceptions will not be approved for mainline median shoulder widths less than four feet wide. If the Design-Build Team anticipates any design exceptions, they shall be clearly noted in the Technical Proposal. Prior to requesting / incorporating a design exception into the Final Plans, the Design-Build Team must obtain prior conceptual approval from the Design-Build Unit and the FHWA. If conceptual approval is obtained, the Design-Build Team shall be responsible for the development and approval of all design exceptions.

- Prior to recording the Right of Way Plans, the Design-Build Team shall locate and install right of way markers that delineate the proposed right of way for all parcels within the project limits. The Design-Build Team will be allowed to temporarily delineate the aforementioned proposed right of way with temporary metal caps and fiberglass markers prior to recording the Right of Way Plans. However, prior to final project acceptance, the Design-Build Team shall locate and install concrete right of way markers to delineate the aforementioned proposed right of way. The Design-Build Team shall remove 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 Department will provide an approved Traffic Noise Report (TNR) and associated Preliminary Noise Wall Recommendation Memorandum that is based on the Department's preliminary design. The Design-Build Team shall evaluate the **entire** I-5507 / R-0211EC / U-4514AB project 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 2016 Traffic Noise Policy and the NCDOT 2016 Traffic Noise Manual; and be reviewed and accepted by NCDOT. Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall include all design and construction costs for all sound barrier walls required by the accepted DNR, as well as all costs associated with performing any additional geotechnical investigations necessary to design the foundations, in the lump sum price bid for the entire project. However, the Design-Build Team will not be required to include any designs associated with the proposed sound barrier walls in the Technical Proposal. Prequalification under Discipline Code 441 shall be required for the firm developing the DNR.

  In accordance with the Federal Highway Administration (FHWA) Guidelines located on the website noted below, the Design-Build Team shall evaluate all existing sound barrier walls within the project limits, and design and construct the resulting required noise abatement, including but not limited to retrofitting and / or replacing existing sound barrier walls. The Design-Build Team shall include all design and construction costs to lengthen existing sound barrier walls in the lump sum price bid for the entire project. In accordance with Subarticle 104-8(A) of the 2018 *Standard Specifications for Roads and Structures,* the design and construction costs to raise and / or replace an existing sound barrier wall will be paid for as extra work at the unit price of $40.00 per square foot. All work tasks required to design and construct the additional sound barrier wall height and / or replacement sound barrier wall(s), including but not limited to traffic control, pavement, drainage, concrete barrier, geotechnical investigation and earthwork shall be considered inclusive in the aforementioned unit price. The amount of extra work shall be determined by deducting all additional sound barrier wall height and / or sound barrier wall replacement square footage required as a result of horizontal and / or vertical alignment changes to the Preliminary Roadway Plans provided by the Department from the additional sound barrier wall height and / or sound barrier wall replacement square footage required by the Department's preliminary design.

  https://www.fhwa.dot.gov/environment/noise/noise_barriers/abatement/existing.cfm

  The Design-Build Team is cautioned that the TNR and Preliminary Noise Wall Recommendation Memorandum are provided to show the general location of potential walls. Thus, as with all information provided by the Department, the TNR and Preliminary Noise Wall Recommendation Memorandum are provided for informational purposes only and; the Department will not honor any requests for additional contract time or compensation for any variations between the approved TNR and the approved DNR.

  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.

In accordance with Subarticle 104-8(A) of the 2018 *Standard Specifications for Roads and Structures*, if the accepted DNR and balloting process require more than 940,000 square feet (sf) of sound barrier wall (excluding any required square footage resulting from the existing sound barrier wall evaluations noted above), the amount over 940,000 sf will be paid for as extra work at the unit price of $40.00 per square foot. All work tasks required to design and construct the additional sound barrier walls, including but not limited to traffic control, pavement, drainage, concrete barrier, geotechnical investigation and earthwork shall be considered inclusive in the aforementioned unit price. The amount of extra work shall be determined by deducting all additional sound barrier wall square footage required as a result of horizontal and / or vertical alignment changes to the Preliminary Roadway Plans provided by the Department from the accepted DNR and balloting process sound barrier wall total square footage.

