ELM STREET CULVERT REPAIR

TECHNICAL SPECIFICATIONS AND SPECIAL PROVISIONS

October 2026

ELM STREET CULVERT REPAIR

Town of Thomaston

TABLE OF CONTENTS OF TECHNICAL SPECIFICATIONS AND SPECIAL PROVISIONS

Note: This Table of Contents has been prepared for the convenience of those using this contract with the sole express purpose of locating quickly the information contained herein; and no claims shall arise due to omissions, additions, deletions, etc., as this Table of Contents shall not be considered part of the contract.

The State of Connecticut, Department of Transportation, Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 819, 2024 including Supplements dated January 2026, is hereby made part of this contract, as modified by the Special Provisions contained herein.

Items of Work directly referenced in the Connecticut DOT Form 819, Supplements and Amendments thereto. The following are modifications to Form 819:

0219011A	Catch Basin Sediment Filter
0286001A	Drainage Trench Excavation, Rock in Drainage Trench Excavation
0406128.30A	Bituminous Concrete Patching – Pavement Reconstruction
0586001A	Type ‘C’ Catch Basin
0601XXXA	Precast Concrete Slab
0686230.12A	12” High Density Polyethylene Pipe
0921001A	Concrete Sidewalk

ITEM #0219011A – CATCH BASIN SEDIMENT FILTER

Add the following:

Article 02.19.02 – Material:

Include catch basins inserts. Catch basin insert type to be approved by the Engineer and as detailed in the drawings.

Article 02.19.04 - Method of Measurement:

There will be no measurement for payment of this item

Article 02.19.05 – Basis of Payment:

There will be no separate payment for this item, the cost shall be included in the lump sum cost for the project.

ITEM #0286001A – DRAINAGE TRENCH EXCAVATION, ROCK IN DRAINAGE TRENCH EXCAVATION

Add the following:

Article 02.86.04 - Method of Measurement:

There will be no measurement for payment of this item

Article 02.86.05 – Basis of Payment:

There will be no separate payment for this item, the cost shall be included in the lump sum cost for the project.

ITEM #0406128.30A—BITUMINOUS CONCRETE PATCHING – PAVEMENT RECONSTRUCTION

Description: This work shall consist of reconstructing areas of flexible (bituminous concrete) or composite [bituminous concrete on Portland cement concrete (PCC)] pavement as follows:

1. Sawcutting, removal and proper disposal of pavement and granular base,
2. Grading and compacting remaining subbase or subgrade,
3. Furnishing, installation, and compaction of Processed Aggregate Base,
4. Application of tack coat on the vertical edges of the patch, and
5. Placement of Hot-Mix Asphalt (HMA) as shown on the Plans.

Materials: Materials for this work shall consist of the following:

1. Processed Aggregate Base shall meet the requirements of Article M.05.01.
2. HMA S0.5 shall meet the requirements of Section M.04. All HMA shall be Traffic Level 2 unless indicated otherwise on the Plans.
3. Tack Coat shall meet the requirements of Section M.04.

Construction Methods: Equipment for this work shall include pavement cutting, removal, material handling, and compaction equipment to perform all patching operations. Compaction equipment shall include steel-wheeled roller, vibratory plate compactor, and jumping jack compactor, capable of compacting granular and HMA materials to specified requirements. The Contractor shall also provide a 10-foot straightedge.

1. Areas for reconstruction shall be as shown on the Plans. The minimum width dimension of any area to be patched shall be 2 feet.
2. Sawcut, excavate, and remove all existing pavement and granular layers to the depth indicated on the Plans.
3. Once the existing pavement and granular material is removed, grade and compact the remaining subbase or subgrade. A minimum of 4 passes, or coverages, must be made by any one compaction device.
4. Install and compact Subbase in accordance with Article 3.04.03, to the depth shown on the Plans (minimum 8 inches).
5. The cut sides of the excavated areas shall be wiped or swept clean, tack coat shall be applied covering the entire area of the vertical pavement faces and allowed to cure.
6. HMA S0.5 shall be placed in lifts between 2 inches and 3 inches, shall have a final lift thickness placed at 2 inches, and be placed as shown on the Plans. Pavement placement shall also be in accordance with Subarticle 4.06.03-6. The Contractor shall confirm that the surface elevation of the finished patch matches the elevation of the surrounding pavement surface to within 1/4 inch using the 10-foot straightedge.
7. All excavated materials shall be properly disposed of at the end of the work shift.
8. Testing for density for this item shall be performed by the Contractor by field density testing as part of the Contractor's Quality Control program. Cores are not required for density testing for this item.

