

## SECTION 051200 - STRUCTURAL STEEL

## PART I - GENERAL

## 1.1 RELATED DOCUMENTS

- A. The general provisions of the contract, including General and supplementary conditions and Division 1, General Requirements apply to the work specified in this section. Note also all Addenda.

## 1.2 DESCRIPTION OF WORK

- A. This contract includes all labor, materials, equipment and appliances necessary to complete all structural steel as indicated or scheduled on the drawings or hereafter specified.
- B. See drawings and schedules for type, location, quantity and details of structural steel required to complete work. Anchor bolts and other incidental items of structural steel to be built into concrete or masonry shall be furnished to respective trades at the proper time and shall include details for their installation.

## 1.3 RELATED WORK SPECIFIED IN OTHER SECTIONS

Concrete: Division 3

## 1.4 SUBMITTALS

- A. Shop Drawings: This contractor shall submit for approval copies of all erection drawings, showing all dimensions of members and details of construction, connections, and the composition of shop paints. Approval will be for sizes, and locations of principal members only. Connections, as well as any errors in dimensions shown on shop drawings, shall be the responsibility of the contractor. After approval, additional copies shall be furnished for distribution and use in the field.
- B. Mill certificates shall be submitted if requested.

## 1.5 QUALITY ASSURANCE

- A. The design, fabrication, and erection of structural steel shall be in accordance with the latest edition of AISC "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings".
- B. Fabricator Qualifications: Engage an experienced in fabricating structural steel similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to fabricate structural steel without delaying the Work.
  - 1. Fabricator is member of American Institute of Steel Construction, Inc. (AISC) or Steel Fabricators of New England (SFNE).
  - 2. Fabricator certified in the AISC Quality Certification Program or quality control procedures inspected by Owner's testing agency.

- a. Fabricator shall be registered with an approved by authorities having jurisdiction.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. All structural wide flange steel shall be new domestic and shall conform to the latest edition of ASTM Standard Specifications A992 Grade '50' Steel, except tube columns shall be ASTM A-500 Grade "B" Steel. Miscellaneous plates, angles, etc. may conform to ASTM A-36.
- B. Welding electrodes shall conform to the American Welding Society "Specifications for Iron and Steel Arc-Welding Electrodes" (Latest Edition).
- C. High strength bolts shall conform to ASTM A-325.
- D. Shop Primers shall be as follows:
  1. Interior Steel for use in a dry environment shall be coated with a shop approved primer. Steel must be properly cleaned (free of oil, scaled rust, etc. ...) prior to coating.
  2. Exterior or Interior exposed steel subjected to a damp or wet environment shall be hot-dipped galvanized.

## PART 3 - EXECUTION

### 3.1 FABRICATION AND ERECTION

- A. Unless noted otherwise, all connections shall be AISC standard framing connections, which will fully develop strength of beams.
- B. All welding, both shop and field, shall be performed only by qualified welders. Qualifications shall be on the basis of test as set up by the American Welding Society. The shop and field welds shall be subject to approval by the Engineer and Owner's testing agency.
- C. All punching and drilling of the steel required for the attachment of other materials shall be done under this contract.
- D. This contractor is responsible for the correct fittings, schedules and design of efficient details. He shall notify the Contractor of any information or templates required for coordination of the work of other trades with the structural steel. Coordination of the work of all other trades with the structural steel is the Contractor's sole responsibility.
- E. Fabrication of any material or the performing of any work prior to the approval of shop drawings will be entirely at the risk of this contractor.
- F. Provide ¼" steel leveling plates under all steel column bearings.
- G. All columns welded to steel base or cap plates shall be milled to give full bearing over cross section.

### 3.2 DETAILS OF CONSTRUCTION

- A. Proper provisions shall be made for temporary stresses caused during construction.
- B. All reaction points shall be properly fastened by anchors, anchor bolts, or other approved devices.
- C. All connections shall be of sufficient strength to carry the reactions in accordance with AISC Specifications. Connections shall not be for less than 7 kips for bolted connections and 10 kips for welded connections.

### 3.3 PAINTING

- A. All structural steel shall receive one shop coat of paint as specified, and applied according to the manufacturer's specifications.
- B. Prior to painting, all steel shall be thoroughly cleaned of all loose rust, scale, oil, soil, dust or other foreign matter in accordance with steel structures painting council surface preparation specifications No. 3, "Power Tool Cleaning".
- C. Do not shop paint areas adjacent to field welds for a distance of 2" on either side of such welds. Such areas shall be field painted as soon as possible.
- D. All field welds, bolts and abrasions to the shop coat on all structural steel shall be touched up with the same paint used for the shop coat.
- E. For finish coat on exposed surfaces refer to other sections of the Specification.

END OF SECTION 051200