The Design-Build Team shall only credit the Department the construction cost of all sound barrier walls eliminated by the balloting process. The construction costs of all sound barrier walls eliminated solely by the balloting process shall be deducted from the lump sum amount bid for the entire project.

At all sound barrier walls, the Design-Build Team shall provide 1) a minimum 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 Federal Regulations Part 772 Section 772.13(f), including but not limited to overall cost and unit cost per square foot.

General

- Unless allowed otherwise elsewhere in this RFP, the design shall be in accordance with the 2011 AASHTO *A Policy on Geometric Design of Highways and Streets*, and 2013 *Errata*, 2002 NCDOT *Roadway Design Manual*, including all revisions effective on the Technical Proposal submittal date, 2018 NCDOT *Roadway Standard Drawings*, or as superseded by detail sheets located at **https://connect.ncdot.gov/resources/Specifications/Pages/2018-Roadway-Drawings.aspx**, *Roadway Design Policy and Procedure Manual, Roadway Design Guidelines for Design-Build Projects,* 2018 NCDOT *Standard Specifications for Roads and Structures* and the 2011 AASHTO *Roadside Design Guide*, 4th Edition and 2015 *Errata.*

- If the NCDOT *Roadway Design Manual*, including all revisions, the 2011 AASHTO *A Policy on Geometric Design of Highways and Streets* and 2013 *Errata*, the 2018 NCDOT *Roadway Standard Drawings* and / or any other guidelines, standards or policies have desirable and / or minimum values, the Design-Build Team shall use the desirable values unless noted otherwise elsewhere in this RFP. Similarly, in case of conflicting design parameters, and / or ranges, in the various resources, the proposed design shall adhere to the most conservative values, unless noted otherwise elsewhere in this RFP.

- The Design Build Team shall provide a Drainage Summary Sheet, Earthwork Summary Sheet and Guardrail Summary Sheet (Permanent, Temporary and Future) in the Final and RFC Roadway Plans.

- At all intersections, the Design-Build Team shall not exceed a 0.05 roll-over between the outside edge of travel lane of the primary roadway and the beginning of the proposed grade for the secondary roadway.

- Unless noted otherwise elsewhere in this RFP, all bridge rail offsets shall be the greater of 1) the bridge rail offsets as indicated in the NCDOT *Roadway Design Manual*, 2) the approach roadway paved shoulder width (maximum 12-foot), or 3) the offset required to achieve stopping sight distance (maximum 12-foot). Narrower bridge rail offsets based on bridge length will not be allowed. The Design-Build Team will not be required to widen existing bridges solely to provide the aforementioned minimum bridge rail offsets.

- Unless noted otherwise elsewhere in this RFP, the maximum allowable cut and fill slope shall be 2:1. (Reference the Geotechnical Scope of Work found elsewhere in this RFP) The slopes in the interchange area shall follow the requirements set forth in the *Roadway Design Guidelines for Design-Build Projects* located on the Design-Build web site.

- Outside the project limits, the Design-Build Team will not be allowed to use the NCDOT right of way and / or property for borrow or waste sites. Within the project limits, the Design-Build Team shall adhere to the following:

  - Only clean waste material may be wasted within the NCDOT right of way or property.

  - Excluding crushed concrete, debris shall not be buried within the NCDOT right of way or property.

  - Normal grading operations shall occur, including but not limited to, removal of the existing embankments supporting all removed roadway sections.

- Unless noted otherwise elsewhere in this RFP, all guardrail / guiderail placement shall be in accordance with the 2018 NCDOT *Roadway Standard Drawings* and / or approved details in lieu of standards. Along all 3:1 fill slopes, constructed at fill heights that are equal to or greater than 12 feet, the Design-Build Team shall install guardrail. Along all fill slopes steeper than 3:1, constructed at fill heights that are equal to or greater than six feet, the Design-Build Team shall install guardrail. Throughout the project limits, including but not limited to the mainline (including the section of I-485 constructed under TIP Project R-4902), all ramps / loops, and all -Y- Lines from ramp terminal to ramp terminal, or to the limits of -Y- Line construction, whichever is longer, the Design-Build Team shall upgrade all existing guardrail in accordance with the aforementioned requirements and the Standard Special Provisions found elsewhere in this RFP. The guardrail / guiderail design shall be submitted for review with the Preliminary Plans submittal.

