



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

February 7, 2013

Addendum No. 1

Contract No.: C 203240
Project: 17BP.6.R.40
County : Columbus
Project Description: Sixteen Bridge Replacements in Division 6

RE: Addendum No. 1 to Final RFP

February 19, 2013 Letting

To Whom It May Concern:

Reference is made to the Final Request for Proposals dated January 18, 2013 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:

Page Nos. 4, 5, 7, 10 and 36 of the *Project Special Provisions* have been revised. Please void Page Nos. 4, 5, 7, 10 and 36 in your proposal and staple the revised Page Nos. 4, 5, 7, 10 and 36 thereto.

Page No. 41 of the *General Section* has been revised. Please void Page No. 41 in your proposal and staple the revised Page No. 41 thereto.

Page Nos. 44 and 45 of the *Roadway Scope of Work* have been revised. Please void Page Nos. 44 and 45 in your proposal and staple the revised Page Nos. 44 and 45 thereto.

Page Nos. 47, 48 and 50 of the *Structures Scope of Work* have been revised. Please void Page Nos. 47, 48 and 50 in your proposal and staple the revised Page Nos. 47, 48 and 50 thereto.

Page Nos. 62 and 66 of the *Traffic Engineering Scope of Work* have been revised. Please void Page Nos. 62 and 66 in your proposal and staple the revised Page Nos. 62 and 66 thereto.

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

Sincerely,


R.A. Garris, P.E.
Contract Officer

RAG/cwh

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
CONTRACT STANDARDS AND DEVELOPMENT UNIT
1591 MAIL SERVICE CENTER
RALEIGH NC 27699-1591

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LOCATION:
CENTURY CENTER COMPLEX
ENTRANCE B-2
1020 BIRCH RIDGE DRIVE
RALEIGH NC

Project 17BP.6.R.40
Addendum No. 1
Page 2 of 2

Attachments

cc: Mr. Victor Barbour, PE
Mr. Rodger Rochelle, PE
Ms. Virginia Mabry

Mr. Greg Burns, PE
Ms. Teresa Bruton, PE

Payment will be made under:

Pay Item	Pay Unit
End Bents	Each

Design and Construction of Bridges (LS): *Design and Construction of Bridges* will be paid for as lump sum. No measurement will be made. Work will include all material, labor and equipment to complete all of the work required by the contract at all sites specified as bridges in this RFP, excluding those specific contract unit price items listed above. Work will include all preconstruction activities including, but not limited to, design, permitting, utility coordination services and other preconstruction services, regardless of the final design, bridge length, foundation length, or number of interior bents. Work will also include all other construction required by the contract at the bridge sites including, but not limited to, erosion and sediment control, earthwork, drainage, pavement, signing, bridge approach fills, approach slabs, removal of the existing structure, and guardrail. Work will also include all items needed for staged construction such as temporary shoring, temporary barrier, traffic control, etc. Work will also include all construction engineering and inspection, surveying and geotechnical investigative work as may be required by the contract for these bridge sites. Work will also include any additional materials and labor needed to provide up to a 1'-6" increase in the existing roadway grade to accommodate other contract requirements for these bridge sites, including most notably FEMA compliance.

Design and Construction of Culverts (LS): *Design and Construction of Culverts* will be paid for as lump sum per site. No measurement will be made. Work will include all material, labor and equipment to complete all of the work required by the contract at each site, excluding right of way acquisition services and mobilization. Work will include all preconstruction activities including, but not limited to, design, permitting, utility coordination services and other preconstruction services, regardless of the final design. Work will also include all other construction required by the contract including, but not limited to, erosion and sediment control, earthwork, drainage, pavement, signing, foundations and foundation condition material, headwalls, sills, removal of the existing structure, and guardrail. Work will also include all construction engineering and inspection, surveying and geotechnical investigative work as may be required by the contract for these culvert sites. Work will also include any additional materials and labor needed to provide up to a 1'-6" increase in the existing roadway grade at all culverts to accommodate other contract requirements.

Payment will be made under:

Pay Item	Pay Unit
Design and Construction of Culvert #_____	Lump Sum

Right of Way Acquisition (EA): *Right of Way Acquisition* services will be paid for per each parcel from which a utility easement and/or right of way is required. Work will include all labor and services necessary to acquire the easements/right of way as required by the Right of Way Scope of Work.

