



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE  
GOVERNOR

EUGENE A. CONTI, JR.  
SECRETARY

May 1, 2012

**Addendum No. 1**

RE: Contract ID C203008

WBS # 17BP.3.H.1

**New Hanover County**

Bridge #30 On US-421 Over Snow's Cut (Intracoastal Waterway)

**May 15, 2012 Letting**

To Whom It May Concern:

Reference is made to the plans and proposal furnished to you on this project.

The following revisions have been made to the plans:

Sheet No. S-23 has been revised to require elastomeric headers at all joints and to show details for the correct joint construction. Please void Sheet No. S-23 in your plans and staple the revised Sheet No. S-23 thereto.

Sheet Nos. S-26 and S-27 have been revised to require elastomeric concrete at all joints. Please void Sheet Nos. S-26 and S-27 in your plans and staple the revised Sheet Nos. S-26 and S-27 thereto.

The following revision has been made to the Proposal:

New Page Nos. 59-A and 59-B have been added to include the project special provision entitled "Elastomeric Concrete". Please staple New Page Nos. 59-A and 59-B after Page No. 59 in your proposal. The contract will be prepared accordingly.

Sincerely,

A handwritten signature in black ink, appearing to read "R. A. Garris".

R. A. Garris, PE  
Contract Officer

**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

WEBSITE: [www.ncdot.org](http://www.ncdot.org)

**LOCATION:**

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

RAG/jag  
Attachments

cc: Mr. Jon Nance, PE  
Mr. Ron Hancock, PE  
Ms. Karen Fussell, PE  
Ms. D. M. Barbour, PE  
Mr. J. V. Barbour, PE  
Mr. G.R. Perfetti, PE  
Project File (2)

Mr. R.E. Davenport, PE  
Ms. Natalie Roskam, PE  
Mr. Ronnie Higgins  
Mr. Larry Strickland  
Ms. Marsha Sample  
Ms. Lori Strickland

**ELASTOMERIC CONCRETE**

(9-30-11)

**1.0 DESCRIPTION**

Elastomeric concrete is a mixture of a two-part polymer consisting of polyurethane and/or epoxy and kiln-dried aggregate. Provide an elastomeric concrete and binder system that is preapproved. Use the concrete in the blocked out areas on both sides of the bridge deck joints as indicated on the plans.

**2.0 MATERIALS**

Provide materials that comply with the following minimum requirements at 14 days (or at the end of the specified curing time).

| <b>ELASTOMERIC CONCRETE PROPERTIES</b> | <b>TEST METHOD</b> | <b>MINIMUM REQUIREMENT</b> |
|----------------------------------------|--------------------|----------------------------|
| Compressive Strength, psi              | ASTM D695          | 2000                       |
| 5% Deflection Resilience               | ASTM D695          | 95                         |
| Splitting Tensile Strength, psi        | ASTM D3967         | 625                        |
| Bond Strength to Concrete, psi         | ASTM D882 (D882M)  | 450                        |
| Durometer Hardness                     | ASTM D2240         | 50                         |

| <b>BINDER PROPERTIES<br/>(without aggregate)</b> | <b>TEST METHOD</b> | <b>MINIMUM REQUIREMENT</b> |
|--------------------------------------------------|--------------------|----------------------------|
| Tensile Strength, psi                            | ASTM D638          | 1000                       |
| Ultimate Elongation                              | ASTM D638          | 150%                       |
| Tear Resistance, lb/in                           | ASTM D624          | 200                        |

In addition to the requirements above, the elastomeric concrete must be resistant to water, chemical, UV and ozone exposure and withstand temperature extremes. Elastomeric concrete systems requiring preheated aggregates are not allowed.

**3.0 PREQUALIFICATION**

Manufacturers of elastomeric concrete materials shall submit samples (including aggregate, primer and binder materials) and a Type 4 certification in accordance with Article 106-3 of the Standard Specifications for prequalification to:

North Carolina Department of Transportation  
Materials and Tests Unit

59-3

1801 Blue Ridge Road  
Raleigh, NC 27607

Prequalification will be determined for the system. Individual components will not be evaluated, nor will individual components of previously evaluated systems be deemed prequalified for use.

The submitted binder (a minimum volume of 1 gallon) and corresponding aggregate samples will be evaluated for compliance with the Materials requirements specified above. Systems satisfying all of the Materials requirements will be prequalified for a one year period. Before the end of this period new product samples shall be resubmitted for prequalification evaluation.

If, at any time, any formulation or component modifications are made to a prequalified system that system will no longer be approved for use.

#### **4.0 MATERIAL CERTIFICATION AND INSTALLATION**

Provide a Type 5 certification in accordance with Article 106-3 of the Standard Specifications, verifying that the materials satisfy the above requirements and proof of NCDOT prequalification.

Prior to placing the elastomeric concrete, thoroughly clean and dry all concrete surfaces. Sandblast the concrete surface in the blockout and clear the surface of all loose debris.

Provide a manufacturer's representative at the bridge site during the installation of the elastomeric concrete to ensure that all steps being performed comply with all manufacturer installation requirements including, but not limited to weather conditions (ambient temperature, relative humidity, precipitation, wind, etc), concrete deck surface preparation, binder and aggregate mixing, primer application, elastomeric concrete placement, curing conditions and minimum curing time before joint exposure to traffic.

#### **5.0 FIELD SAMPLING**

Provide additional production material to allow freshly mixed elastomeric concrete to be sampled for acceptance. A minimum of six 2 inch cube molds and three 3x6 inch cylinders will be taken by the Department for each day's production. Compression, splitting tensile, and durometer hardness testing will be performed by the Department to determine acceptance. Materials failing to meet the requirements listed above are subject to removal and replacement at no cost to the Department.

#### **6.0 BASIS OF PAYMENT**

No separate payment will be made for elastomeric concrete. The lump sum contract price bid for "Foam Joint Seals" will be full compensation for furnishing and placing the Elastomeric Concrete.