- The total outside shoulder width for all facilities with defined usable shoulders shall equal the usable shoulder plus two feet.

- The Design-Build Team shall provide continuous single face concrete barrier between two segments of single face concrete barrier when 1) the two segments are less than 300 feet apart, and 2) guardrail would be required between the two segments.

- At all locations where back to back single face concrete barrier is provided, including but not limited to bridge piers and sign supports, the Design-Build Team shall fill the area between the single face concrete barriers with gravel and cap with four inches of concrete.

- The Design-Build Team shall be responsible for the evaluation of the algebraic difference in rates of cross slope (roll-over) between existing shoulders and roadways and the associated suitability for carrying traffic during construction, if necessary. In the event that the roll-over

- If the Design-Build Team elects to use steel pier caps, the Design-Build Team shall adhere to the following requirements:

    1. Stiffeners shall not be allowed on the outside of the cap.
    2. Single steel plate caps shall not be allowed.
    3. Provide an access opening for internal inspection of the bent with a minimum opening of 32" wide by 42" tall. The opening shall be properly weather-proofed to prevent the infiltration of water and elements that may increase the potential for corrosion or other degradation.

        a. The hatch shall be sealed with a closed cell neoprene sponge material.
        b. The hatch shall be positively secured with a latch that is accessible from both inside and outside the straddle-bent.
        c. The hatch shall be lockable from the outside with a weather-proof lock.

- A bearing between the precast and steel straddle bent pier caps and the supporting column(s) shall be provided.

If a straddle bent is proposed, the Design-Build Team shall demonstrate their successful experience in the design and construction of the type of straddle bent proposed. If the Design-Build Team proposes a straddle bent, the Design-Build Team shall list previous projects, including the description and similarity to the proposed type of straddle bent, that were designed and constructed by the Design-Build Team in the Technical Proposal. The Design-Build Team shall also specify the material proposed for all integral bents and straddle bents in the Technical Proposal.

For non-girder superstructures, integral substructures and straddle bent substructures, the Design-Build Team shall submit a bridge maintenance and inspection manual for review and acceptance.

The Design-Build Team shall design and construct the Bridge No. 644 replacement structure in accordance with the June 18, 2018 Elm Lane bridge typical section provided by the Department. The Bridge No. 644 replacement structure shall be designed and constructed with a positive separation between the vehicular traffic on the bridge and the pedestrian traffic on the sidepath. The positive separation shall consist of a concrete parapet, 2'-6" in height and a minimum 1'-2" width, with a minimum two-foot tall pedestrian metal rail, and shall be located a minimum of two feet from the edge of the travel lane. On both sides of the Bridge No. 644 replacement structure, the bridge rails shall adhere to Standard Drawing BMR34.

The Design-Build Team shall design and construct the Bridge No. 682 replacement structure in accordance with the June 4, 2018 Ballantyne Commons bridge typical section provided by the Department. On both sides of the Bridge No. 682 replacement structure, the bridge rails shall adhere to Standard Drawing BMR34.

**** NOTE **** Deleted bullet on Bridge Nos. 644 and 682

The Design-Build Team shall design and construct the Bridge No. 715 replacement structure in accordance with the June 18, 2018 Weddington Road bridge typical section provided by the Department. On both sides of the Bridge No. 715 replacement structure, the bridge rails shall adhere to Standard Drawings BMR34.

Use of Florida Department of Transportation Prestressed Florida I-Beams (FIB), the Prestressed Concrete Committee for Economic Fabrication (PCEF) prestressed concrete girders, and Modified Bulb Tee girders will be allowed. However, the structural details associated with the aforementioned items, including but not limited to mild reinforcing and reinforcing cover, shall be subject to Department review and acceptance post-award.