Method of Measurement: There will be no measurement for payment of this item.

Basis of Payment: There will be no separate payment for this item, the cost shall be included in the lump sum cost for the project.

ITEM #0586001A – TYPE 'C' CATCH BASIN

Add the following:

Article 05.86.04 - Method of Measurement:

There will be no measurement for payment of this item

Article 05.86.05 – Basis of Payment:

There will be no separate payment for this item, the cost shall be included in the lump sum cost for the project.

ITEM #0601XXXA – PRECAST CONCRETE SLAB

Description: Work under this item shall include the design, fabrication, delivery, and installation of precast concrete slabs, including all materials, reinforcing steel, hardware, inserts, lifting devices, leveling devices, shims, and other components necessary to complete the work as shown on the plans. The substitution of cast-in-place concrete for the precast concrete slabs will not be allowed.

Due to the accelerated nature of this project, all precast concrete slab panels shall be manufactured and approved prior to the initiation of any roadway closure at the site.

Materials:

- The concrete mix design shall meet the requirements of M.03.02, Class PRC05062, and shall be submitted to the Engineer.
- All threaded concrete inserts, lifting fixtures, and miscellaneous hardware cast into precast concrete components shall be galvanized in accordance with ASTM A153 or ASTM B695, Grade 50. All portions of the lifting and seating devices shall be recessed from the finished concrete surface.
- Materials used for leveling devices, shims, and other components required to set the precast concrete slabs to the elevations shown on the plans shall be suitable for the intended application and shall be submitted to the Engineer for review when required.

Construction Methods:

1. **Submittals:** All submittals shall include a title sheet with the following:
   - Design code, as applicable.
   - Contact information for fabricator – contact information shall include name and address of the fabricator and the name of contact person with phone number and email address.

   (a) Shop Drawings - Precast Concrete Slabs: Prior to fabrication, the Contractor shall submit shop drawings for the precast concrete slabs to the Engineer for review in accordance with the plans and Article 1.05.02. The shop drawings shall include all the details necessary for fabrication, handling and installation of precast concrete slabs, supporting documents for materials incorporated into the slabs, and details of other materials provided by the fabricator. The shop drawings shall be prepared and stamped by a Professional Engineer licensed in the State of Connecticut.

   (b) Design Computations – Precast Concrete Slabs: Prior to fabrication, the Contractor shall submit design computations for the precast concrete slabs. The slabs shall be designed to support all dead loads and HL-93 live load. The design shall conform to the requirements of the design plans, and to the AASHTO LRFD Bridge Design Manual (9th Edition – 2020), as supplemented by the Connecticut Department of Transportation Bridge and Roadway Structures Design Manual (Release 1.1). The design computations shall be prepared and stamped by a Professional Engineer licensed in the State of Connecticut.

(c) Working Drawings – Lifting and Seating Devices: Prior to fabrication, the Contractor shall submit working drawings and supporting computations for lifting, handling, and placement of the precast concrete slabs to the Engineer for review in accordance with Article 1.05.02.

(d) Working Drawings – Slab Installation: Prior to fabrication, the Contractor shall submit working drawings and supporting computations describing the proposed methods and equipment for handling, moving, positioning, and installing the slabs to the Engineer for review in accordance with Article 1.05.02.

(e) Product Data – Field Installed Materials: Prior to installation of the precast concrete components, the Contractor shall submit product data for field installed materials, such as shims, non-shrink grout, etc., not addressed in other submissions to the Engineer for review in accordance with 1.05.02.

2. Fabrication and Manufacture: The fabrication and manufacture of the precast concrete slabs shall meet the requirements of M.08.02-4, as supplemented by the following:

(a) Reinforcing Steel: Reinforcing steel shall be fabricated and installed in accordance with Articles 6.02.03-2 through 6.02.03-5. The welding of reinforcement is not permitted.

(b) Test Cylinders: During the casting of the components, the Contractor shall cast a minimum of four 4 inch × 6 inch test cylinders in accordance with AASHTO T23 during each production run. Cylinders shall be cured under the requirements of ASTM C31 and shall be used to confirm that the concrete meets the requirements of M.03.02.

