

**Part 1            General**

**1.1                PROJECT LOCATION**

- .1        The project is located in Eskasoni, Nova Scotia. The work is located on John Paul's Lane adjacent to the Bras D'Or Lake.

**1.2                WORK COVERED BY CONTRACT DOCUMENTS**

- .1        Work includes the construction of a new 18.266 metre single span precast concrete rigid frame bridge crossing a small cove of the Bras D'Or Lake. The new bridge includes cast in place concrete curbs, sidewalks and end blocks along with steel crash barriers. The bridge superstructure is founded on cast-in-place concrete pile caps and HP friction piles. Precast wingwalls are provided to support roadway fills behind the new structure. Cast-in-place concrete approach slabs are provided at each end of the bridge.
  - .1        Precast rigid frame units have already been procured for the project and will be provided to the contractor. Contractor is responsible for installation of these units.
  - .2        A single lane of traffic shall be maintained on the existing detour bridge/approaches throughout construction. Temporary retaining walls will be required to support the existing detour bridge foundations and are a design-build item by the contractor.
  - .3        The erection design for the new rigid frames and the demolition design for the existing bridge are the responsibility of the Contractor. The Contractor shall submit drawings sealed by a Professional Engineer licensed to practice in the province of Nova Scotia. Submissions are subject to review and approval of Departmental Representative.
  - .4        Replacement of existing water and sewer lines is required at the site to facilitate bridge construction. This work must be completed prior to pile driving for the new bridge structure.
  - .5        The new bridge shall be constructed in a manner that results in an aesthetically pleasing structure. Care shall be taken when forming all exposed concrete surfaces.
- .2        Demolition work includes the removal of the existing bridge crossing including timber superstructure and timber/concrete abutments prior to construction of the new bridge. Removal/demolition of the existing detour bridge is the responsibility of others and is not covered in this contract.
  - .1        Demolition design shall include all the access, safe removals, and mitigation measures required to complete the work in an environmentally friendly manner.
  - .2        All existing foundations shall be removed to a minimum depth of 1 metre below finished grade or streambed. All materials shall be removed from site and disposed or recycled in an approved method.
- .3        Road work on John Paul's Lane generally includes the regrading/realignment of approximately 260 metres of roadway to create the approaches to the new John Paul Lane Bridge and the removals and reshaping of the existing roadway embankments. Other work includes:

- .1 Storm water culverts, as shown on the Drawings.
  - .2 Regrading of driveways within the work zone.
  - .3 Construction phasing in order to provide 1 lane of traffic during construction.
  - .4 Final landscape finishing of all construction slopes.
  - .5 Installation of armour stone along Bras D'Or Lake side of causeway.
  - .6 All signage, including footings and posts, as shown on the Drawings.
  - .7 Temporary traffic control during all phases of construction.
- .4 The above listed work is subject to the following constraints during construction:
- .1 One traffic lanes must remain open on the existing detour bridge crossing and approaches at all times throughout construction, except as noted below:
    - .1 During blending of new alignment to existing road on the approaches, short duration single lane closures are acceptable to locally complete the roadbed structure and paving.
    - .2 During delivery of equipment and materials, short duration single lane closures are acceptable with prior approval from the Departmental Representative.
    - .3 Contractor to provide approved traffic control plan for all construction phases, including those times during approved single lane closures.
  - .2 Construction activities shall not detrimentally impact the surrounding environment or the Lake and shall respect all environmental requirements.
- .5 The Contractor is responsible for the delineation of the construction zones and the existing roadway.
- .6 All work to be carried out in accordance with applicable federal, provincial regulations for those agencies having jurisdiction for the work.

### **1.3 CONTRACT METHOD**

- .1 Construct Work under combined unit price and lump sum items contract.