Bridge Widening and Rehabilitation

The Design-Build Team shall design and construct all new widened sections of existing bridges to achieve a minimum design service life of 75 years. For clarity, such 75-year design service life will only apply to the widened bridge section(s). For all widened bridge sections, the new bridge girder type shall be consistent with the existing bridge girder type; and the new bridge spans shall match the existing bridge spans.

The Design-Build Team shall submit a Bridge Deck Rehabilitation Evaluation Plan for all bridges to be widened. Prior to the Design-Build Team performing any pavement widening and / or rehabilitation activities, including but not limited to bridge inspections, the Department will review and accept this Plan.

Excluding the sections of bridge deck and approach slabs that were overlaid with latex modified concrete under the R-4902 project, the Design-Build Team shall overlay the existing and widened bridge decks and approach slabs of all bridges that are widened with latex modified concrete. (Reference the *Repair of Bridge Decks and Approach Pavement with Latex Modified Concrete* and *Latex Modified Concrete* Project Special Provisions found elsewhere in this RFP). The Design-Build Team shall mill or hydro-demolition the existing decks and approach slabs to perform Class I and Class IA Surface Preparation on all widened bridges. To allow the Department to complete a drag chain investigation immediately following the milling / hydro-demolition operation, the Design-Build Team shall provide written notification a minimum of 21 days prior to completing the milling operation. The Design-Build Team shall provide Class II and / or Class III Surface Preparation, for areas which are found to be unsound or delaminated, as determined by the Engineer. In such case, the Class II and Class III repairs will be paid for as extra work in accordance with Subarticle 104-8(A) of the 2018 NCDOT *Standard Specifications for Roads and Structures* at the price of $300 per square yard and $700 per square yard, respectively.

The Design-Build Team may analyze the existing substructure and foundation elements using the design standards and specifications that were current at the time of the original design.

The Design-Build Team shall provide closure pours with cross-joint reinforcement / dowels. Intermediate diaphragms will not be required if three or more girders are added to the widened section. Dowels will be acceptable in the closure bay of standard closure pour widths up to four feet. Closure pours wider than four feet may require alternate details. The Design-Build Team shall provide bent diaphragms in the closure bay; and the plans developed by the Design-Build Team shall reflect that these diaphragms be connected and bolts tensioned prior to the deck pour.

PAVEMENT MANAGEMENT SCOPE OF WORK (6-18-18)

The pavement design for the mainline widening, mainline median paved shoulders, and mainline outside paved shoulders at locations where the existing outside paved shoulder is removed shall consist of one of the following alternates:

Alternate 1	Alternate 2	Alternate 3
OGFC *	OGFC *	OGFC *
3.0” S9.5D	3.0” S9.5D	3.0” S9.5D
4.0” I19.0C	4.0” I19.0C	4.0” I19.0C
8.5” B25.0C	4.0” B25.0C	3.0” B25.0C
Subgrade Stabilization	10.0” ABC	8.0” CTBC
	Subgrade Stabilization	Subgrade Stabilization

* The Open Graded Asphalt Friction Course (OGFC) shall be Type FC-1 Modified at a rate of 90 lbs/sq yd. (Reference the *Open Graded Asphalt Friction Couse, Permeable Asphalt Drainage Course, and Ultra-Thin Bonded Wearing Course* Project Special Provision found elsewhere in this RFP). The width of the OGFC shall extend to a minimum of one foot outside of the travel lane lines.

The pavement alternate chosen shall be used for the entire length of the project. The Design-Build Team shall specify pavement alternate that will be used in the Technical Proposal.

In accordance with the requirements noted below, the mainline subgrade stabilization shall consist of chemical stabilization or Class IV stabilization. In a given direction, the Design-Build Team will be allowed to use different subgrade stabilization alternates for the mainline median and outside widening. However, a consistent subgrade stabilization alternate shall be used for a minimum 1000-foot length. The Design-Build Team shall specify the proposed mainline subgrade stabilization, or combination, with approximate limits of each type clearly noted in the Technical Proposal.

