

**Part 1            General**

**1.1                TAXES**

- .1        Pay all taxes properly levied by law (including Federal, Provincial and Municipal).

**1.2                FEES, PERMITS and CERTIFICATES**

- .1        Pay all fees and obtain all permits. Provide authorities with plans and information for acceptance certificates. Provide inspection certificates as evidence that work conforms to requirements of Authority having jurisdiction.

**1.3                LICENCING REQUIREMENTS**

- .1        The Contractor and subcontractors must be licensed to work in both the Provinces of Ontario and Québec in accordance with all provincial laws, regulations and requirements.
- .2        All engineering work must be approved by an Engineer license to work in both Provinces.

**1.4                SECURITY CHECK**

- .1        All personnel employed on this project will be subject to security check. Obtain requisite clearance for each individual required to enter the premises.

**1.5                MINIMUM STANDARDS**

- .1        Materials are to be new and work is to conform to the minimum applicable standards of the "References" indicated in the specification Sections, and the latest versions of the Canadian Highway Bridge Design Code (CAN/CSA S6), the National Building Code of Canada (where applicable), the Canadian General Standards Board, the Canadian Standards Association, and all applicable Provincial and Municipal codes. In the case of conflict or discrepancy the most stringent requirement is to apply.

**1.6                REGULATORY REQUIREMENTS**

- .1        Compliance: Be fully acquainted with all rules, regulations and other by-laws of the appropriate Provincial and Municipal governments relating to the work of this Contract and comply with same.
- .2        Comply with the regulations from both the Provinces of Ontario and Québec with regards to every aspect of the project, unless directed otherwise by a specific clause of the contract specification.
- .3        Fees, permits, certificates: Pay all fees and obtain all permits. Provide authorities with plans and information for acceptance certificates. Provide inspection certificates as evidence that work conforms to requirements of Authority having jurisdiction.
- .4        Ensure compliance of employees with safety requirements of Contract Documents, site specific health and safety plan(s), and all applicable regulatory requirements.
- .5        The submission of a tender will be construed as the Tenderer's declaration that they have discussed the approval requirements with the appropriate levels of government. All costs incurred by the Contractor associated with compliance with Section 1.7 is understood to

be borne by the Contractor. The Contractor cannot make any claim for additional compensation due to delays on commencing work due to compliance with the above.

## **1.7 PRODUCTS AND WORKMANSHIP**

### **.1 References and Codes:**

- .1 Perform work in accordance with Canadian Highway Bridge Design Code (CHBDC) and National Building Code of Canada (NBCC) where applicable.
- .2 Material and workmanship must conform to or exceed applicable standards of Canadian Government Specifications Board (CGSB), Canadian Standards Association (CSA), American Society for Testing and Materials (ASTM), other referred organizations, and all applicable Provincial and Municipal codes.
- .3 Conform to latest revision of dated referenced standards or codes indicated in the specification Sections. Standards or codes not dated are to be deemed editions in force during tender period.
- .4 In the case of conflict or discrepancy the most stringent requirement is to apply.

### **.2 Workmanship:**

- .1 Carry out Work using qualified licensed workers or apprentices in accordance with Provincial Act respecting manpower vocational training and qualification.
- .2 Use only thoroughly skilled and trained workers, experienced in the type of work assigned to them; who are completely familiar with the materials specified, the manufacturer's recommended methods of installation/application, the drawings and specifications; and who will ensure a high standard of workmanship in the finished work.
- .3 In the acceptance or rejection of finished work, no allowance will be made for the lack of skill on the part of workers.
- .4 Observe provincial legislation(s) related to worker competencies.
- .5 Permit employees registered in Provincial apprenticeship programs to perform specific tasks only if under direct supervision of qualified licensed workers.
- .6 Determine permitted activities and tasks by apprentices, based on level of training attended and demonstration of ability to perform specific duties.

## **1.8 SUPERVISION BY THE CONTRACTOR**

- .1 Have a supervisor on site at all times when work is being carried out, who is an employee of the contractor and has signing authority on behalf of the contractor.

## **1.9 VERIFICATION OF SITE DIMENSIONS**

- .1 The Contractor is advised that all elevations and dimensions shown on the plans are approximate only. Verify all existing dimensions and grades before preparing and submitting shop drawings and before planning and undertaking any construction work. Immediately report all discrepancies, in writing, to the Departmental Representative.