### **1.4 CODES AND STANDARDS**

- .1 Perform work in accordance with Code of Practice of the Department of Labour, as it pertains to the Temporary Workplace Traffic Control Manual (NS Public Works) and any other code of federal, provincial or local application provided that in any case of conflict or discrepancy, the more stringent requirements shall apply.
- .2 Materials and workmanship must conform to or exceed applicable standards of Canadian General Standards Board (CGSB), Canadian Standards Association (CSA), American Society for Testing and Materials (ASTM) and other standards organizations.
- .3 Conform to latest revision at the date of Tender of any referenced standard as re-affirmed or revised to date of specification. Standards or codes not dated shall be deemed editions in force on date of tender advertisement.

### **1.5 SITE CONDITIONS**

- .1 The Contractor will be responsible to visit the site and review existing site conditions.

- .2 Before submitting a bid, it is recommended that bidders visit the site to review and verify the form, nature and extent of the work, materials needed, the means of access and the temporary facilities required to perform the Work.
- .3 Directional orientation for the site being set as north toward Shore Rd, south toward Canal Dr., east toward the Bras D'Or Lake and west toward the cove.
- .4 Obtain prior permission from the Departmental Representative before carrying out such site inspection.
- .5 Contractors, bidders or those they invite to site are to review specification Section 01 35 29.06 – Health and Safety Requirements before visiting site. Take all appropriate safety measures for any visit to site, either before or after acceptance of bid.
- .6 For geotechnical and borehole information, refer to Geotechnical Investigation, John Paul's Lane Bridge, Harbourside Geotechnical Consultants, File No. 193135 dated December 2, 2019.

## **1.6 INTERPRETATION OF DOCUMENTS**

- .1 Supplementary to the Order of Precedence article of the General Conditions of the Contract, the Division 01 Sections take precedence over the technical specification sections in other Divisions of the Specifications Manual.

## **1.7 TERM ENGINEER**

- .1 Unless specifically stated otherwise, the term Engineer where used in the Specifications and on the Drawings shall mean the Departmental Representative as defined in the General Conditions of the Contract.

## **1.8 SITE SURVEY AND SETTING OUT WORK**

- .1 Topographic survey used in the preparation of these Contract Documents was provided by Thompson Conn Ltd.
- .2 A georeferenced CAD file of the site will be provided to the Contractor for use in layout. PSPC assumes no responsibility for the accuracy of this information.
- .3 Contractor to carry out all layout. The Contractor is responsible for the layout of grade stakes at every construction stage. Establish and maintain 20 m stationing and placement of offset at 20 m stations (top of backslope, toe of slope, subgrade, granulars, shoulders, etc.) on which is written with the chainage and centreline offset. All stakes to be removed at the completion of the work.
- .4 The Contractor shall assume full responsibility for and execute complete layout of work locations, lines and elevations indicated.
- .5 The Contractor shall supply such devices as straight edges and templates required to facilitate Departmental Representative's inspection of work.
- .6 The Contractor shall provide coordinates, elevations and dimensions in the field, as required by the Departmental Representative.

## **1.9 WORK WITHIN ESKASONI FIRST NATION**

- .1 The project is within Eskasoni First Nation and it is essential that lands remain as undisturbed as possible. The Contractor will be expected to use standards and methods

beyond those for normal construction in order to protect the environment and ensure the aesthetics of the work. Contract limits shall be strictly adhered to and every precaution shall be taken to minimize environmental damage and disruption to vegetation, wildlife habitat, and structures or existing services, both on construction and storage sites.

- .1 If any damage occurs during construction, the Contractor is responsible to bear the expense to immediately restore such damaged areas to the satisfaction of Departmental Representative.
- .2 If Contractor fails to repair damage to the satisfaction of the Departmental Representative, the Departmental Representative may have repairs completed by others at the Contractor's expense.
- .3 The Contractor shall ensure that contracted work meets the standards outlined in the contract specification and drawings.
- .4 The Contractor shall ensure that no damage will be done to any existing utilities.
- .5 All sources of aggregate and asphalt cement must be submitted to the Departmental Representative for approval at least two weeks prior to the start of any work.
- .6 The Contractor is responsible to follow the Provincial requirements regarding the following:
  - .1 Pit and Quarry Guidelines
  - .2 Environmental Construction Practice Specifications
- .7 The Contractor will make arrangements with authorities or owners of private properties for quarrying and transporting materials and machinery over their properties and be responsible for obtaining and paying of fees.
- .8 Special move permits for over-weight and over-dimensional vehicles required to travel provincial highways must be secured by the Contractor and submitted to the Departmental Representative for review and approval.

#### **1.10 MAINTENANCE OF WORK DURING CONSTRUCTION**

- .1 Maintain work during construction. Undertake continuous and effective maintenance work day by day, with adequate equipment and forces so that the roadway or structures are continuously kept in a condition satisfactory to Departmental Representative.

#### **1.11 WORK SCHEDULE**

- .1 Provide to the Departmental Representative in writing and within 5 working days after Contract award, a detailed construction schedule and traffic control plan. The schedule shall show proposed work to be undertaken and anticipated completion dates for each category of work in the Unit Price Table and Lump Sum items.
- .2 After receiving the Contractor's plan and prior to start of construction, a meeting involving Contractor, Departmental Representative, Eskasoni and PSPC will be held at a place and time to be determined by the Departmental Representative. This meeting will review implications of the contract, design, schedule of work, methods of construction, environment protection methods and traffic control.
- .3 Project to be completed by February 28, 2023 with the exception of asphalt paving which is to be completed by June 30, 2023.

- .4 Work must be undertaken without environmental impact to the Bras D'Or Lake. Work in and adjacent Bras D'Or Lake must be done during periods of low water or at times acceptable to the Departmental Representative.
- .5 New bridge work will be subject to relocation of existing water and sewer lines extending through the site. The Contractor is to coordinate relocation of the existing lines around the site prior to commencing pile driving.
- .6 Interim reviews of work progress based on work schedule will be conducted as decided by Departmental Representative and schedule updated by Contractor in conjunction with and to approval of Departmental Representative.
- .7 No work will begin until the pre-construction meeting is held.
- .8 Following the pre-construction meeting and approval of the schedule, traffic control plan environmental protection plan and occupational health and safety plan, the work will be so scheduled to meet the time restraints and have the project completed on time.

#### **1.12 CONTRACTOR'S USE OF SITE**

- .1 Use of site: for execution of work within roadway right of way and those areas specified by the Departmental Representative.
- .2 The Departmental Representative will specify the areas for work and storage.

#### **1.13 SANITARY SERVICES**

- .1 The Contractor shall provide and maintain sanitary facilities for the use of workers at locations specified by the Departmental Representative. Provision of sanitary facilities shall meet requirements of provincial government and municipal statutes and authorities.

#### **1.14 PROJECT MEETINGS**

- .1 Contractor will arrange project meetings and assume responsibility for setting times and recording and distributing minutes.
- .2 After receiving the Contractor's schedule, traffic control plan, health and safety hazard assessment, and environmental protection plan, and prior to start of construction, a meeting involving Contractor, Departmental Representative, Eskasoni and PSPC will be held at a place and time to be determined by the Departmental Representative. This meeting will review implications of the contract, design, schedule of work health and safety, methods of construction, environment protection methods and traffic control.
- .3 Interim reviews of work progress based on work schedule will be conducted as decided by the Departmental Representative and schedule updated by the Contractor in conjunction with and approval of the Departmental Representative.
- .4 No work will begin until the pre-construction meeting is held, and all submittals have been approved.
- .5 Following the pre-construction meeting and approval of submittals, the work will be carried out to meet the time restraints and have the project completed on time.

#### **1.15 DEPARTMENTAL REPRESENTATIVE**

- .1 Departmental Representative will be assigned after contract award.

**1.16 DOCUMENTS REQUIRED**

- .1 Maintain at job site, one copy each of following:
  - .1 Contract drawings.
  - .2 Specifications.
  - .3 Addenda.
  - .4 Reviewed drawings.
  - .5 Change orders.
  - .6 Other modifications to Contract.
  - .7 Copy of approved work schedule.
  - .8 Field test reports
  - .9 Manufacturer's installation and application instructions.
  - .10 Site specific Health and Safety Plan and other safety related documents.
  - .11 Other documents as stipulated elsewhere in the Contract Documents.

**1.17 ADDITIONAL DRAWINGS**

- .1 Departmental Representative may furnish additional drawings for clarification. These additional drawings have same meaning and intent as if they were included with plans referred to in Contract documents.

**1.18 MEASUREMENT FOR PAYMENT**

- .1 Notify Departmental Representative sufficiently in advance of operations to permit required measurements for payment.

**1.19 CUTTING AND PATCHING**

- .1 Cut and patch as required to make work fit.
- .2 Where new work connects with existing and where existing work is altered, cut, patch and make good to match existing work.

**1.20 RELICS, ANTIQUES AND WILDLIFE HABITAT**

- .1 Protect relics, antiquities, wildlife habitat, items of historical or scientific interest such as cornerstones and contents, animal nesting sites, commemorative plaques, inscribed tablets, and similar objects found during course of work.
- .2 Give immediate notice to Departmental Representative and await Departmental Representative's written instructions before proceeding with work in this area.
- .3 Relics, antiquities and items of historical or scientific interest remain her Majesty's property.

**1.21 MEASUREMENT OF QUANTITIES**

- .1 Linear: Items which are measured by metre or kilometer are to be measured along centreline of installation unless otherwise shown on plans.
- .2 Area:
  - .1 Longitudinal and transverse measurements for areas to be measured horizontally.

- .3 Mass:
  - .1 Term “tonne” shall mean 1000 kg.
  - .2 Materials which are specified for measurement by mass shall be weighed on approved scales. Units used to haul material being paid for by mass shall bear legible identification numbers plainly visible to scale person as it approaches and leaves scale-house.
- .4 Time:
  - .1 Unless otherwise provided for elsewhere or by written authority of the Departmental Representative, hourly rental of equipment will be measured in actual working time and necessary travelling time of equipment within limits of project at an all-inclusive rate. Equip each unit of mobile equipment with an approved device to register hours of operation. Devices which only measure hours of running of motor will not be accepted.

#### **1.22 PERMITS/AUTHORITIES**

- .1 The Contractor shall obtain, and pay for, permits from authorities as required for all operations and construction. He shall also comply with all pertinent regulations of all authorities having jurisdiction over the work. The Contractor shall provide copies of all permits to the Departmental Representative prior to starting the work. The Contractor shall be responsible for obtaining all applicable permits, inspections and approvals required and shall pay all changes in connection therewith.

#### **1.23 EQUIPMENT RENTAL RATES**

- .1 Upon written request, the Contractor will supply the Departmental Representative with a list of the rental equipment to be used on work beyond the scope of bid items. Equipment rental rates will be in accordance with current rates published by the Nova Scotia Department of Transportation and Infrastructure Renewal.

#### **1.24 PROTECTION**

- .1 Store all materials and equipment to be incorporated into work to prevent damage by any means.
- .2 Repair and replace all materials or equipment damaged in transit or storage to the satisfaction of the Departmental Representative and at no cost to Crown.
- .3 Contractor will take adequate precautions to protect existing structures when operating tracked equipment. Contractor shall also take care as to not detrimentally surcharge new and existing bridge foundations during activities such as, but not limited to, pile driving, frame erection, and existing bridge demolition.
- .4 Exercise care so as not to obstruct or damage public or private property in the area.
- .5 At completion of work, restore area to its original condition. Damage to ground and property will be repaired by Contractor. Remove all construction materials, residue, excess, etc., and leave site in a condition acceptable to Departmental Representative.

**1.25            EXISTING SERVICES**

- .1      Carry out work at times directed by authorities having jurisdiction, with minimum of disturbance to pedestrian and vehicular traffic.
- .2      Before commencing work, establish location and extent of service lines in area of work and notify Departmental Representative of findings.
- .3      Submit Schedule to and obtain approval from Departmental Representative for any shut down or closure of active service or facility. Adhere to approved schedule and provide notice to affected parties.
- .4      Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.
- .5      Record locations of maintained, re-routed and abandoned service lines.
- .6      Ensure that one (1) lane of traffic are maintained throughout construction.
- .7      Ensure traffic is not unduly impeded, interrupted or endangered by execution or existence of work or plant.
- .8      Maintain existing signs at all times. When it is necessary to temporarily remove a sign, it shall be dismantled and re-established on a temporary post or stand set back from construction area. The work is considered to be incidental and no separate payment will be made for maintaining or moving signs.
- .9      Verify locations of any underground utilities. Overhead power and communications lines run to the east of the existing structure. Buried water and sewer lines run under the existing roadway and bridge.

**Part 2           Products**

Not Used

**Part 3           Execution**

Not Used

**END OF SECTION**



**Part 1            General**

**1.1            ACCESS AND EGRESS**

- .1        Design, construct and maintain temporary "access to" and "egress from" work areas, in accordance with relevant municipal, provincial and other regulations.

**1.2            USE OF SITE AND FACILITIES**

- .1        Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Departmental Representative to facilitate work as stated.
- .2        Provide for personnel and vehicle access.
- .3        Where security is reduced by work provide temporary means to maintain security.

**1.3            ALTERATIONS, ADDITIONS OR REPAIRS**

- .1        Execute work with least possible interference or disturbance to public and normal use of premises. Arrange with Departmental Representative to facilitate execution of work.

**1.4            EXISTING SERVICES**

- .1        Notify Departmental Representative and utility companies of intended interruption of services and obtain required permission.
  - .1        There is an existing underground water and sewer located under the existing roadway and bridge which must be relocated by the contractor prior to driving piles for the new bridge. Coordinate any disruptions in service with the Departmental Representative.
- .2        Provide for personnel, pedestrian and vehicular traffic

**1.5            SPECIAL REQUIREMENTS**

- .1        Work outside of normal working hours will require 48 hours written notice to the Departmental Representative. There are no restrictions on working on nights, weekends or statutory holidays.
- .2        The maximum cumulative traffic delay through the limits of construction shall not exceed 15 minutes.
- .3        During the school year, minimize delays for school buses.
- .4        Time work in-water in accordance with Basic Impact Analysis completed for the project and included in Appendix A.
- .5        Blasting is not permitted unless otherwise approved by the Departmental Representative.
- .6        Temporary lanes to have minimum 50 mm of Aggregate Base Course at end of each day as riding surface open to public.
- .7        Ensure Contractor's personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.
- .8        Keep within limits of work and avenues of ingress and egress.

**Part 2            Products**

**2.1                NOT USED**

.1            Not Used.

**Part 3            Execution**

**3.1                NOT USED**

.1            Not Used.

**END OF SECTION**

**Part 1            General**

**1.1                RELATED SECTIONS**

- .1            Section 01 11 00 – Summary of Work

**1.2                DESCRIPTION**

- .1            Mobilization and Demobilization consists of preparatory work and operations including but not limited to, those necessary for the movement of personnel, equipment, offices, supplies and incidentals to and from the project sites.
- .2            For the purposes of mobilization and demobilization, “project site” means the bridge site location.

**Part 2            Products**

Not Used.

**Part 3            Execution**

Not Used.

**END OF SECTION**

**Part 1            GENERAL**

- .1 This section covers the measurement of Work done for payment purposes.
- .2 The estimated quantities shown in the Unit Price Table are provided for the purposes of comparing proposals, and are not guaranteed to be final, accurate or complete. Payment to the Contractor will be based on actual quantities of work completed in accordance with the drawings and specifications.
- .3 There shall be no measurement or payment for Work carried out beyond the limits defined on the Drawings.
- .4 The total of all Unit Prices and Lump Sum payments shall constitute full compensation for the entire Work of the Contract, as shown, specified, and intended.
- .5 The Contractor will only be entitled to payment when prior written authorization has been received from the Departmental Representative for utilization and then only to the extent of the work authorized by the Departmental Representative.
- .6 The unit and lump sum prices for all items in the Unit Price Table and Lump Sum Table shall represent the full compensation for the work of the item and shall include the cost of furnishing all materials, labour, tools, and equipment necessary to complete the work in accordance with the Contract, the Drawings and Specifications, and shall cover all costs of surety. Each item shall include all necessary supervision, plant and services, and all operations and allowances customary and necessary to complete each item and the Contract as a whole, notwithstanding the fact that not every such necessary operation is mentioned or included specifically for measurement.
- .7 Unless specified otherwise, all materials necessary to complete the items listed in the Unit Price Table, Lump Sum Table and the finished Work shall be new materials supplied by the Contractor and the cost of such material is to be included in the Contractor's prices.
- .8 All measurements for progress payment purposes shall be taken jointly by the Contractor and the Departmental Representative.
- .9 Items which are measured by the metre shall be measured along centreline of installation unless otherwise indicated.
- .10 Longitudinal and transverse measurement shall be made on the actual flat or sloped surface.
- .11 In computing volumes of excavation, average end area method will be used unless otherwise directed by Departmental Representative.
- .12 All volume measurements refer to in-place measures unless specified otherwise.
- .13 Materials which are specified for measurement by mass shall be weighed on scales approved by Departmental Representative refer to Section 01 54 30 – Temporary Weigh Scales. Units used to haul material being paid for by mass shall bear legible identification numbers plainly visible to scale person as it approaches and leaves scale-house.
- .14 Overhaul will not be paid on this Contract.

## **1.2 ITEMS – LUMP SUM TABLE**

### **1. Mobilization / Demobilization**

.1 Unit of Measurement is Lump Sum

.2 50% of Lump Sum Contract Price for Mobilization and Demobilization to be paid when mobilization to site is complete. The remainder of the Lump Sum Price for Mobilization and Demobilization to be paid when work is complete and all materials, equipment, buildings, shops, offices, and other facilities have been removed from site and site cleaned and left in condition to the satisfaction of the Departmental Representative and all other Agencies having Jurisdiction.

### **2. Environmental Procedures**

.1 Unit of Measurement is Lump Sum

.2 This item includes all environmental protection, sedimentation and erosion control measures required to complete the project, such as (but not limited to) diversion ditching, silt fences, temporary ground covers and rock flow checks. Also included is the periodic and general maintenance of all erosion control measures or as directed by the Departmental Representative.

### **3. Construction Facilities**

.1 Unit of Measurement is Lump Sum

.2 This item includes the provision of construction facilities required to complete the project. This item includes:

- Provide and maintain adequate access to project site.
- Build and maintain temporary roads during period of Work.
- Upon completion of the Work, rehabilitate any temporary roads to the satisfaction of the Departmental Representative.
- Clean roads and parking areas where used by the Contractor or employees.
- Provide, erect and maintain project identification site signs, Safety and Instruction signs and notices.
- Provide sanitary facilities.
- Construction site trailer(s).
- Removal of temporary facilities from the site as directed by the Departmental Representative.

### **4. Structure Demolition**

.1 Unit of Measurement is Lump Sum

.2 This item includes demolition of the existing bridge superstructure (deck, railings, and girders) and the demolition of the existing foundations to 1 m below the finished grade lines. This item also includes excavation of all material of whatever nature encountered to access existing foundations for the purpose of demolition, excavation and preparation of slopes for the placement of Armour Rip-Rap and water control. This does not include removal of the existing detour bridge superstructure and assorted foundations.