- Chemical stabilization shall be to a minimum depth of eight inches for lime and seven inches for cement. The type of subgrade stabilization and the amount of stabilizing agent shall be determined in accordance with the *Cement and Lime Stabilization of Subgrade Soils* Project Special Provision found elsewhere in this RFP.

- Class IV stabilization shall be in accordance with the *Class IV Subgrade Stabilization in Lieu of Chemical Stabilization* Standard Special Provision found elsewhere in this RFP.

Other pavement designs for this project shall be as listed in the table below:

Line	Surface	Intermediate	Base	Stabilization
-Y1DCA-	3.0” S9.5B	4.0” I19.0C	4.0” B25.0C	No
-Y2DCC- and -Y2DCD-	3.0” S9.5B	4.0” I19.0C	4.0” B25.0C	No
East Westinghouse Boulevard	3.0” S9.5C	4.0” I19.0C	4.0” B25.0C	No
Rea Road Ramps	3.0” S9.5B	2.5” I19.0C	3.0” B25.0C	Yes
Weddington Road	3.0” S9.5B	4.0” I19.0C	3.0” B25.0C	Yes
McKee Road, Fincher Farm Road, Plantation Center Drive, and Plantation Road	3.0” S9.5B	4.0” I19.0C	4.0” B25.0C	No
Weddington Road Loops	3.0” S9.5B	4.0” I19.0C	3.0” B25.0C	Yes
Weddington Road Ramps	3.0” S9.5B	2.5” I19.0C	3.0” B25.0C	Yes
East John Street	3.0” S9.5B	4.0” I19.0C	4.0” B25.0C	No
East John Street Ramps	3.0” S9.5B	2.5” I19.0C	3.0” B25.0C	Yes
East John Street Loops	3.0” S9.5B	4.0” I19.0C	3.0” B25.0C	Yes
Providence Road Ramps and Loops	3.0” S9.5B	3.0” I19.0C	4.0” B25.0C	No
Ballantyne Road and Elm Street	3.0” S9.5B	2.5” I19.0C	4.0” B25.0C	No

For the -Y- Lines, ramps, loops and direct connection pavement designs noted in the table above, the Design-Build Team may substitute an ABC layer for an asphalt base course layer. If such an alternative is proposed, the thickness of the ABC layer, used as a substitute for the asphalt base course layer, shall be equal to twice the proposed asphalt base course layer thickness specified for the roadway.

Unless allowed otherwise elsewhere in this RFP, the Design-Build Team shall resurface the existing -L- Line pavement, including all existing paved shoulders that will remain in place, and all acceleration and deceleration lanes / ramps / loops to the back of the gore (12-foot width), with a minimum 1.5” S9.5D. The Design-Build Team shall uniformly overlay the mainline S9.5D resurfacing grade with Open Graded Asphalt Friction Course. (Reference the Roadway Scope of Work and *Open Graded Asphalt Friction Couse, Permeable Asphalt Drainage Course, and Ultra-Thin Bonded Wearing Course* Project Special Provision found elsewhere in this RFP)

Solely to obtain the required vertical clearance at bridges, the Design-Build Team will be allowed to mill the existing mainline pavement, including the existing paved shoulders that will remain in place, to a depth of 1.5” and fill the milled area with 1.5” S9.5D.

Solely to obtain the required vertical clearance at bridges, the Design-Build Team will be allowed to mill the existing -Y- Line pavement, including the existing paved shoulders that will remain in place, to a depth of 1.5” and fill the milled area with 1.5” of the surface course as provided in the Table above for the roadway.

When widening adjacent to the existing mainline travel lanes, the Design-Build Team shall remove and dispose of the existing shoulder drains; and install new shoulder drains in accordance with this Scope of Work requirements.

For all existing ramps / loops that will remain in place, excluding the ramps / loops at the I-77 and US 74 interchanges, the Design-Build Team shall uniformly overlay the existing ramp / loop pavement, including all existing paved shoulders, from the limits of construction to the ramp / loop terminus with a minimum 1.5" S9.5B. (Reference the Roadway Scope of Work found elsewhere in this RFP)

Throughout the project limits, the Design-Build Team shall remove, dispose of and replace the mainline outside paved shoulders that are adjacent to areas that will be widened.

