

ITEM 563.52 10 M – SEGMENTAL CONCRETE – POST-TENSIONED GIRDERS
ITEM 563.53 10 M – SEGMENTAL CONCRETE – POST-TENSIONED PIER COLUMNS

DESCRIPTION.

The work shall consist of the manufacture of precast structural concrete substructure and superstructure elements and the storage, transportation and erection of these segments to the established lines and grades, all in accordance with the design, dimensions and details shown on the Plans and in accordance with the New York State Prestressed Concrete Construction Manual (referred to hereinafter as “PCCM”), and these specifications.

The following items of work are also included in the work covered by this Section:

1. Cast-in-place concrete work to construct transverse or longitudinal closures between precast concrete superstructure units as shown on the Plans.
2. Epoxy jointing of segments.
3. Furnishing and placing all items embedded in and/or appurtenant to the precast concrete segments and cast-in-place closures, including reinforcing steel and post-tensioning hardware.
4. All materials and labor required to furnish and stress prestressing strands for longitudinal and transverse tendons in the deck slab, and to grout these tendons after stressing.

MATERIALS.

All materials required to fabricate the segmental elements as shown in the Plans shall be in accordance with the requirements of Section 4 of the PCCM and the following:

Bar Reinforcement, Grade 420 - Section 709-01 of the New York State Standard Specifications
Stainless-Clad-Bar Reinforcement - Section 709-12 of the New York State Standard Specifications
Stainless Steel Bar Reinforcement - Section 709-13 of the New York State Standard Specifications

Material requirements for the following are given in the Contract Documents as Special Notes:

Concrete Segmental Construction
Post-Tensioning Systems
Epoxy Jointing of Precast Segments
Duct Grouting Material

CONSTRUCTION DETAILS.

All provisions in the Contract Plans and these specifications shall apply.

METHOD OF MEASUREMENT.

The work will be measured on a lump sum basis for both “Segmental Concrete - Post-Tensioned Girders” and “Segmental Concrete - Post Tensioned Pier Columns”.

BASIS OF PAYMENT.

The lump sum price bid for these items shall include all concrete, reinforcing steel and incidental items, and all the equipment, tools, forms, labor, erection equipment and incidentals necessary to complete the work (including fabrication, storage, and transportation costs). Also included under this item shall be full compensation for furnishing and stressing all temporary and permanent post-tensioning steel, anchorage assemblies, bar couplers, internal and external ducts and duct supports, steel deviation pipes, grouting, local

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zone reinforcement required to resist stresses imposed on the concrete by the anchorage devices, anchorage protection, furnishing samples of materials and devices, testing of post-tensioning tendons, and for all labor, materials, tools, equipment, and incidentals necessary for completing this work.

Payment will be made only for those items specifically listed in the bidding document. The Contractor shall assume all other items as incidental to the various pay items. The incidental items shall include, but shall not be limited to the following:

1. Drainage holes, vent holes, and related items
2. Superstructure access openings and doors
3. Brackets or other hardware required for temporary post-tensioning
4. Future post-tensioning anchorages and corrosion protection
5. Local zone reinforcement for all post-tensioning anchorages
6. Falsework
7. Erection equipment
8. Engineering fees
9. Testing
10. Epoxy compounds
11. Repair of cracks due to post-tensioning operations
12. All embedded items as shown on the Plans
13. Any materials not shown on the Plans that are made necessary by revisions to the segments proposed by the Contractor to accommodate the permanent and temporary post-tensioning systems and the erection scheme and sequence he selects.

Monthly progress payments will be made. For the purpose of determining monthly progress payments, a price per segment shall be established by dividing the lump sum amount bid for each of these items by the total number of segments shown in the Plans for the respective item. Thirty-five percent of the price per segment thus determined will be paid for segments for which a Report of Acceptance (see Section 3.4 of the PCCM) has been issued. An additional thirty-five percent of the price per segment will be paid for segments that have been erected to form the superstructure after epoxy jointing, casting transverse closure pours, longitudinal post-tensioning, grouting of longitudinal tendons, etc. have been completed and accepted. Fifteen percent of the total lump sum price will be paid upon the completion of the installation and stressing of the transverse closure post-tensioning. Fifteen percent of the total lump sum price will be paid when all necessary repairs and finishing of the concrete surfaces have been completed and accepted.

The Contractor shall submit each month a schedule listing the status of all segments, highlighting the percent payment due on each segment. The Department will not be required to use any schedule submitted later than three days prior to the scheduled estimate date, to allow review. Payments will be based on the submitted schedule as verified by the Engineer-in-Charge.

No payment will be made for any work excluded from payment by the terms of this Specification.