

**ESSEX COUNTY PURCHASING
7551 COURT STREET P.O. BOX 217
ELIZABETHTOWN, NY 12932 (518) 873-3330**

Addendum #3
June 3, 2015

Installation of 3 Precast Concrete Bridges opening on June 5, 2015

This Addendum, issued to proposal document holders of record, consists of specifications that were erroneously omitted from the original documents for the Notice to Bidders due June 5, 2015. This addendum is hereby made part of the Contract Documents. All other requirements of the Contract Documents remain in full force and effect. Please include this page as part of your bid specifications.

SECTION 03412 - PRECAST CONCRETE BRIDGES

1.1 DESCRIPTION

- A. The work shall consist of all labor and materials required for the design, fabrication and delivery of pre-engineered precast concrete bridge structures with the spans, rises and skew angles shown on the Drawings.
- B. The precast concrete bridge structures indicated on the Drawings as a basis for design for the project are patented Hy-Span three-sided bridge structures, as manufactured by The Fort Miller Company, Inc.. Equivalent structures produced by other manufacturers may be furnished, subject to review and acceptance by the Engineer and Owner.

1.2 CODES AND STANDARDS

- A. The precast concrete bridge shall be designed and fabricated in accordance with the requirements of the New York State Standard Specifications - Construction and Materials, 2008, as amended to the January 8, 2015 letting (NYSDOT Standard Spec.) and the NYSDOT Prestressed Concrete Construction Manual (PCCM), as modified by provisions included in this Specification Section.
 - 1. Comply with the requirements of NYSDOT Standard Spec. Section 562 - Reinforced Concrete Three-Sided Structures, including all cross-references to other NYSDOT Standard spec. sections and the PCCM.
- B. Comply with the provisions of the referenced codes and standards except where more stringent requirements are shown on the Drawings or specified herein.

1.3 SUPPLIER QUALIFICATIONS

- A. The precast concrete structures supplier shall be a Precast Concrete Association certified facility with ACI grade level I certified technicians.
- B. The precast concrete structures supplier shall be currently approved by the NYSDOT for the fabrication of reinforced concrete three-sided structures of the types indicated on the Drawings.
- C. The precast concrete structures supplier shall have at least five (5) years of continuous experience in the manufacture of similar structures to the precast concrete structures indicated on the Drawings.

1.4 SUBMITTALS

- A. General: Submit five (5) copies each of the following information for review by the Engineer and Owner.
- B. Supplier's certification that the materials and fabrication of the precast concrete structures comply with all applicable requirements of the NYSDOT Standard Spec., the project Drawings and this specification section.
- C. Engineering calculations for precast concrete structures, stamped and signed by a professional engineer licensed to practice in New York State.
- D. Shop drawings, stamped and signed by a professional engineer licensed to practice in New York State, indicating layout plan, joint details, reinforcing details, and similar items.
- E. Supplier's instructions and installation guides for installation of the precast concrete bridge systems.
- F. Testing results from material tests and reports from quality control inspections performed during production of precast structure units.

1.5 BASIS OF ACCEPTANCE

- A. Acceptance of the precast concrete bridges shall be determined based on the results of the concrete compressive strength testing, conformance of the materials used in production of the precast units to the requirements of this specification, and inspection of the precast concrete structures by the Owner and/or Engineer.

1.6 QUALITY CONTROL AND QUALITY ASSURANCE

- A. Quality Control: Retain a material testing laboratory acceptable to the Engineer and Owner to conduct material testing in accordance with specified requirements.
 - 1. The precast concrete bridge supplier's in-house material testing laboratory may be acceptable to the Engineer and Owner if the laboratory is currently certified by the New York State Department of Transportation for material testing for precast concrete bridge members.
- B. Quality Assurance: The Owner or Engineer shall provide Quality Assurance review of the fabrication of the precast concrete structure units.
- C. The precast concrete structures supplier shall provide a field representative to witness the installation of each precast concrete system. The supplier shall provide a letter stating the compliance of the installation with the supplier's requirements and noting any deviations from such requirements.

1.7 PATENTED PRECAST CONCRETE BRIDGE SYSTEMS

- A. The precast concrete structures supplier shall include in his bid all costs for royalties for the use of a patented precast concrete bridge system.

1.8 DELIVERY

- A. The precast concrete structures supplier shall bear all costs for loading of the precast concrete units at the supplier's facility and trucking to the project site.
- B. The bridge installation contractor shall be responsible for off-loading of all precast concrete bridge units at the project site.
- C. The rental costs for all lifting devices for the precast concrete bridge units shall be paid by the bridge installation contractor and shall be reimbursed in full to the bridge installation contractor by the precast concrete structures supplier within five (5) days of the receipt of all lifting devices in good condition at the supplier's facility.
- D. A minimum of three hours shall be permitted for off-loading of each truck load of precast concrete units.
 - 1. In the event that the bridge installation contractor does not off-load the unit from each truck in the time specified, the bridge installation contractor shall be responsible for a maximum delay charge of \$50.00 per hour.
 - 2. The bridge installation contractor shall notify the precast concrete structures supplier at least 24 hours in advance of the time each truck load of precast concrete bridge units is required to be on site for off-loading.
 - 3. The precast concrete structures supplier shall be responsible for all additional costs incurred by the bridge installation contractor, including but not limited to labor, materials, equipment and crane costs, due to delays in the delivery of each truck load of precast concrete units to the project site.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. All materials used in the manufacture of the precast concrete bridge systems shall comply with the requirements of the specified NYSDOT Standard Spec. sections and the PCCM.
- B. Butyl rubber joint wrap at the precast unit wall joints and closed-cell foam grout stops at all bridge system joints shall be provided by the precast concrete system supplier.
- C. All temporary steel angles, coil rods, alignment hardware and other alignment devices required for the field installation of the bridge systems shall be provided by the precast concrete system supplier.
 - 1. Steel shims and grout shall be provided by the structure installation contractor.