Except as allowed otherwise elsewhere in this RFP, the Design-Build Team shall resurface the existing -Y2- pavement (US 521 south of I-485), including all existing paved shoulders that will remain in place, with a minimum 1.5" S9.5C. (Reference the Roadway Scope of Work found elsewhere in this RFP)

Unless allowed otherwise elsewhere in this RFP, the Design-Build Team shall resurface the existing pavement of all -Y- lines impacted by construction with a minimum depth that equals the full thickness of surface course as provided in the Table above. (Reference the Roadway and Structures Scopes of Work found elsewhere in this RFP).

Solely to maintain the existing curb and gutter, the Design-Build Team will be allowed to mill the existing pavement on loops and US 521 (Johnston Road) to a depth of 1.5" and fill the milled area with 1.5" S9.5B, provided the Design-Build Team demonstrates, to the Department's sole satisfaction, that the existing vertical alignment adheres to the roadway and hydraulic design criteria. (Reference the Roadway and Hydraulics Scopes of Work found elsewhere in this RFP)

Throughout the mainline construction areas that consist solely of pavement marking obliterations and / or revisions, the Design-Build Team shall uniformly overlay the existing pavement, including all paved shoulders, with 1.5" S9.5D and OGFC. The OGFC shall be placed as described elsewhere in this scope of work.

Throughout the -Y- Line construction areas that consist solely of pavement marking obliterations and / or revisions, the Design-Build Team shall uniformly overlay the existing pavement, including all paved shoulders, in accordance with the requirements below:

- For East Westinghouse Boulevard use 1.5" S9.5C
- For all -Y- Lines except East Westinghouse Boulevard use 1.5" S9.5B

Unless noted otherwise elsewhere in this RFP, the minimum narrow widened width shall be six feet. The minimum narrow 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 written Department approval. Tapers that tie proposed pavement to existing pavement are excluded from the narrow widening requirements noted above.

In areas where the existing median and / or -Y- Line paved shoulders that will be retained are proposed to be incorporated into a permanent travel lane, the Design-Build Team shall be responsible for evaluating the existing median and / or -Y- Line paved shoulder regarding its suitability for carrying the projected traffic volumes. In the event that the existing median and / or

- The pavement design in the ATC shall include Open Graded Asphalt Friction Course (OGFC) Type FC-1 Modified at a rate of 90 lbs/sq yd. (Reference the *Open Graded Asphalt Friction Couse, Permeable Asphalt Drainage Course, and Ultra-Thin Bonded Wearing Course* Project Special Provision found elsewhere in this RFP).

- Unless noted otherwise elsewhere in this RFP, the pavement design in the ATC shall be determined using the methods noted below:

  - The NCDOT Pavement Design Procedure, AASHTO 1993 Method dated March 16, 2018 using a minimum 30-year design life.

- The mainline widening pavement design in the ATC shall adhere to the requirements noted below:

Asphalt Pavement

  - In accordance with the requirements noted below, all asphalt pavement widening designs shall include subgrade stabilization that consists of chemical stabilization or Class IV stabilization:

    - Chemical stabilization shall be to a minimum depth of 8 inches for lime and 7 inches for cement. The type of subgrade stabilization and amount of stabilizing agent shall be determined in accordance with the *Cement and Lime Stabilization of Sub-grade Soils* Project Special Provision found elsewhere in this RFP.

    - Class IV stabilization shall be in accordance with the *Class IV Subgrade Stabilization in Lieu of Chemical Stabilization* Standard Special Provision found elsewhere in this RFP.

    - In a given direction, different subgrade stabilization alternates will be allowed for the mainline median and outside widening. However, a consistent subgrade stabilization alternate shall be used for a minimum 1000-foot length.

