

**ITEM 11585.41 M - TEMPORARY SUPPORT FOR NYC TRANSIT AUTHORITY IRT
STRUCTURE**

DESCRIPTION

This work shall consist of installing, maintaining and removing the temporary support structure for the NYC Transit Authority's IRT Structure along Roosevelt Avenue. The temporary support structures are required for the staged construction of the bridge to allow for the maintenance and protection of vehicular traffic on the BQE and train traffic on the IRT structure.

MATERIALS

All materials the contractor proposed for use shall conform to the latest requirements of the NYSDOT standard specifications dated January 2nd, 2002 with current additions and modifications.

The structural concrete used for the temporary support of the IRT Structure shall comply with the requirements of Item 555.09M, Concrete for Structures, Class HP, except that it shall have a minimum twenty eight (28) day compressive strength of 28 MPa.

Steel materials for this work shall meet the requirements of the New York State Steel Construction Manual, of subsection 564, and the following subsections of §700 - Materials:

Structural Steel	715-01
High Strength Bolts, Nuts Washers	715-14

Certified copies of the results of tests conducted by the manufacturer shall be furnished to the Engineer in accordance with the requirements of §715-01, Structural Steel.

Timber shall be free from any defects which might impair its strength or functional use. Timber used for blocking shall comply with the material requirements of subsection 712-14, Stress Grade Timber and Lumber.

CONSTRUCTION DETAILS

Introduction

The existing NYC Transit Authority's IRT Structure is supported on B.I.N. 2-23058-7, which carries Roosevelt Avenue across the Brooklyn Queens Expressway, B.I.N. 2-24738-0, which carries Roosevelt Avenue across CSX train tracks, and a twenty two (22) meter embankment between the two bridges. The scope of this project calls for the replacement of these two (2) bridges along Roosevelt Ave and the twenty two (22) meter embankment, with a single four (4) span bridge. To complete this work the existing support structure of the existing IRT Structure must be modified.

The temporary support system provided in the contract documents is only a suggested procedure, the Contractor may develop an alternative temporary support system in accordance with these specifications. The Contractor's working drawings and calculations for the alternate procedure must be signed and sealed by a NYS P.E. and must be reviewed and approved by New York City Transit Authority and the Engineer.

Design Specifications

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- 1) New York City Transit Authority Structural Design Guidelines
Design Guidelines 452, Issue 2
August 2001
- 2) New York City Transit Authority
Field Design Standards
December 1986, Reprinted May 1999
- 3) Manual Of Steel Construction
Allowable Stress Design
9th Edition
- 4) AREMA, Manual for Railway Engineering
2002
- 5) NYSDOT Standard Specifications for Highway Bridges. Edition - 2002
- 6) New York State, Steel Construction Manual

General

A suggested design is shown in the contract documents. The contractor has the option to develop an alternative temporary support system.

If any significant permanent vertical or horizontal movement of the IRT Structure is detected during construction, any work being performed on the IRT Structure shall be stopped and the Engineer shall be notified immediately. Work on the IRT Structure shall not proceed until a means to correct the movement and/or settlement of the existing structure is developed by the Contractor and approved by the Engineer.

The Contractor shall develop a set of survey targets and a procedure to monitor them, which will be approved by the Engineer prior to the construction of the temporary bracing system. As work progresses the Contractor shall monitor the survey targets periodically as necessary to detect any significant permanent vertical or horizontal movement.

Working Drawings

If the Contractor uses the temporary support system provided in the Contract Documents, the Contractor shall furnish the Engineer with working drawings prepared, stamped, and signed by a New York State Licensed Professional Engineer for the proposed temporary support system.

If the Contractor develops an alternative bracing system from the one shown in the Contract Documents, the Contractor shall furnish calculations and working drawings prepared, stamped, and signed by a New York State Licensed Professional Engineer for the alternative temporary support system.

Three prints of each drawing, and three copies of all design computations shall be submitted to the Engineer for approval.

The Engineer shall be allowed the longest of the following time durations to examine design computations and working drawings:

1. Ten (10) working days

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2. Two (2) working days for each drawing submitted
3. One Working day for every four (4) design computation sheets. Two sided sheets shall be Considered to be two sheets.

Review time shall be calculated based upon the date of receipt at the design office performing the review and shall be limited to twenty (20) working days.

The Contractor's alternative working drawings and calculations must also be submitted to New York City Transit Authority for review and approval. The Contractor is alerted to the fact that New York City Transit Authority's internal guidelines allows for thirty (30) working days to review outside submissions.

In addition, the contractor shall not begin construction or demolition until all related working drawings have been approved by the New York City Transit Authority and the Engineer. The Contractor shall bear all costs which may result from the ordering of any material or equipment, or the use of any preparatory labor prior to the approval of the working drawings.

Installation of the temporary supports shall be in accordance with the approved working drawings.

The Contractor shall make every effort to minimize damage to those elements of existing and new structures to remain. Any damage done to the existing facility by the Contractor's operations shall be repaired to the satisfaction of the Engineer, at the Contractor's expense.

METHOD OF MEASUREMENT

Payment will be made at the lump sum price bid.

BASIS OF PAYMENT

The lump sum bid for the Temporary Support for NYC Transit Authority IRT Structure shall include the cost of all labor, materials, and equipment necessary to perform the work

The contractor shall supply the Engineer with a detailed construction schedule for each location. The schedule shall assign percentage values for each phase of the work. The Engineer will base progress payments for this item upon the accepted percentage values as the work is completed. The Engineer may request a revised schedule at any time. Failure upon the part of the Contractor to supply a revised schedule upon request will cause the progress payment process to be immediately terminated.