PART 3 - EXECUTION

3.1 DESIGN

- A. The precast concrete bridge system designs shall comply with the requirements of the referenced NYSDOT Standard Spec. sections, the PCCM, and requirements contained herein.
- B. The precast concrete bridge systems shall be designed by a professional engineer licensed to practice in New York State.
- C. The designs shall include an allowance of 40 PSF additional dead load for future roadway pavement above the structures.

3.2 FABRICATION OF PRECAST UNITS

- A. The precast concrete bridge systems shall be fabricated in accordance with the requirements of the referenced NYSDOT Standard Spec. sections, the PCCM, and requirements contained herein.

3.3 JOINTS

- A. All precast concrete structure units shall be fabricated with formed keyways at the abutting surfaces of the units which shall be filled in the field with non-shrink grout.
- B. The joint keyway configurations shall be as shown on the Drawings.
- C. The abutting surfaces of precast units shall be manufactured such that when the sections are set in final position, they will make a continuous line with a smooth interior surface free of appreciable irregularities and in conformance with the tolerances indicated in this specification.

3.4 FABRICATION TOLERANCES

- A. The following fabrication tolerances shall apply to the precast concrete bridge section dimensions indicated on the shop drawings:
 - 1. Internal dimensions - Max. variation of $\pm\frac{1}{2}$ " in span and $\pm\frac{1}{2}$ " in rise. Haunch dimensions max. variation of $\pm\frac{1}{2}$ ".
 - 2. Top slab and wall thicknesses - Max. variation of $-\frac{1}{2}$ ".
 - 3. Laying lengths of opposite surfaces - Max. variation of $\pm\frac{3}{4}$ ".
 - 4. Length of section - Max. variation of $\pm\frac{1}{2}$ ".
- B. All adjoining surfaces of the precast units shall be perpendicular to each other or shall conform to the specified skew angle ± 1 degree, as applicable.

3.5 QUALITY CONTROL DURING FABRICATION

- A. The precast concrete structures supplier shall employ a testing laboratory acceptable to the Engineer and Owner to perform tests at the supplier's plant and to submit test reports unless the supplier's in-house testing laboratory is currently certified by the New York State Department of Transportation for material testing for precast concrete bridge members.
- B. Sampling, inspection and testing for quality control during placement of reinforcing steel and concrete shall comply with the requirements of the referenced NYSDOT Standard Spec. sections, the PCCM, and requirements contained herein.
- C. Test results will be reported in writing to the Engineer and Owner within 48 hours after tests. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials; compressive breaking strength and type of break for both 7-day tests and 28-day tests.
- D. Additional Tests: The testing service will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by the Engineer or Owner. The testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42, or by other methods as directed. Supplier shall pay all cost for such additional testing when required due to unacceptable concrete compressive strength tests.

3.6 MARKING

- A. The following information shall be clearly marked on the interior of each bridge section by indentation, waterproof paint, or other approved means.
 - 1. Design span and rise
 - 2. Date of manufacture and lot number (if applicable)
 - 3. Name and trademark of fabricator

3.7 FINISHES

- A. All concrete surfaces at the precast concrete stemwalls and top surface of the bridge decks shall be steel form finished.
- B. The bottom surface of the precast concrete bridge decks shall be broom finished.
- C. All sections shall be assembled and handled in accordance with the precast concrete structures supplier's instructions and shop drawings.

3.8 SEALING

- A. Sealer shall be applied to all precast concrete unit surfaces by the precast concrete structures supplier prior to shipping of the units.
- B. Surface preparation and application procedures shall be per the sealer manufacturer's recommendations.

3.9 REPAIR OF DAMAGE OR DEFECTS

- A. Minor manufacturing imperfections or damage to precast concrete bridge sections may be repaired if, in the opinion of the Engineer, the repair is sound, properly finished and the repaired section conforms to the requirements of this specification.
- B. Proposed repair methods shall be submitted to the Engineer for review.

3.10 REJECTION OF THE WORK

- A. Failure to conform to any requirements of this specification and the information indicated on the drawings is a basis for rejection of the work.
- B. Defects or damage to the precast concrete bridge sections, whether caused by the fabricator or shipper, including, but not limited to, spalled concrete, exposed reinforcement, fractures, excessive honeycombing, failure to conform to specified tolerances, and similar items are a basis for rejection of the work, unless repairs to such damage or defects can be made to the satisfaction of the Engineer and Owner.

END OF SECTION 03412