  - Full Depth Asphalt

    - Minimum 15.5” thickness

  - Asphalt on ABC

    - Minimum 11.0” asphalt thickness
    - Minimum 10.0” ABC thickness

- For all existing and proposed box culverts and pipes (including all extensions), a minimum 1.5-foot freeboard shall be required below the shoulder point during the design storm. The Design-Build Team shall not steepen slopes, reduce easements and / or reduce right of way solely to obtain the aforementioned freeboard requirement.

- Excluding the culverts listed below, a maximum 1.2 HW/D shall be required for all existing and proposed box culverts and pipes (including all extensions) during the design year.

    - Four barrel 10' X 8' RCBC - Site 1 from the Preliminary Hydraulics Report at Station 132+20 -L-
    - 6' X 5' RCBC - Site 7 from the Preliminary Hydraulics Report at Station 488+60 -L-

- The Design-Build Team shall design and construct energy dissipation structures for Site 1 and Site 7, as identified in the Preliminary Hydraulics Report.

- 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.

- 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.

- 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 box culverts and cross pipes 36-inches in diameter or greater:

    - Station
    - Proposed drainage structure details
    - Drainage Area
    - Percent Impervious or "C" value used
    - Discharge method 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

    ****NOTE**** Deleted cross structure bullet

- 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.

- All proposed drainage boxes, including but not limited to catch basins, drop inlets and junction boxes, shall have a grate or manhole access.

- Unless noted otherwise elsewhere in this RFP, the Design-Build Team shall replace drainage features as directed by the *I-5507 December 14 2016 Maintenance Needs* electronic files provided by the Department. If the aforementioned *Maintenance Needs* document and the RFP contradict each other, the RFP requirements shall govern. The Design-Build Team shall investigate and replace all drainage structures defined in the aforementioned electronic files to ensure that the drainage system is fully functional. The removal and replacement of each of these existing drainage structures shall include, but not be limited to required excavation, foundation conditioning material, backfill, grading, and replacement of two joints or pipe(s) for each pipe line connected to each structure. All other work items required to perform the tasks above, including but not limited to shoring and traffic control, shall be considered incidental to the drainage structure replacement.

- The Design-Build Team shall verify all pipe replacement sizes defined in the aforementioned *I-5507 December 14 2016 Maintenance Needs* electronic files. The cover on all replacement pipes shall adhere to the appropriate NCDOT pipe class and cover requirements.

  - Excluding the drainage features to be replaced as directed by the *I-5507 December 14 2016 Maintenance Needs* electronic files provided by the Department, the Design-Build Team shall analyze all drainage structures for hydraulic and structural deficiencies within the existing / proposed right of way throughout the project limits. Within -Y- Line construction limits, the Design-Build Team will not be required to analyze existing cross pipes that will not be lengthened if no additional discharge from the project is being generated. 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 requirement 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 deficient drainage structures, including but not limited to replacement or supplemental pipes and structures. Inlet improvements outside the right of way shall not be allowed to mitigate for hydraulically deficient box culverts and / or pipes. Based on build-out discharges, the Design-Build Team shall identify all hydraulically deficient drainage structures and note their proposed mitigation in the Technical Proposal. At a minimum, in the Technical Proposal, Volume II, the Design-Build Team shall 1) identify all hydraulically deficient storm drainage systems and the proposed mitigation on the plans, and 2) provide a *Box Culverts and Cross Pipes Hydraulic Deficiency Assessment and Proposed Mitigation Table* that contains the box culvert and cross pipe attributes noted below:

      - Station
      - Existing Box Culvert / Cross Pipe Details
      - Drainage Area
      - Percent impervious or “C” value used

- Discharge method used
- Build-out Discharge (Design year and 100 year)
- Hydraulically Deficient (Yes / No) for Build-out Discharge
- Proposed Mitigation Structure(s) Details
- HW/D for Build-out Discharge at Existing Structure without Mitigation
- HW/D for Build-out Discharge at Existing Structure with Mitigation
- Hydraulic Freeboard at Sag for Build-out Discharge at Existing Structure without Mitigation
- Hydraulic Freeboard at Sag for Build-out Discharge at Existing Structure with Mitigation
- HW/D for Build-out Discharge for Mitigation Structure(s)
- Hydraulic freeboard at Sag for Build-out Discharge at Mitigation Structure(s)
- Comments