Adjustments to Quantities and Payment

The Itemized Proposal Sheet provides the quantity of linear feet of *Bridge Length*, *Foundation Length* and the quantity of *Interior Bent Caps* to be bid for each bridge site. By submitting this Price Proposal, the Design-Build Team acknowledges that these quantities are intended for bidding purposes and may or may not be the final design quantities. Unless otherwise noted in the Structures Scope of Work, in the event that the final design quantities for *Bridge Length*, *Foundation Length*, and *Interior Bent Caps* differ from those presented in the Itemized Proposal Sheet, adjustment will be made to the partial payments made to Design-Build Team per the applicable contract unit prices.

The Itemized Proposal Sheet provides the quantity of parcels from which utility easement or right of way will be required across all structure sites. By submitting this Price Proposal, the Design-Build Team acknowledges that this quantity is intended for bidding purposes and may or may not be the final quantity. In the event that the final quantity of impacted parcels differs from that shown in the Itemized Proposal Sheet, adjustment will be made to the partial payments made to the Design-Build Team per the unit price bid per Each for *Right of Way Acquisition*.

All contract pay items for this contract are considered minor contract items.

No adjustments to the pay quantities will be made until such time that all pertinent design submittals are approved and all permits and FEMA compliance for a given structure site have been obtained.

In the event of any increase in any of the above quantities, the Design-Build Team will be required to demonstrate through the pertinent design submittals the need for the additional quantities.

In the event of any decrease in any of the above quantities, the Design-Build Team will be eligible for an incentive for such reduction (reference the Project Special Provision entitled "Value Analysis." This incentive and special provision do not apply to the line item for *Right of Way Acquisition*.

If during the course of the design phase, the Design-Build Team proposes a span arrangement that eliminates the contract line item for *Interior Bent Caps* for that bridge, then the provisions of Article 104-12 of the Standard Specifications will apply.

If during the course of the design, the Design-Build Team demonstrates to the Department's satisfaction that a bridge that is proposed as a one span bridge herein must be revised to a multiple span bridge such that a new line item for Interior Bent Caps is required, then the provisions of Article 104-7 of the Standard Specifications will apply.

The Structure Scope of Work does not specify a size of superstructure (e.g. 21" deep cored slab) or foundation pile size (e.g. 12 x 53); instead the determination of these sizes is the responsibility of the Design-Build Team. No additional compensation will be provided for any increase in specific size of superstructure or foundation type. However, if during the course of the design or permitting phase, the Design-Build Team demonstrates to the Department's satisfaction that the foundation type (e.g. steel piles or drilled piers), superstructure type (e.g. cored slab), or

- Bridge No. 230240
- Bridge No. 230243

If the Design-Build Team elects to submit an alternate lump sum bid for one or more of the above bridges, the Design-Build Team shall be solely responsible for all costs, including but not limited to, overruns, additional design, and any additional right-of way, additional utility relocation, or additional mitigation costs that would not otherwise have been attributable to the bridge description specified in the Structures Scope of Work. The Design-Build Team also must forego any additional compensation that would have otherwise been afforded under the “Value Analysis” and “Measurement and Payment” Project Special Provisions. In addition, providing an alternate lump sum bid does not relieve the Design-Build Team of any contract requirements including permitting agency requirements, hydraulic design requirements, and FEMA compliance requirements. The bridge design shall not rely upon any design exceptions except to the extent that may be specifically permitted in the Roadway Scope of Work.

With the exception of *Right-of-Way Acquisition* services, which will still be paid on a unit basis, the lump sum bid entered on the Itemized Proposal Sheet will be full compensation for all work necessary at the applicable bridge site, including all pay items outlined in the Measurement and Payment” Project Special Provision. In the event that the design, upon which the alternate lump sum bid, is not ultimately accepted by the Department, the Design-Build Team will be required to design and construct a bridge that does satisfy the Department that all contract and permit conditions (including FEMA) can and will be met, which may include the design and construction of the bridge specified in the Structures Scope of Work for that site. Culverts will not be acceptable in lieu of bridges. Cored Slab or box beam bridges in lieu of specified girder bridges will not be acceptable.