## **1.10 SUBMITTALS**

- .1 Submit for the Departmental Representative's review, all required shop drawings, procedures, plans, product data, samples, mock-ups, qualifications, schedules and

Certificates of Conformance in accordance with Section 01 33 00 – Submittal Procedures.

- .2 Do not commence manufacture or order of materials before shop drawings are approved.
- .3 Do not proceed with subsequent stages of work until the appropriate Certificates of Conformance have been submitted in accordance with Section 01 45 00 – Quality Control.

#### **1.11 MOBILISATION PREREQUISITS**

- .1 The following must be submitted and approved by the Departmental Representative before the contractor is authorized to mobilise on site:
  - .1 Master Plan
  - .2 Construction Schedule
  - .3 Construction Cost Breakdown
  - .4 Environmental Management Plan.
  - .5 Receipt of Environmental Permits and/or Authorization
  - .6 Traffic Control Plan
  - .7 Site Specific Health and Safety Plan
  - .8 Waste Management Submittals

#### **1.12 WORK SEQUENCE**

- .1 Work is to be sequenced so as to maintain all levels of service, including navigational traffic, vehicular traffic, and pedestrian traffic.

#### **1.13 WORK SCHEDULE**

- .1 Provide and maintain a Construction Progress Schedule based on the Critical Path Method (CPM) in accordance with Section 01 32 16.06.
- .2 Do not commence work until the master plan and detailed schedule, as detailed in Section 01 32 16.06 - Construction Progress Schedule – Critical Path Method, has been reviewed by the Departmental Representative, and revised and resubmitted by the Contractor.
- .3 Provide a schedule for the submission of shop drawings, plans, and procedures.
- .4 Schedule and execute work with least possible interference or disturbance to the normal use of premises.
- .5 Carry out work during “regular hours”, Monday to Friday from 07:00 to 18:00 hours.
- .6 Give the Departmental Representative 48 hours notice for work to be carried out during “off hours”.
- .7 For all other restrictions related to the work, refer to Section 01 14 00 – Work Restrictions.
- .8 Take into account in the schedule all restrictions imposed by municipalities such as work hours and noise restrictions.
- .9 If progress of work should fall behind, take steps required to bring work back to schedule. Do not change schedule without Departmental Representative’s approval.

#### 1.14 COST BREAKDOWN

- .1 Within five (5) days of award of contract date, prepare and submit a cost breakdown of the construction contract award price.
- .2 Develop the cost breakdown through at least two levels:
  - .1 Breakdown of lump sum portion of contract into a lump sum item list in detail appropriate to the size and complexity of the project; and
  - .2 Breakdown of lump sum items into sub-items appropriate to the size and complexity of each lump sum item.
- .3 Cost breakdowns must reasonably reflect the costs associated with the work. Do not submit unbalanced ("Front End Loaded") breakdowns under any circumstance.
- .4 Submit supporting documentation for all breakdowns that the Departmental Representative considers unbalanced.
- .5 If supporting documentation cannot be submitted or a breakdown cannot be justified to the satisfaction of the Departmental Representative, revise and resubmit the cost breakdown(s). Submit supporting documentation for all breakdowns that the Departmental Representative considers unbalanced.
- .6 A preliminary lump sum item list is shown in Table 1. Develop and add items to the list in the cost breakdown to cover costs associated to all works for which no unit price item is provided.
- .7 The cost breakdown approved by the Departmental representative will be used as the basis of payment.

**TABLE 1 COST BREAKDOWN**

No.	Work Item	Division or Specification Section Number
1	Mobilization	
2	Construction Progress Schedule	01 32 16.06
3	Traffic Control	01 35 00.06
9	Construction Site Pedestrian Control	01 35 00.06
4	Environmental Protection	01 35 43
5	Construction Facilities	01 52 00
6	Temporary Works	01 54 23
7	Temporary Barriers and Enclosures	01 56 00
8	Waste Management Plan and Monitoring	01 74 21
10	Temporary Lighting	

