Transportation

PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

October 4, 2016

Addendum No. 1

Contract No.:	C203918
WBS No.:	17BP.11.R.118
Counties:	Avery and Watauga Counties
Project Description:	Five (5) Express Design-Build Bridge Replacement Projects in Division 11 Set A
RE:	Addendum No. 1 to Final RFP

October 18, 2016 Letting

To Whom It May Concern:

Reference is made to the Final Request for Proposals dated September 20, 2016 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. 48 and 49 of the *Roadway Scope of Work* have been revised. Please void Page Nos. 48 and 49 in your proposal and replace it with the revised Page Nos. 48 and 49.

Page No. 52 of the *Structures Scope of Work* has been revised. Please void Page No. 52 in your proposal and replace it with the revised Page No. 52.

Page No. 67 of the *Traffic Scope of Work* has been revised. Please void Page No. 67 in your proposal and replace it with the revised Page No. 67.

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

Sincerely,

R.A. Garris, PE
State Contract Officer

RAG/cwh

cc: Mr. Rodger Rochelle, PE
Mr. Michael Pettyjohn, PE
File
Ms. Virginia Mabry
Ms. Teresa Bruton, PE

ROADWAY SCOPE OF WORK

Project Details

- The Design-Build Project consists of replacing a total of five (5) bridges located in Avery and Watauga Counties. Bridge Nos. 050056, 940136 and 940153 shall be stage-constructed. Bridge No. 940083 shall be replaced in place while traffic is maintained on a one-lane two-way onsite detour. Bridge No. 940022 shall be constructed as a new alignment while traffic is maintained on the existing structure.

- The Design-Build Team shall be responsible for designing and constructing the bridge approaches to tie the new structures into the existing pavement in accordance with the *Sub Regional Tier Design Guidelines for Bridge Projects* dated February 2008, as applicable, current NCDOT design standards, and NCDOT policies. The Design-Build Team shall make every effort to stay within the existing maintenance limits to reduce or eliminate the need for additional right of way or easements.

- All bridges are considered subregional.

- The Design-Build Team shall use Design Speed (unless otherwise noted herein), ADT, Travel Lane Width, and the Paved Shoulder Width as shown in the table below for the full length of the construction limits. The Design Build Team shall use the Out to Out Bridge Width as specified in the Structures Scope of Work. The lanes shall be paint striped to match existing travel lane widths.

County	Bridge No.	Route	Design Speed (mph)	ADT	Travel Lane Width (ft)	Paved Shoulder (ft)
Avery	050056	SR 1321	25	500	10	0
Watauga	940022	SR 1209	25	130	10	4
Watauga	940083	SR 1340	35	740	10	0
Watauga	940136	SR 1533	35	2000	11	2
Watauga	940153	SR 1508	35	300	9	4

- At a minimum, the Design-Build Team shall construct full depth pavement in all areas of pavement removal, widening or re-alignment. In no case shall the existing pavement width be narrowed.

- At Bridge No. 940083, the Design-Build Team shall construct full depth pavement for 50 feet from each fill face.

- Excluding Bridge No. 940136, the length of overlay, wedging, and new pavement, including paved shoulders shall extend a minimum 150 feet from the ends of the proposed structure (fill face). The Design-Build Team shall provide a grade for the project limits. All paved shoulders shall be extended to the end of construction limits and be blunt ended.

- At Bridge No. 940136, the length of overlay, wedging, and new pavement shall extend a minimum 150 feet from south end of the proposed structure (fill face) and to the radii at the

US 321 right turn lane and square back to the US 321 edge of pavement. The Design-Build Team shall mill to provide smooth transition at US 321 and at existing curb and gutter locations. The Design-Build Team shall provide 7' 6" paved shoulders on the west side of Bridge No. 940136 for the full length of new guardrail.

- The Design-Build Team shall at all bridges pave to the face of guardrail for its full length and taper at an 8:1 ratio to the proposed edge of pavement.

- Outside the guardrail limits on the subregional tier, for all approaches with paved shoulders, the Design-Build Team shall provide a minimum of 2'-0" of graded shoulder from the edge of the pavement to the shoulder point.

- The vertical alignment 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 shall adhere to the specific staging requirements below:
    - Bridge No. 940136 to the west side (upstream)
    - Bridge No. 940153 to the north side (downstream)

- At Bridge No. 940022, the Design-Build Team shall construct to the west side on new alignment and avoid impacts to Bethel School property.

- At Bridge No. 940083, the Design-Build Team shall replace in place utilizing an onsite detour to the south side (upstream) and shall avoid any permanent right of way or permanent easement on the State Park property. Additionally, the Design-Build Team shall provide special dark bronze anodized coating for all bridge rail components and guardrail.