The Design-Build Team is cautioned that the bridge description specified in the Structures Scope of Work was determined jointly by the Department and the regulatory and permitting agencies and variation therefrom will likely require subsequent concurrence from these agencies. The Design-Build Team is fully responsible for engaging the Department to understand the rationale for the bridge descriptions outlined in the Structures Scope of Work prior to exercising the lump sum bid alternate afforded by this provision.

To elect this option, the Design-Build Team shall enter a lump sum amount for all work required by the contract for the applicable bridge site on the Itemized Proposal Sheet. The unit cost and amount for all other line items specific to that bridge shall be left blank on the Itemized Proposal Sheet.

To forego this option, the Design-Build Team shall enter a unit cost and amount for each of the specific unit price and lump sum items for the applicable bridge site and the amount for the Alternate Lump Sum Bid for Bridge # ____ shall be left blank.

Payment will be made under:

Pay Item
Alternate Lump Sum Bid for Bridge #_____

Pay Unit
Lump Sum

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.

**EXECUTION OF BID, NON-COLLUSION AFFIDAVIT, DEBARMENT
CERTIFICATION AND GIFT BAN CERTIFICATION**

(6-08-11)

DB1 G52

The Proposer's attention is directed to the various sheets in the Request for Proposals which are to be signed by the Proposer. A list of these sheets is shown below. The signature sheets are located behind the Itemized Proposal Sheet in this Request for Proposal. The NCDOT bid bond form is available on-line at:

<https://connect.ncdot.gov/letting/Pages/Design-Build-Resources.aspx>

or by contacting the Records and Documents office at 919-707-6900.

1. Applicable Signature Sheets: 1, 2, 3, 4, 5, or 6 (Bid)
2. Bid Bond dated the day of Price Proposal submission

The Proposer shall certify to the best of his knowledge all subcontractors, material suppliers and vendors utilized herein current status concerning suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency, in accordance with the "Debarment Certification" located behind the *Execution of Bid Non-Collusion Affidavit, Debarment Certification and Gift Ban Certification* signature sheets in this RFP. Execution of the bid signature sheets in conjunction with any applicable statements concerning exceptions, when such statements have been made on the "Debarment Certification", constitutes the Proposer's certification of "status" under penalty of perjury under the laws of the United States.

SUBMISSION OF PRICE PROPOSAL

(9-1-11)

DB1 G55B

The Proposer's attention is directed that each Proposer's Price Proposal shall comply with the following requirements in order for that Price Proposal to be responsible and considered for award.

1. The Proposer shall be prequalified with the Department prior to submitting a Price Proposal.
2. The Proposer shall deliver the Price Proposal to the place indicated, and prior to the time indicated in this Request for Proposals.
3. The Price Proposal shall be signed by an authorized employee of the Proposer.

Transverse median drains and open-ended cross drains shall be Reinforced Concrete Pipe, Corrugated Aluminum Alloy Pipe, Aluminized Corrugated Steel Pipe, Corrugated Polyethylene Pipe (HDPE Pipe) or Polyvinyl-Chloride Pipe (PVC Pipe).

Storm drain system pipes shall be Reinforced Concrete Pipe, Corrugated Polyethylene Pipe (HDPE Pipe) or Polyvinyl-Chloride Pipe (PVC Pipe).

PRICE ADJUSTMENTS FOR ASPHALT BINDER

(9-1-11)

DB6 R25

Price adjustments for asphalt binder for plant mix will be made in accordance with Section 620 of the 2012 *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 CEI firm is responsible for maintaining records in accordance with the procedures outlined in the Construction Manual for "Weight Tickets As A Basis Of Payment" and summarizing and submitting these records monthly for review and approval by the Resident Engineer.

The base price index for asphalt binder for plant mix is \$ **551.56** per ton.

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on January 1, 2013.

PRICE ADJUSTMENTS - ASPHALT CONCRETE PLANT MIX

(9-1-11)

DB6 R26

Revise the 2012 *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 \$35 per theoretical ton. This price shall apply for all mix types.

BRIDGE NO. 230075

The Department will provide the following information for Bridge No. 230075: a sealed Bridge Survey Report (BSR), sealed Structure Foundation Recommendations, Preliminary Roadway Design and Traffic Control electronic files, sealed Subsurface Utility Exploration Report and other supporting information. The Department has submitted the MOA to the NC Floodplain Mapping and is pending approval. The Department will provide an approved MOA based on the APPROVED BSR by the end of August 2013.

The Design-Build Team shall be responsible for all other design disciplines, any design resubmittals/approvals and/or expenses necessary for any revisions made by the Design-Build Team to any sealed plans or sealed reports provided by the Department.

Price Proposal
Submitted by (Design-Build Team's Name)
Contract Number C 203240
Project Number 17BP.6.R.40
Columbus County
Replacement of Sixteen (16) Bridges

The Price Proposal shall be submitted by returning the Request for Proposals with the item sheet completed, and all required signatures and bonds. Failure to execute the required documents may render the proposal non-responsive.

Opening of Price Proposals

If any of the Price Proposals are considered non-responsive, the State Contract Officer will notify those Design-Build Teams of that fact. For all responsive Price Proposals the State Contract Officer will publicly open the sealed Price Proposals.

At the time and date specified, the State Contract Officer will open the Price Proposals and calculate the percentage difference between the Price Proposals submitted and the Engineer's Estimate. Unless all Proposals are rejected or the Department elects to proceed with the Best and Final Offer process, the Department will recommend to the Secretary of Transportation that the Design-Build Team having the lowest apparent Price Proposal be awarded the contract.

Best and Final Offer

In the event initial Price Proposals exceed an acceptable range of the Engineer's Estimate or if the Department feels it is necessary for any reason the Department may choose to make amendments to the details of the RFP and request a Best and Final Offer from all of the previously short-listed teams. Alternately, the Department may choose to redistribute to the short-listed Design-Build Teams another RFP for the project with no amendments to the RFP.

The Design-Build Teams shall submit a revised Price Proposal at the time, place, and date specified in the Best and Final RFP. This will constitute the Design-Build Team's Best and Final Offer. Award of the project may then be made to the Design-Build Team with the lowest apparent Price Proposal in response to the Best and Final RFP.

Stipend

A stipulated fee of **\$17,500** will be awarded to each short-listed Design-Build Team that provides a responsive, but unsuccessful, Price Proposal. If a contract award is not made, all short-listed Design-Build Teams that provide a responsive Price Proposal shall receive the stipulated fee. Once award is made, or a decision is made not to award, unsuccessful Design Build Teams will be notified of the opportunity to apply for the stipulated fee.

In the event that the Department suspends or discontinues the procurement process prior to the Price Proposal submittal date current at the time of the suspension, no stipulated fee will be paid.

- minimum offset from the proposed edge of the travel lane to the face of guardrail shall be four feet.
- A vibratory roller shall not be used at Structure Site 230342 due to poor subsurface material. The use of a static roller is permitted.
- The grade may be adjusted as needed by the Design-Build Team to assist in the attainment of FEMA compliance or to assist in minimizing hydraulic spread. (Reference the Hydraulic Scope of Work)
- The Design-Build Team may use asymmetrical widening about the existing bridge and roadway centerline where appropriate to minimize impacts to utilities and/or natural systems.
- The Design-Build Team shall be responsible for designing, fabricating, and installing Type D signs that designate the name of the water crossing. For those bridges along the same roadway, it is permissible to provide water crossing signs just before and after the outermost bridges, provided the name of the waterway does not vary. The Design-Build Team shall be responsible for relocating other existing signs on new supports within the project construction limits. Sign Details may be submitted in lieu of a full signing plan submittal.
- Unless noted otherwise elsewhere in this RFP, all guardrail shall be designed and placed in accordance with the January 2012 NCDOT *Standard Drawings* and / or approved details in lieu of standards. For subregional bridges, the length of guardrail installed shall be based on the length provided in the NCDOT *Sub Regional Tier Design Guidelines for Bridge Projects* dated February 2008.
- Bridge approach slabs are required at all bridge ends. The minimum bridge approach slab length shall be 12 feet for the subregional tier sites and the length specified in the Structures Management Unit Manual for regional tier sites; however, the bridge approach slab and pavement intersection shall be constructed perpendicular to the roadway centerline regardless of the bridge skew. The bridge approach fill shall extend to fully support the approach slab.
- The minimum length of guardrail provided at all culvert sites, with the exception of 230342 shall utilize the same length of guardrail specified for bridges per the NCDOT *Sub Regional Tier Guidelines* dated February 2008. The length of guardrail shall be measured from the culvert head walls.
- The Department has met on-site with the agencies or obtained their comments at all bridge sites in this RFP. Any variations in the Design-Build Team's proposed design and / or construction methods that nullifies the decisions reached between the Department and the environmental agencies, and / or require additional coordination with the environmental agencies shall be the sole responsibility of the Design-Build Team. The Department will not allow any contract time extensions or additional compensation associated with any coordination or approval process resulting from design and / or construction modifications.
- Bridges shall be on tangent vertical grades to the greatest extent practicable or otherwise be designed to direct water off the travel lanes in an effective manner. In no case shall a sag vertical curve low point or crest vertical curve high point be located on any bridge or

approach slab. A sag vertical low point shall not be located on any culvert between the end walls.

- Reductions in design speeds in order to retain existing horizontal and vertical alignments will be allowed per the NCDOT *Sub Regional Tier Guidelines* dated February 2008; and further reductions will require a design exception. Other design exceptions will only be considered if the proposed criterion meets or exceeds existing conditions.
- The Design-Build Team will be responsible for furnishing and placing concrete monuments for all **proposed** right of way.
- Existing driveway access shall be maintained and relocated as necessary to accommodate the design.
- The Design-Build Team shall contact Gary Thompson with the North Carolina Geodetic Survey (NCGS) at (919) 733-3836 or gary.thompson@ncdps.gov, one month prior to road closure in order to coordinate the removal of the NCGS monument at Bridge No. 230062.

General

- Unless otherwise noted herein, the design shall be in accordance with the NCDOT *Sub Regional Tier Design Guidelines for Bridge Projects* dated February 2008, as applicable, 2011 AASHTO *A Policy on Geometric Design of Highways and Streets, Roadway Design Policy and Procedure Manual, Roadway Design Guidelines for Design-Build Projects*, 2012 NCDOT *Standard Specifications for Roads and Structures*, and the 2002 AASHTO *Roadside Design Guide, 3rd Edition* and 2006 *Chapter 6 Update* and January 2012 NCDOT *Roadway Standard Drawings*.
- Once all changes have been incorporated into the “Released for Construction” roadway plan set for each site, the Design-Build Team shall provide a PDF of the sealed plans to the Director of the Transportation Program Management Unit.

NCDOT Information Supplied

- An electronic copy of *NCDOT Sub Regional Tier Design Guidelines for Bridge Projects* dated February 2008 will be provided.
- The NCDOT will provide electronic surveys and wetland delineation files to the Design-Build Team for each structure site. Any additional supplemental surveys, including but not limited to additional topography, existing and proposed roadway, structure sites, underground and overhead utilities, existing and proposed drainage, and wetland delineation shall be the responsibility of the Design-Build Team to acquire and process.
- The Design-Build Team shall be responsible for confirming the location of the utilities and the type / size of facilities. All SUE work shall be the responsibility of the Design-Build Team.

STRUCTURES SCOPE OF WORK**Project Details:**

The Design-Build Team will be responsible for all structures necessary to complete the project in accordance with the table provided herein. Reference the Project Special Provision entitled "Measurement and Payment" for a description of pay items and resolution of differences between the quantities and data provided herein and the final design prepared by the Design-Build Team and approved by the Department.

All bridge lengths stated herein are based on an assumed end bent cap depth of 2'-6" excluding Bridge Nos. 230049 and 230062. The bridge length for Bridge Nos. 230049 and 230062 is based on an assumed end bent cap of 4 feet. Provided all other contract requirements are met, the Design-Build Team may elect to shorten these lengths by using a 4'-0" end bent cap depth in accordance with the Structures Management Unit Manual. If this option is exercised, adjustments in the pay quantity for Bridge Length will be made in accordance with the Measurement and Payment Project Special Provision. No additional payment for the deeper end bent cap will be made.