(c) Placing Concrete: Concrete shall not be deposited in the forms until the Contractor has inspected the reinforcing steel, including all other embedded components, and has documented such inspection.

Concrete shall not be deposited into the forms when the ambient temperature is below 40°F or above 100°F, unless adequate heating or cooling procedures have been previously approved by the Engineer. The concrete temperature shall be 60°F to 90°F at the time of placement.

Truck-mixed or transit-mixed concrete will not be allowed.

Production during the winter season, from November 15 to March 15 inclusive, will be permitted only on beds located in a completely enclosed structure of suitable size and dimension that provides a controlled atmosphere for the protection of the casting operation and the product.

Outdoor concreting operations will not be permitted during rainfall unless the operation is completely under cover.

The concrete shall be vibrated internally, or externally, or both, as needed to provide adequate flow and consolidation of the concrete. The vibration shall be provided in such a manner as to avoid displacement of reinforcing steel, forms, or other components. There shall be no interruption in the placement of concrete. Concrete shall be placed and vibrated sufficiently to produce a surface free from imperfections such as honeycombing, segregation, cracking, or checking.

Any deficiencies noted in the components may be cause for rejection.

(d) Finishing: All fins, runs, or mortar shall be removed from the concrete surfaces which will remain exposed. Form marks on exposed surfaces shall be smoothed by grinding. All exposed, outside concrete surfaces shall be given a grout clean-down finish in accordance with 6.01.03-10.

(e) Handling and Storage: Prior to applying load to the embedded lifting devices, the concrete shall attain the minimum concrete compressive strength associated with the safe working load of the devices. Any precast concrete slabs damaged during storage, transportation or handling shall be repaired or replaced by the Contractor, at its own expense, as directed by the Engineer.

(f) Repairs: The Contractor shall submit to the Engineer, for review, any proposed methods or materials to be used in the repair of precast concrete slabs or defective surfaces. Precast concrete slabs with defective area greater than 5% as determined by the Engineer will be rejected.

3. Fabrication Tolerances: Precast concrete slabs shall conform to the dimensions and tolerances shown on the plans and approved shop drawings. Where tolerances are not shown on the plans or approved shop drawings, the applicable tolerances in the current PCI manual for quality control of structural precast concrete products shall apply, subject to the Engineer's acceptance.

4. Installation: The installation of the precast concrete slabs shall proceed in accordance with the plans. The slab sections shall be placed in a manner that accommodates and facilitates the accelerated construction sequence. The slab panels shall be set to the grades indicated on the plans or as directed by the Engineer. The following general procedure shall be followed:

(a) Establish working points, working lines, and benchmark elevations before placement of the elements.

(b) Lift slab segments using the lifting devices shown on the approved shop drawings and working drawings.

(c) Set the slabs in the proper horizontal location and in the sequence and manner outlined in the plans.

(d) Check alignment and grade against the specified tolerances. Survey the top elevation of the slab and adjust vertical leveling devices.

(e) Fill all fixtures or holes cast into the slabs for lifting, anchoring, or seating with non-shrink grout. Finish the grout smooth and flush with the adjacent concrete surface. Surface preparation, mixing, placement, curing, and finishing shall follow the manufacturer's written instructions.

Any slab that, in the Engineer's judgment, is unacceptable in vertical or horizontal alignment because of settlement, displacement, excess camber, misfit, or other reasons shall be removed and correctly installed by the Contractor at no additional cost, as directed by the Engineer.

ITEM #0686230.12A – 12" HIGH DENSITY POLYETHYLENE PIPE

Add the following:

Article 06.86.04 - Method of Measurement:

There will be no measurement for payment of this item

Article 06.86.05 – Basis of Payment:

There will be no separate payment for this item, the cost shall be included in the lump sum cost for the project.

ITEM #0921001A – CONCRETE SIDEWALK

Article 09.21.02 – Materials:

Add the following:

Reinforcement: Shall meet the requirements of Article M.06.01.

Article 09.21.04 – Method of Measurement:

Add the following:

7. Reinforcement: This material will not be measured for payment.

There will be no measurement for payment of this item

Article 09.21.05 – Basis of Payment:

In the first paragraph, add the following after "gravel or reclaimed miscellaneous aggregate" and before "equipment":

Reinforcement,

Add the following:

There will be no separate payment for this item, the cost shall be included in the lump sum cost for the project.