- Unless noted otherwise elsewhere in the RFP, all guardrail should 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.

- At Bridge No. 940153, the Design-Build Team shall pave adjacent Y-line, SR 1570, to the furthest radii.

- Unless noted otherwise elsewhere in the RFP, 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.

- A crest vertical curve high point is permitted on a bridge or approach slab provided the Design-Build Team can demonstrate that (1) the design directs water off the travel lanes in an effective manner and (2) providing a tangent grade on the structure would create significant additional roadway approach work. In no case shall a sag vertical curve low point be located on any bridge or approach slab.

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 4 feet except for Bridge 940136 and 940153 due to vertical abutments.

All bridges shall be cored slab or box beam with a bituminous concrete overlay riding surface. Superstructure depths may vary per span if necessary.

At Bridge 050056, the superstructure may be placed on a grade up to 6 percent provided the following is submitted to the Structure Management Unit and approved; a detail demonstrating how the Design-Build Team will ensure the correct fit-up during construction and how the Design-Build Team will mitigate the sliding, longitudinal and transverse, of the cored slab units over time.

Design-Build Team shall provide a 42-inch Vertical Concrete Barrier Rail at Bridge No. 050056 and 940153. At Bridge No. 940136, Oregon Rail shall be provided on both sides. At Bridge No. 940022, the Design-Build Team shall provide the NCDOT standard 2-bar metal rail on both sides. At Bridge No. 940083, the Design-Build Team shall provide the NCDOT standard 2-bar metal rail on both sides and shall have special dark bronze anodized coating for all bridge rail components. Precast Barriers will not be allowed.

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 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 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).

At both ends of Bridge Nos. 940136 and 940153, the Design-Build Team shall construct a vertical face using either (1) a cast-in-place abutment: (2) a deep end bent cap supported on piles; or (3) a standard end bent cap supported on piles with sheet piles in front of the end bent. These three options are collectively referred to as "Vertical Face" in the table contained herein. The vertical wall or sheeting shall be of sufficient depth to accommodate abutment scour. The Design-Build Team shall extend the wingwalls (retaining walls) at Bridge No. 940153 as necessary to provide stabilization.

traffic. Prepare the Traffic Control and Pavement Marking Plans following the parameters listed below:

1. For Bridge Nos. 050056, 940083 and 940153 maintain a minimum of 11-foot clear roadway width for one-lane, two-way traffic. The 11-foot clear roadway width constitutes a 9-foot travel lane and a 1-foot offset (shy distance) on both sides. Temporary traffic signals shall also be incorporated due to poor sight distances.

2. For Bridge No. 940136, maintain a minimum of 15-foot clear roadway width for one-lane, two-way traffic. The 15-foot clear roadway width constitutes an 11-foot travel lane and a 1-foot offset (shy distance) on the east side and a 3-foot offset (shy distance) on the west side. Temporary traffic signals shall also be incorporated due to poor sight distances.

3. Temporary alignments shall be designed for no less than 15 mph at Bridge Nos. 050056 and 940083, and for no less than 25 mph at Bridge Nos. 940136 and 940153.

4. Roadway Standard Drawing 1101.11 shall be used for merge and shift tapers. All other temporary designs shall follow the NCDOT Roadway Design Manual, 2004 AASHTO A Policy on Geometric Design of Highways and Streets and the most current Highway Capacity Manual.

C. PROJECT REQUIREMENTS FOR ALL BRIDGE SITES

1. The Design-Build Team shall select a Private Engineering Firm (PEF) that has experience designing and sealing Traffic Management Plans for the North Carolina Department of Transportation (NCDOT) on comparable projects.

2. The Traffic Management Plans shall adhere to the "*Express Design-Build Bridge Replacement Submittal Guidelines - Year 5, March 24, 2016.*", and the "*Guidelines for Preparation of Traffic Control and Pavement Marking Plans for Design-Build Projects", January 2012 NCDOT Roadway Standard Drawings, January 2012 Standard Specifications for Roads and Structures*, and the "*Manual for Uniform Traffic Control Devices*".

3. Adapt the traffic control plans, when directed by the engineer, to meet field conditions to provide safe and efficient traffic movement. Changes may be required when physical dimensions in the detail drawings, standard details and roadway details are not attainable or result in duplicate or undesired overlapping of devices. Modification may include: moving, supplementing, covering or removal of devices.

4. The Design-Build Team shall provide one month notice to the Engineer, County EMS and County school officials prior to road closures.