All bridges shall be cored slab or box beam bridges. Bridge Nos. 230049 and 230062 shall have a concrete overlay riding surface. Superstructure depths may vary per span if necessary.

The Design-Build Team shall not tie the culvert headwalls or wingwalls to the existing bulkheads at Structure Site 230342 and shall be responsible for any damage to the existing bulkheads at this site.

Provide 42" Concrete Barrier Rail per Structures Management Manual. Precast barriers will not be allowed.

All interior bent steel piles shall be galvanized in accordance with the Structures Management Unit Manual.

At a minimum, the temporary detour for Bridge No. 230049 shall be designed to accommodate a 5 year storm. The Design-Build Team shall verify that the steel pipe solution in the table below will satisfy this requirement.

Note that the bridge lengths in the table below are from fill face to fill face and therefore may require adjustment to the length on any cored slab or box beam standard that the Design-Build Team may wish to use. In lieu of adjusting these beam lengths, and at no additional cost to the Department, the Design-Build Team may elect to use the cored slab or box beam 5 foot increment standards and lengthen the fill face to fill face dimension as needed. Regardless of the method chosen, the Design-Build Team shall ensure that the model used for FEMA compliance includes the correct span lengths and end points (end of beam).

Structure Number	Site Description	Out-Out Width (ft.)	Fill Face to Fill Face Length (ft.)	Bent Placement Limitations	# of Spans	End Bent #1 Foundation Length (& est. tip elev.)	End Bent #2 Foundation Length (& est. tip elev.)	Interior Bent Foundation Length (& est. tip elev.)	Foundation Type
230047	SR 1932 over Simmons Bay Branch	33	100	None in Water	3	46 (-8)	55 (-16)	60 (-22)	Steel H-piles @ Int. Bents & End Bents
230049	NC 130 over Waccamaw River overflow	45	90	None	2	54 (-20)	66 (-33)	70 (-36.5)	Steel H-piles @ Int. Bents & End Bents
230049 Temporary Structure	NC 130 over Waccamaw River overflow	Steel Pipe 3 @ 60"							
230062	NC 214 over Bogue Swamp Branch	36	180	None in Main Channel	2	50 (4)	57 (-3)	63 (-9)	Steel H-piles @ Int. Bents & End Bents
230075	SR 1006 over Big Branch in Monte Swamp	33	57.25	None in Water	1	40 (-4)	45 (-9)	Not Applicable	Steel H-piles @ End Bents
230212	SR 1736 over Bogue Swamp	36	110	1 in Center Third of Channel	2	67 (-17)	67 (-17)	77 (-27)	Steel H-piles @ Int. Bents & End Bents

Structure Number	Site Description	Out-Out Width (ft.)	Fill Face to Fill Face Length (ft.)	Bent Placement Limitations	# of Spans	End Bent #1 Foundation Length (& est. tip elev.)	End Bent #2 Foundation Length (& est. tip elev.)	Interior Bent Foundation Length (& est. tip elev.)	Foundation Type
230245	SR 1740 over Slap Swamp	33	70	None in Water	1	71 (-19)	70 (-18)	Not Applicable	Steel H-piles @ Int. Bents & End Bents
230330	SR 1006 over Cow Bog Branch	Aluminum Box Culvert w/ aluminum headwalls on both ends 1 @ 20'-1" X 6'-6"							
230336	SR 1006 over Trib of Simmons Bay Branch	Aluminum Box Culvert w/ aluminum headwalls on both ends & rip rap sills 1 @ 20'-7" X 5'-3"							
230342	SR 1900 over Canal to Lake Waccamaw	Aluminum Box Culvert w/ aluminum headwalls on both ends 1 @ 25'-4" X 8'-7"							

At water's edge refers to a position roughly five feet from top of bank or vegetation line.

Steel pile foundation type assumes 90 tons factored resistance, except for 230075 which assumes 75 tons factored resistance.

The estimated tip elevations are based on an examination of the borings and taking into account roughly 10 feet of scour depth and are shown for informational purposes. The estimated tip elevations are not necessarily true elevations but may instead relate to an assumed benchmark noted on the boring logs; benchmarks were not always accessible at the time of borings. Foundation length was determined by comparing the existing grade and bridge seat elevations with the estimated pile tip elevations, taking into account any adjustment needed to the assumed benchmark, as appropriate.