➢ To ensure that all drainage structures that are retained for drainage purposes are structurally sound, the Design-Build Team shall provide appropriate documentation obtained from video inspections for the Department's review and approval prior to any hydraulic design submittal. Prior to performing any storm drain clean-out required for the aforementioned video inspections, the Design-Build Team shall obtain approval from the Engineer. In accordance with Subarticle 104-8(A) of the 2018 NCDOT *Standard Specifications for Roads and Structures*, required storm drain clean-out will be paid for as extra work.

➢ As directed by the Engineer, the Design-Build Team shall provide the appropriate structural mitigation for all structurally deficient drainage structures. Excluding drainage features noted in the *I-5507 December 14 2016 Maintenance Needs* electronic files provided by the Department, structural mitigation, for structural deficiencies in drainage structures, including but not limited to all repairs and replacement, will be paid for as extra work in accordance with Subarticle 104-8(A) of the 2018 NCDOT *Standard Specifications for Roads and Structures*.

Permit Coordination

- The Design-Build Team shall conduct an interagency hydraulic design review meeting and an interagency permit impacts meeting prior to submittal of the environmental permit applications. These meetings shall adhere to the Concurrence Point 4B and Concurrence Point 4C requirements, respectively, of the Merger Process used by the environmental agencies and the Department to obtain environmental permits. (Reference the Environmental Permits Scope of Work found elsewhere in this RFP.) All work resulting from the hydraulic design and permit review meetings shall be the Design-Build Team's responsibility. A minimum of five weeks prior to the appropriate interagency meeting, the Design-Build Team shall provide 1) hydraulic plans and 2) permit drawings, calculations, and impact sheets for the USACE 404 Permit and the NCDWR Section 401 Certification to the Design-Build Unit. The Design-Build Team shall take minutes of the interagency meetings and provide them to the Department within three business days of the aforementioned meetings.

UTILITIES COORDINATION SCOPE OF WORK (6-8-18)

The Design-Build Team shall obtain the services of a Professional Services Firm (PSF) knowledgeable in the NCDOT Utility Coordination Process involved with utility relocation / installation and highway construction. The Design-Build Team shall be responsible for coordinating all utility relocations, removals, and / or adjustments where the Design-Build Team and utility owner, with concurrence from the Department, determine that such work is essential for highway safety and performance of the required highway construction. Coordination shall be for all utilities whether or not they are specifically identified in this Scope of Work and shall include any necessary utility agreements when applicable. NCDOT will be the approving authority for all utility agreements and utility plans.

During the procurement phase, the Department will allow no direct contact, either by phone, e-mail or in person, between the Design-Build Team and utility owners until after the Utility Question & Answer Meetings between each individual proposer and the affected utility owners. After the aforementioned meetings and during the life of the project, the Design-Build Team will only be allowed direct contact with the utility owners when the aforementioned PSF is present. (Reference the *Individual Meeting with Proposers* Project Special Provision found elsewhere in this RFP)

In accordance with the requirements herein, the Design-Build Team shall relocate / coordinate the relocation of all existing facilities that are 1) within existing or proposed full control of access and only accessible from a freeway through lane and / or ramp / loop, 2) in physical conflict with construction, 3) within the existing or proposed right of way and structurally inadequate, and / or 4) within the existing or proposed right of way and consist of unacceptable material. (Reference the NCDOT Policies and Procedures for Accommodating Utilities on Highway Rights of Way – January 1, 1975, Revised April 1, 1993) Proposed / relocated underground facilities that are located beneath the pavement structure shall only be allowed to cross the roadway as close to perpendicular as possible.

Project Details

The Design-Build Team shall be responsible for verifying the utility locations, type of facilities, and identifying the utility owners in order to coordinate the relocation of any utilities, known and unknown, in conflict with the project. The following utilities are known to be located within the project construction limits: