

## **SECTION 05 50 00 - METAL FABRICATIONS**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. All labor, materials, equipment, and services necessary to fabricate, furnish and, install all miscellaneous iron and steel items indicated or specified. Specifically it shall include all the bolts, nuts, washers, lags, shields, plates, inserts, anchor bolts, lintel angles, strap steel, and miscellaneous framing and connections necessary to complete the work. Work shall also include any metal fabrications such as handrails, ladders, stairs, guard posts, or any similar nonstructural item.

#### **1.3 SUBSTITUTIONS**

- A. In accordance with General Requirements, Division 1.

#### **1.4 SHOP DRAWINGS**

- A. Prepare for the designer's approval complete shop details and erection diagrams in accordance with General Requirements. Such shop details and erection diagrams shall give all pertinent information of construction methods proposed, together with all required dimensions for the proper fitting to the connection with other work and materials.

### **PART 2 - PRODUCTS**

#### **2.1 MATERIALS**

- A. The materials required for the execution of this work shall be the best of their kind and quality, new stock throughout, as indicated or specified herein.
- B. Miscellaneous Steel: ASTM A 36;  $F_y=36$  KSI.
- C. Steel Pipe: ASTM A 501;  $F_y=36$  KSI.
- D. Electrodes: AWS A5.1 E70.
- E. Galvanizing: ASTM A 123.
- F. Fasteners: ASTM A 307, or as indicated on structural drawings.
- G. Ladders: Steel ladder per architectural drawings with safety cage.
- 1. Brackets: Standard manufactured product complete with mounting plates and proper anchoring devices. Railing shall have spacing between members so as to prohibit passage of a 4 inch sphere through railing.

### **PART 3 - EXECUTION**

#### **3.1 FABRICATION AND ERECTION**

- A. Work shall conform with the Standard Specifications, Rules, and Practice of the AISC as described in the "Steel Construction Manual." Form and fabricate the work to meet installation conditions. Include accessories to adequately secure the work in place. Verify dimensions,

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conditions, and existing limitations, upon which the work of this Section might be contingent. Make provision to connect with or to receive the work specified in other sections. Install items anchored in concrete in the formwork, where practicable. Set items to be built into masonry so that masonry can be built up to them, anchoring in position.

- B. Field welding not permitted unless specifically authorized by the architect/engineer or specified on the structural drawings.
- C. Install metal fabrications at locations indicated in accordance with approved shop drawings.
- D. Ladder installation shall meet or exceed all applicable OSHA standards.

### 3.2 WORKMANSHIP

- A. Fabricate and erect all work using only skilled workmen. Make all connections between members, unless otherwise indicated, by the use of bolts. Conceal connections in finished work where possible. Exposed screw fastenings, where required, shall be Phillips oval head screws to match material in which they are used. Accurately miter exposed joints. Grind all shop welds in finished surfaces smooth. Shop welding shall be done by the shielded arc method. No identifying marks shall remain exposed.

### 3.3 SHOP PAINTING

- A. Shop paint metal fabrications, except those members or portions of members to be embedded in concrete or mortar. Painting shall be in accordance with Section 09900. Clean steel free of loose mill scale, rust, oil, and grease. Apply prime coat and finish coats.

### 3.4 BUILT-IN ANCHORAGE

- A. Provide all bolts, dowels, anchors, inserts, and other miscellaneous steel or iron fastenings that are to be installed in forms before concrete placing or built into masonry. Examine and check Drawings for number, type, and location of such items.

### 3.5 DESCRIPTIONS

- A. Miscellaneous iron and steel and related parts are not necessarily individually described. Provide other work as indicated or necessary to complete the work, of the best material for the particular use.

3.6 PRODUCT HANDLING

- A. Deliver materials to the Job Site properly marked to identify the location for which they are intended.
- B. Store in a manner to maintain identification and to prevent damage and corrosion.

3.7 ERECTION

- A. Touch up finish paint after erection as required.

END OF SECTION 05 50 00