3. Design and prepare the Temporary Traffic Control Plan for each bridge site location project. Development of the Traffic Control Plan should proceed as follows:
 - a) Submit a Traffic Control Plan to the Resident Engineer and the Transportation Program Management Director for review and acceptance. Construction may begin once the Traffic Control Plan has been sealed by the Design-Build Team and accepted by the Department.
 - b) The Traffic Control Plan shall include a detour detail, which includes detour signing (detour advance warning & trailblazing), sign designs, and locations of traffic control devices; construction phasing/sequence, and project notes. Street names are required on detour signing. NCDOT's *January 2012 Roadway Standard Drawings* Section 1100 is for traffic control and will need to be incorporated into the plans for most work activities. The detour detail will incorporate NCDOT's *January 2012 Roadway Standard Drawing 1101.03*, sheet 1 of 9. Ensure the development of the Traffic Control Plan is in compliance with the North Carolina Department of Transportation *Roadway Standard Drawings*, NCDOT *January 2012 Standard Specifications for Roads and Structures*, the latest edition of the *Manual on Uniform Traffic Control Devices (M.U.T.C.D.)* and the *NCDOT Standard Specifications for Roads and Structures* (January 2012).
 - c) Use traffic control devices that conform to all NCDOT requirements and are listed on the Department's Approved Products List as shown on NCDOT's Traffic Control Website.
 - d) The NCDOT's Traffic Control Website should be utilized when developing the Traffic Control Plan. The Traffic Control Website is updated and provides key information necessary in preparing the Traffic Control Plan. The Traffic Control Website Address:

<https://connect.ncdot.gov/projects/WZTC/Pages/default.aspx>

B. DESIGN PARAMETERS FOR ON-SITE DETOUR

The Design-Build Team shall replace Bridge No. 230049 utilizing an on-site detour to the east of existing to maintain traffic and prepare the Traffic Control and Pavement Marking Plans following the parameters listed below:

1. Maintain a minimum of two 11-foot clear travel lanes (clear roadway width) for two-lane two-way traffic, unless otherwise noted herein.
2. A minimum 2-foot offset (shy distance) shall be required from the edge of travel lane to the traffic control device.
3. Temporary alignments shall be designed for no less than 45 mph.

Install temporary traffic barrier system with the traffic flow, beginning with the upstream side of traffic. Remove the temporary traffic barrier system against the traffic flow, beginning with the downstream side of traffic.

Install drums to close or keep closed tangent sections of the roadway until the temporary traffic barrier system can be placed or after the temporary barrier system has been removed. The distance, in feet, between drums shall be no greater than twice the posted speed limit (MPH).

The Design-Build Team shall be responsible for providing proper connection between the existing bridge rail and the temporary barrier system and include this information in the appropriate plans.

H. TRAFFIC CONTROL DEVICES

The Design-Build Team shall use traffic control devices that conform to all NCDOT requirements and are listed on the Approved Products List. The Approved Products List is shown on NCDOT's Work Zone Traffic Control website at <https://apps.dot.state.nc.us/vendor/approvedproducts/>. The use of any devices that are not shown on the Approved Product List shall require written approval from the Transportation Management Director.

Place Type III barricades, with "ROAD CLOSED" sign R11-2 attached, of sufficient length to close entire roadway. Stagger or overlap barricades to allow for ingress or egress.

II. PERMANENT SIGNING

The Design-Build Team will replace any existing signs damaged by construction operations. The signs shall be furnished and installed by the Design-Build Team according to NCDOT's specifications.

III. FINAL PAVEMENT MARKING PLANS

General

Prepare Final Pavement Marking Plans in accordance with the latest *Manual on Uniform Traffic Control Devices (MUTCD)* and the NCDOT *January 2012 Roadway Standard Drawings*.

Final Pavement Marking Plan Requirements

Develop Pavement Marking Plans that maintain all types of traffic (motorists, bicyclists, and pedestrians within the highway, including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA), Title II, Paragraph 35.130) as defined by the *Manual for Uniform Traffic Control Devices (MUTCD)*.