11	Approach Road Works	02 41 13 02 41 13.14 03 10 00 03 20 00 03 30 00 31 05 16 31 23 33.01 32 11 16.01 32 11 23 32 12 13.16 32 12 16 32 16 15
12	Pin spacer at L25W - Non-destructive investigation	05 12 33
13	Diagonal M39W-U40W - Non-destructive testing	02 41 16.01 05 12 33 09 97 19
14	Diagonal U36W-M37W - Non-destructive testing	02 41 16.01 05 12 33 09 97 19
15	Floorbeam 43 - Non-destructive testing	05 12 33
16	Girders from nodes 22-23 - Non-destructive testing	05 12 33
17	Stringer S3E from nodes 51-52 - Non-destructive testing	05 12 33
18	Stringer S3E from nodes 54-55 - Non-destructive testing	05 12 33
19	Vertical web patch repair - L10E-M10E	02 41 16.01 05 12 33 09 97 19
20	Vertical angle reinforcement at Floorbeam 14	02 41 16.01 05 12 33 09 97 19
21	Vertical web splice plate repair - L27E-M27E	02 41 16.01 05 12 33 09 97 19
22	Vertical L27W-M27W - Clip corners of web splice plates	02 41 16.01 05 12 33 09 97 19
23	Floorbeam 43 east cantilever web repairs	02 41 16.01 05 12 33 09 97 19
24	Floorbeam 43 west cantilever stiffener plate installation	02 41 16.01 05 12 33 09 97 19
25	Truss 'B' transverse bracing replacement at pier 5	02 41 16.01 05 12 33 09 97 19

26	Floorbeam 13 - Flange replacement	02 41 16.01 05 12 33 09 97 19
27	Floorbeam 14 - Flange replacement	02 41 16.01 05 12 33 09 97 19
28	Floorbeam 22 - Flange replacement	02 41 16.01 05 12 33 09 97 19
29	<b>(Addendum No. 2)</b> Stringer S2E replacement – L18-L19 & L23-L24	02 41 16.01 05 12 33 09 97 19
30	Restoration	01 52 00
31	Demobilization	
32	Relocation and removal/disposal of existing bridge utilities	
33	All other works for which no unit price items are provided for payment in the Unit Price Table of the Tender Form	All Sections

#### 1.15 CONTRACTOR'S USE OF SITE

- .1 Use of site as specified in the contract documents. Refer to the contract drawings for site storage and staging areas which must be equipped and maintained by the Contractor. On-site staging areas are to be within site property and identified as appropriate.
- .2 Provide additional and staging areas other than those identified in the Contract Documents off site as required. No additional compensation will be permitted. The cost associated for any additional staging areas is deemed to be included the Contractor's overall bid price.
- .3 Clean-up as work progresses.
- .4 Do not unreasonably encumber site with equipment or materials.
- .5 Perform timely disposal of excess materials.
- .6 Move stored products or equipment which interfere with operations of Departmental Representative or other contractors.
- .7 Use of the National Capital Commission's and Museum of Civilization's washroom facilities and trash receptacles by the Contractor is prohibited.
- .8 Use of the bridge to store or safeguard materials is prohibited.
- .9 Clearly identify storage areas on the platforms and other temporary access (on drawings and on site). The maximal allowable storage loading should be clearly identified. Platforms and temporary access should be designed according to those loads. A clear and bilingual posting shall be installed at the designated areas. No accumulation of new or used material will be allowed on the bridge nor on the temporary platform, but in the designated areas of the platform designed and identified to carry such loads.

**1.16 PUBLIC WAY PROTECTION**

- .1 Provide pedestrian and vehicle traffic protection as per restrictions given in Section 01 35 00.06 - Special Procedures for Traffic Control and Section 01 14 00 - Work Restrictions.

**1.17 SIGNS**

- .1 Provide common-use signs related to traffic control, information, instruction, use of equipment, public safety devices, etc., in both official languages or by the use of commonly understood graphic symbols to the Departmental Representative's approval.
- .2 No advertising will be permitted on this project.

**1.18 ACCESS AND EGRESS**

- .1 Design, construct and maintain temporary "access to" and "egress from" work areas, including barricades, delineators, protection vehicles and signs as required, independent of finished surfaces and in accordance with relevant municipal, provincial and other regulations.

