

**Part 1            General**

**1.1                RELATED REQUIREMENTS**

- .1            Not used.

**1.2                PRICE AND PAYMENT PROCEDURES**

- .1            Include materials and work required under this section in lump sum price of the tender.

**1.3                REFERENCES**

- .1            American Association for State Highway and Transportation Officials (AASHTO)
  - .1            AASHTO Standard Specifications for Highway Bridges, latest edition.
- .2            ASTM International
  - .1            ASTM A 325M, latest edition, Standard Specification for Structural Bolts, Steel, Heat Treated 830 MPa Minimum Tensile Strength Metric.
- .3            CSA International
  - .1            CSA G40.20/G40.21, latest edition, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
  - .2            CAN/CSA G164 latest edition, Hot Dip Galvanizing of Irregularly Shaped Articles.
  - .3            CAN/CSA S6, latest edition, Canadian Highway Bridge Design Code.
  - .4            CSA S16, latest edition, Design of Steel Structures.
  - .5            CSA S269.1, latest edition, Falsework for Construction Purposes.
  - .6            CSA W48, latest edition, Filler Metals and Allied Materials for Metal Arc Welding.
  - .7            CSA W59, latest edition, Welded Steel Construction, (Metal Arc Welding).
- .4            Standard on Ministry of Transportation of Quebec
  - .1            Standard 6101 « Acier de construction ».
  - .2            Standard 6201 « Boulons, tiges d'ancrage, écrous et rondelles d'acier ».

**1.4                ADMINISTRATIVE REQUIREMENTS**

- .1            Pre-Installation Meetings
  - .1            Convene pre-installation meeting one week prior to beginning work of this Section and on-site installation, with Contractor's Representative, Departmental Representative and Job Site Supervisor in accordance with Section 01 31 19 - Project Meetings to :
    - .1            Verify project requirements.
    - .2            Review installation and substrate conditions.
    - .3            Co-ordination with other building subtrades.
    - .4            Review manufacturer's written installation instructions and warranty requirements.

- .2 Prior to start of Work arrange for site visit with the Departmental representative to examine existing site conditions adjacent to demolition work.
- .3 Ensure key personnel, site supervisor, project manager, and subcontractor representatives attend.

### **1.5 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data :
  - .1 Submit manufacturer's instructions, printed product literature and data sheets for structural steel and certificate of compliance of bolts, washers and nuts and include product characteristics, performance criteria, physical size, finish and limitations.
  - .3 Submit description of methods, temporary bracing and strengthening, sequence of erection and type of equipment proposed for use in erecting structural steel.

### **1.6 DELIVERY, STORAGE, AND HANDLING**

- .1 Not used.

### **1.7 DELIVERY, STORAGE AND HANDLING**

- .1 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

### **1.8 QUALITY ASSURANCE**

- .1 Preconstruction Testing
  - .1 Provide suitable facilities and cooperate with the Job Site Supervisor and Departmental Representative in carrying out inspection and tests required.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Structural steel: to CSA G40.20/G40.21, grade and types as indicated 350W.
- .2 High strength bolts, nuts and washers: to ASTM A 325M.
- .3 Anchor bolts, washers and nuts: to CSA G40.20/G40.21, grade 300W galvanized.
- .4 Welding electrodes: to CSA W48 series.
- .5 Hot dip galvanizing: to CAN/CSA G164, minimum zinc coating of 600 g/m<sup>2</sup>.

### **2.2 SOURCE QUALITY CONTROL**

- .1 Not used.

**Part 3 Execution**

**3.1 EXAMINATION**

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for structural steel installation in accordance with manufacturer's written instructions.
  - .1 Inform the Departmental representative of unacceptable conditions immediately upon discovery.
  - .2 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from the Departmental representative.

**3.2 PREPARATION**

- .1 Clean steel surfaces as directed by the Departmental representative when staining or defacing occurs.

**3.3 INSTALLATION**

- .1 Do falsework in accordance to CSA S269.1.
- .2 Do fabrication and erection of structural steel in accordance with CAN/CSA S6, Design of Highway Bridges and AASHTO Standard Specifications for Highway Bridges.
- .3 Do welding in accordance with CSA W59, except where specified otherwise.
- .4 High strength bolting: in accordance with CAN/CSA S6, latest edition. Use 'turn-of-nut' tightening method.
- .5 Finish: members true to line, free from twists, bends, open joints, sharp corners and sharp edges.

**3.4 FIELD QUALITY CONTROL**

- .1 Not used.

**3.5 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

**3.6 ACCESSIBILITY TO STEEL ELIMENTS**

- .1 The contractor must provide all equipment necessary to permit accessibility by the Departmental representative, to the steel elements to repair (Painting).
  - .1 Before repair work, the contractor must provide access to these elements for the identification of the surfaces to be repaired.
  - .2 During repair work (Painting), the contractor must provide access to these elements for the verification and validation of the progress.

- .3 After repair work, the contractor must provide access to these elements for the final verification and acceptance of the work.
- .2 All equipment and temporary structures required for the accessibility of the Departmental representative to the steel elements must comply with the CSST standards and the latest safety standards in effect. The contractor must provide at the beginning of the work a letter signed and sealed by an engineer certifying compliance of equipment and temporary works.
- .3 Accessibility to steel elements is the subject of a particular post of payment in tender price table. It is measured as a global unit. The price includes the supply, installation, labor, equipment, materials, harness and/or safety equipment, certification and includes any incidental expenses.

**END OF SECTION**