Transportation

PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

July 21, 2016

Addendum No. 3

Contract No.:	C 203474
TIP No.:	B-2500B
County:	Dare
Project Description:	NC 12 - Rodanthe Breach Long Term Improvements (Phase IIb)

RE: Addendum No. 3 to Final RFP

September 20, 2016 Letting

To Whom It May Concern:

Reference is made to the Final Request for Proposals dated June 9, 2016 recently furnished to you on the above project. We have since incorporated changes, and have attached a copy of Addendum No. 3 for your information. Please note that all revisions have been highlighted in gray and are as follows:

The second page of the *Table of Contents* has been revised. Please void the second page in your proposal and staple the revised second page thereto.

Page Nos. 81 and 82 of the *Structures Scope of Work* have been revised. Please void Page Nos. 81 and 82 in your proposal and staple the revised Page Nos. 81 and 82 thereto.

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

Sincerely,

R.A. Garris, PE
Contract Officer

RAG / dth

SCOPES OF WORK

STANDARD SPECIAL PROVISIONS

17 feet MSL shall be designed to resist coastal wave forces. The main bridge, transition sections and retaining walls shall be designed for scour as detailed in the Hydraulics and Geotechnical Scopes of Work found elsewhere in this RFP. The Design-Build Team shall evaluate Equation 5.2-1 as an extreme event limit state and design accordingly. Wave forces will not be required in any other loading combinations.

Using a base wind velocity of 105 mph, the 2014 AASHTO LRFD Bridge Design Specifications may be used for wind loading. Should the Design-Build Team use the 2016 interims to the 2014 AASHTO LRFD Bridge Design Specifications for wind loading, the wind gust velocities shall be per the figures.

Sand lightweight concrete will only be permitted in the bridge deck. Lightweight concrete, of any kind, shall not be used on any other part of the proposed bridge.

Superstructure - General

The bridge typical section shall consist of a 40-foot clear roadway with 2-Bar Metal rail and a 3'-0" concrete parapet (parapet height has been increased from the Standard Drawing BMR34). However, the final design of the rail must be reviewed and endorsed by the SHPO, as required by Section 106 commitments, and the NPS and USFWS as required by Section 7 commitments. The Design-Build Team shall use the aluminum rail option detailed in Standard Drawing BMR34, and all associated hardware and anchorage shall be stainless steel.

The following will not be allowed:

- Cast-in-place and precast deck slabs as primary structural members, precast girders with an integrally cast deck, and steel girder superstructures
- Voided slabs (cored slabs or box beams) will not be allowed in the main bridge. (Voided slabs used in the transition sections shall be positively anchored to the substructure units and have a concrete overlay adhering to the corrosion protection requirements for bridge decks.)
- Structures that require external tendons or strands (e.g. cable-stay, extradosed, suspension)
- Precast partial or full depth deck panels
- Stay-in-place deck forms
- Precast bridge barrier rails
- Empirical method for deck design
- Steel diaphragms
- Modular Expansion Joints

The Design-Build Team shall provide an initial load rating for the proposed main bridge and transition sections. For all design and legal loads, prestressed concrete members shall not be in tension (0 psi) at the Service Limit State in the longitudinal direction. Stresses for all precast, pretensioned members shall be in conformance with the NCDOT Structure Management Unit Manual and associated memos.

Design for an additional superimposed dead load 30 psf for future wearing surface, regardless of the superstructure type.

Vessel impact calculations for the bridge superstructure will not be required.

In the transition sections, Design-Build Team will be allowed to use voided slabs throughout grades and / or superelevations that exceed four percent.

The Design-Build Team shall use one type of expansion joint throughout the main bridge. Expansion joint seals shall have a maximum four-inch joint opening and a minimum ¾" opening. Creep and shrinkage movement may be excluded from the total movement calculations. Foam joint seals will only be allowed in the transition sections, and between the transition sections and the main bridge. The Department prefers that the number of bridge expansion joints be minimized. The Design-Build Team shall indicate the type and number of bridge expansion joints in the Technical Proposal.

Substructure – Vessel Impact

Unless otherwise noted, the Design-Build Team shall design all main bridge substructure units in accordance with AASHTO LRFD Bridge Design Specifications - 3.14. In lieu of the design vessel or empty hopper barge, the Design-Build Team shall use a 200 kip vessel collision force applied horizontally along each bent control line at an elevation three feet above mean high water using the full Final Design Scour Elevation, as defined in the Geotechnical Scope of Work found elsewhere in this RFP. The 200 kip vessel collision force shall be considered an extreme event applied simultaneously with scour. Dynamic analysis techniques that take into account force-deformation, or other dynamic interaction between vessel and bridge during collision, will not be permitted.

No reduction on design loads via pier protection by "island" construction or fender systems will be allowed.

Substructure – Vessel Collision and Scour Limit States and Design Criteria

In addition to the requirements of AASHTO LRFD Bridge Design Specifications, design the substructure units in accordance with the following Limit States:

- Limit State 1 (Always required – Scour may be "0") Conventional LRFD loadings (using load factor combination groups as specified in LRFD Table 3.4.1-1), but utilizing the most severe case of scour up to and including that from a 100-year hurricane storm event.

- Limit State 2 (Applies when vessel collision force is specified) Extreme Event of Vessel Impact (using load factor combination groups as specified in the LRFD) utilizing scour depth described above for Vessel Collision with Scour.

- Limit State 3 (Applies only if scour is predicted) Stability Check during the superflood (most severe case of scour up to and including that from the Final Design Scour Elevation, as defined in the Geotechnical Scope of Work found elsewhere in this RFP) event.