**1.19 TEMPORARY UTILITIES**

- .1 No electrical service will be available on site. Foresee a temporary electrical connection for the worksite. This connection must conform to the Canadian Electrical Code and Provincial requirements. Pay all costs related to connection and disconnection, as well as the utility cost.
- .2 Notify the Departmental Representative and utility companies of intended interruption of services and obtain requisite permission.
- .3 Give the Departmental Representative one (1) week's notice related to each necessary interruption of any mechanical or electrical service throughout the course of the work. Keep duration of these interruptions to a minimum. Carry out all interruptions after normal working hours of the occupants, preferably on weekends.

**1.20 EXAMINATION AND PREPARATION**

- .1 Examine site and conditions likely to affect work and be familiar and conversant with existing conditions.
- .2 Before commencing work, establish location and extent of services lines in area of work and notify Departmental Representative of findings.
- .3 Before commencing work in any area, properly conduct a proper video/photo survey of existing conditions of that area for reference. Submit to Departmental Representative before commencement of any work in that area.

**1.21 SNOW REMOVAL**

- .1 Collaborate with city snow removal crews.
- .2 Hold responsibility for snow removal, de-icing, and debris removal:
  - .1 On the work site, for the full duration of the contract; and,
  - .2 On closed traffic lanes over the structure and approaches to the structure, for the full duration of the lane closures;

- .3 Snow removal, de-icing, and debris removal will be at no cost to the Departmental Representative and is deemed to be included in the Contractor's overall bid price.

## **1.22 FIRE SAFETY REQUIREMENTS**

- .1 Comply with National Building Code 2010 and National Fire Code 2010 for safety of persons in buildings in the event of a fire and the protection of buildings from the effects of fire, as follows;
  - .1 The National Building Code (NBC): for fire safety and fire protection features that are required to be incorporated in a building during construction.
  - .2 The National Fire Code (NFC):
    - .1 The on-going maintenance and use of the fire safety and fire protection features incorporated in buildings.
    - .2 The conduct of activities that might cause fire hazards in and around buildings.
    - .3 Limitations on hazardous contents in and around buildings.
    - .4 The establishment of fire safety plans.
    - .5 Fire safety at construction and demolition sites.
- .2 Welding and cutting:
  - .1 Assign a trained fire watcher when welding or cutting operations are carried out, including during break periods, in areas where combustible materials within 10m may be ignited by conduction or radiation for at least 30 minutes after work has stopped.

## **1.23 PROTECTION**

- .1 Protect finished work against damage until takeover.
- .2 Protect adjacent work against the spread of dust, dirt, waste materials and paint beyond the work areas.
- .3 Protect operatives and other users of site from all hazards.

## **1.24 RECORD DOCUMENTS AND SAMPLES**

- .1 Maintain at site one record copy of each of the following:
  - .1 Contract Drawings.
  - .2 Specifications.
  - .3 Addenda.
  - .4 Change Orders and other modifications to Contract.
  - .5 Reviewed shop drawings, product data, samples, plans, procedures, etc.
  - .6 Manufacturers' installation and application instructions.
  - .7 Field test records.
  - .8 Inspection certificates.
  - .9 Manufacturer's certificates.
  - .10 Other documents as specified.



- .2 Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage.
- .3 Label record documents and file in accordance with Section number. Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by Departmental Representative.

#### **1.25 RECORDING INFORMATION ON PROJECT RECORD DOCUMENTS**

- .1 Record information on set of full size drawings, and in copy of Project Specifications, provided by Departmental Representative.
- .2 Use red felt tip marking pens for recording information.
- .3 Record information concurrently with construction progress.
- .4 Do not conceal Work until required information is recorded.
- .5 Contract Drawings and shop drawings: mark each item to record actual construction, including:
  - .1 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
  - .2 Field changes of dimension and detail.
  - .3 Changes made by change orders and other modifications to Contract.
  - .4 Details not on original Contract Drawings.
  - .5 References to related shop drawings and modifications.
- .6 Specifications: mark each item to record actual construction, including:
  - .1 Manufacturer, trade name, and catalogue number of each product installed.
  - .2 Changes made by Addenda, change orders and other modifications to Contract.
- .7 Other Documents: maintain manufacturer's certifications, inspection certifications, and field test records, required by individual specifications sections.
- .8 Provide digital photos, if requested, for site records.
- .9 Prior to Departmental Representative's inspection for issuance of final certificate of completion, neatly transfer notations to second set of record documents and submit to Departmental Representative.

