

ITEM 586.40 11 - RECTOR STREET BRIDGE MODIFICATIONS

DESCRIPTION

This work shall consist of furnishing and installing the following items, including all labor and incidental materials required, for Rector Street Bridge Modifications in accordance with the contract documents and as directed by the Engineer:

- 1) Prefabricated East Tower Stairs and foundations;
- 2) East and West Tower stainless steel handrails, guardrails, brackets, and mesh;
- 3) East Tower Modifications including a new column, new bracing and new platform elements;
and
- 4) New East Pier Bracing.

MATERIALS

The items described above shall be fabricated using these materials:

- 1) Prefabricated East Tower Stairs – Structural elements of the stairs, including stair stringers, steel bents, base plates and structural portions of the stair treads and risers shall be composed of Galvanized Coated (hot dip) ASTM A-36 Steel.
 - a) Foundations shall be cast from Class A Concrete.
 - b) Diamond plate stair treads and risers shall have nonslip-aggregate finish metallically bonded to steel.
 - i. IKG Industries, a Harsco company; Mebac
 - ii. W.S. Molnar Company; SlipNOT.
- 2) East and West Tower and East Tower Stair handrails, guardrails, brackets, and mesh shall all be fabricated from ASTM t301 Stainless Steel
 - i. Handrails - Type 316, Directional Satin Finish No. 4.
 - ii. Guardrails, brackets, and mesh – Type 316, Dull Mill Finish
- 3) East tower modifications and new structural and bracing elements for both the East and West Piers shall all be Galvanized Coated (hot dip) ASTM A-36 steel.
- 4) East Tower new column and other Structural Tubes shall be Galvanized Coated (hot dip) ASTM A-5000 Grade B

Material Properties shall meet the requirements of the New York State Steel Construction Manual and the following New York State Standard Specifications:

- | | |
|--|---------|
| 1) Structural Steel | §715 |
| 2) Class A Concrete | §500 |
| 3) High Strength Bolts, Nuts and Washers | §715-14 |
| 4) Galvanized Coating (Hot Dip) | §719-01 |
| 5 Shop Drawings | §656-3 |

Material property requirements for minor elements are noted on the plans.

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CONSTRUCTION DETAILS

All construction shall meet the requirements of the New York State Steel Construction Manual and be in compliance with the details and specifications.

- 1) The East Tower stairs shall be a self-stable unit including treads, risers, stringers, hand rails, steel bents, bracing, base plates and anchor bolts. The platform shall be designed to be supported by the existing sidewalk slab and be braced to maintain its position independently adjacent to the east tower platform. Pedestrians will be stepping from these stairs directly onto the east tower platform so it is imperative that the stair unit be braced for stability to permanently maintain its position adjacent to the east tower. See construction plans. This item also requires calculations and plans signed and sealed by a NY Professional Engineer for the acceptance of any changes to the proposed unit shown on the plans. Additionally, shop and erection drawings will be required.
- 2) The east and west platform handrails shall be installed as shown on the construction plans to provide an uninterrupted barrier around the edge of the platforms. These railings are to be installed securely so that pedestrians can be safely guided to the stairs or bridge as appropriate.
- 3) The east tower shall be modified as shown in the construction plans by moving the south west column and its associated bracing to make room for the proposed traffic barrier. This work also included installation of new platform edge beams that will also be used to mount the handrail posts.
- 4) The new pier bracing as shown in the contract plans shall be in place prior to the beginning of and partial demolition of the piers and their foundations.

Calculations And Shop Drawings

All calculations and shop drawings shall be prepared in metric units.

METHOD OF MEASUREMENT

The work will be measured on a lump sum basis.

BASIS OF PAYMENT

The lump sum price bid shall include the cost of furnishing all labor, materials, and equipment necessary to satisfactorily complete the work.

Progress payments will be made for each discrete task as per the schedule below:

| Completed Task | Payment % of LS |
|---------------------------------------|------------------------|
| East Pier Bracing | 8% |
| West Pier Bracing | 8% |
| East Tower and Platform Modifications | 20% |
| West Platform Modifications | 8% |
| East Tower Stair Supply and Erection | 56% |