#### **1.26 PRE-WARRANTY MEETING**

- .1 Convene meeting prior to contract completion with contractor's representative and Departmental Representative, in accordance with Section 01 31 19 - Project Meetings to:
  - .1 Verify Project requirements.
  - .2 Review warranty requirements.
- .2 Departmental Representative to establish communication procedures for:
  - .1 Notifying construction warranty defects.

- .2 Determine priorities for type of defects.
- .3 Determine reasonable response time.
- .3 Contact information for bonded and licensed company for warranty work action: provide name, telephone number and address of company authorized for construction warranty work action.
- .4 Ensure contact is located within local service area of warranted construction, is continuously available, and is responsive to inquiries for warranty work action.

## **1.27 WARRANTIES**

- .1 Develop warranty management plan to contain information relevant to Warranties.
- .2 Submit warranty management plan, 30 days before planned pre-warranty conference, to Departmental Representative approval.
- .3 Warranty management plan to include required actions and documents to assure that Departmental Representative receives warranties to which it is entitled.
- .4 Provide plan in narrative form and contain sufficient detail to make it suitable for use by repair personnel.
- .5 Submit, warranty information made available during construction phase, to Departmental Representative for approval prior to each monthly request for payment.
- .6 Assemble approved information in binder, submit upon acceptance of work and organize binder as follows:
  - .1 Separate each warranty with index tab sheets keyed to Table of Contents listing.
  - .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
  - .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within 10 days after completion of applicable item of work.
  - .4 Verify that documents are in proper form, contain full information.
  - .5 Co-execute submittals when required.
  - .6 Retain warranties and bonds until time specified for submittal.
- .7 Except for items put into use with Departmental Representative's permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.
- .8 Conduct joint 12 month and 24 month warranty inspection, measured from time of acceptance, by Departmental Representative. Provide access for the inspection (rope access, lift access, etc.). Cost for access is deemed to be included in the lump sum portion of the Contract.
- .9 Include information contained in warranty management plan as follows:
  - .1 Roles and responsibilities of personnel associated with warranty process, including points of contact and telephone numbers within the organizations of Contractors, subcontractors, manufacturers or suppliers involved.
  - .2 Listing and status of delivery of Certificates of Warranty for extended warranty items, to include structural steel, coating of structural steel, and cast-in-place concrete.
  - .3 Provide list for each warranted item indicating:

- .1 Name of item.
- .2 Location where installed.
- .3 Name and phone numbers of manufacturers or suppliers.
- .4 Warranties and terms of warranty: include one-year overall warranty of construction. Indicate items that have extended warranties and show separate warranty expiration dates.
- .5 Cross-reference to warranty certificates as applicable.
- .6 Starting point and duration of warranty period.
- .7 Summary of maintenance procedures required to continue warranty in force.
- .8 Organization, names and phone numbers of persons to call for warranty work.
- .9 Typical response time and repair time expected for warranted items.
- .4 Contractor's plans for attendance at 12 and 24 month post-construction warranty inspections.
- .10 Respond in timely manner to oral or written notification of required construction warranty repair work.
- .11 Written verification to follow oral instructions.
  - .1 Failure to respond will be cause for the Departmental Representative to proceed with action against Contractor.
- .12 Where time is required beyond the warranty period to correct a deficiency, warranty to continue until defect is corrected to satisfaction of Departmental Representative.

#### 1.28 EXTENDED WARRANTIES

- .1 For the work listed in Table 2 – List of Extended Warranties, the 12 month warranty period is extended to 24 months.

**TABLE 2 LIST OF EXTENDED WARRANTIES**

Section	Condition	Warranty Period
05 12 33 – Structural Steel for Bridges	Cracks, deformation, improper installation, connection deficiencies.	24 months
09 97 19 – Coating of Structural Steel	Painted Coatings: Peeling and/or the appearance of rust	24 months
03 3000 – Cast-in-Place Concrete	Spalling, scaling, cracking, delamination.	24 months

#### 1.29 NOT USED

- .1 Not used.

**Part 2            Execution**

**2.1                NOT USED**

.1            Not used.

**END OF SECTION**