5. Concrete Reinforcing Galvanized

- .1 Unit of Measurement is Lump Sum
- .2 This item includes supply and installation of galvanized reinforcing steel for Cast-In-Place Concrete as indicated and necessary for this work. Approximate galvanized steel reinforcing quantities are provided solely for information purposes and PSPC makes no claims with respect to their accuracy. Note that all reinforcing coupled with precast concrete units will be provided by PSPC. The Contractor shall review the drawings and is responsible to prepare their own quantities. The approximate reinforcing quantity is 6000 kg (based on ungalvanized weight).

6. Precast Structural Concrete – Rigid Frame Units

- .1 Unit of Measurement is Lump Sum
- .2 This item includes erection of precast concrete rigid frame units to be supplied by PSPC. Work includes provision of any necessary equipment (cranes, etc) and labour, welding of connections, grouting foundation pocket, unit waterproofing, etc. necessary to install the precast concrete units as per the manufacturer's instructions.

7. Precast Structural Concrete – Retaining Wall Units

- .1 Unit of Measurement is Lump Sum
- .2 This item includes installation of precast concrete retaining wall units to be supplied by PSPC. Work includes provision of any necessary equipment (cranes, etc) and labour, installation of leveling pad, backfilling, compaction, etc. necessary to install the precast concrete units as per the manufacturer's instructions.

8. Concrete Coating

- .1 Unit of Measurement is Lump Sum
- .2 This item includes preparation of surfaces, supply and installation of concrete coating system.

9. Excavation for Bridge

- .1 Unit of Measurement is Lump Sum
- .2 This item includes all excavation regardless of type (unclassified) for the construction of the abutments and placement of Fill Against Structure and Armour Rip Rap as shown on the drawings, including the disposal of all material resulting from this operation.

10. Temporary Retaining Wall

- .1 Unit of Measurement is Lump Sum
- .2 This item includes design, supply, installation and removal of temporary retaining structures to facilitate excavation for new bridge construction while maintaining stability of existing detour road and bridge foundations. This item also includes supply, installation and removal of local temporary traffic barriers.

11. Driveway Reinstatements

- .1 Unit of Measurement is Lump Sum
- .2 This item includes regrading of local driveways within the construction zone to tie into new roadway alignment as noted on the contract drawings. Driveways shall be paved

within the area of disturbance consistent with the roadway pavement structure noted in the Contract Drawings. This item also includes any temporary grading/maintenance necessary to maintain access to driveways throughout construction.

12. Watermain – Connection of New Pipe to Existing

- .1 Unit of Measurement is Lump Sum
- .2 This item includes provision of materials and labour required to complete connection of new watermain to existing watermain. This also includes any required excavation, shoring and backfilling necessary to complete the work.

13. Pressure Sewer – Connection of New Pipe to Existing

- .1 Unit of Measurement is Lump Sum
- .2 This item includes provision on all materials and labour required to complete connection of new pressure sewer to existing pressure sewer. This also includes any required excavation, shoring and backfilling necessary to complete the work.

14. Other Items Not Included in the Unit Price Table

- .1 Unit of Measurement is Lump Sum
- .2 This item includes all other work considered incidental to the work and which are not specifically mentioned or accounted for in the Unit Price Table or other items in the Lump Sum Table, but are necessary to complete the work in accordance with the Contract, the Drawings, and Specifications. This item shall include but are not limited to the following; environmental protection procedures as depicted within Appendix A Environmental Documents, sedimentation and erosion control, project layout and surveying, weigh scales, traffic control, permits, cold weather protection and curing of materials and water control.

**1.3 ITEMS – UNIT PRICE TABLE**

1. Cast-In-Place Reinforced Concrete

- .1 Unit of Measurement is Cubic Metre (m<sup>3</sup>)
- .2 This item includes supply, formwork, placing, compacting and finishing of all concrete for the bridge abutments, bridge sidewalks, bridge curbs, pilasters and approach slabs. Measurement shall be based on Contract Drawings with no deduction for displacement by reinforcement.

2. Galvanized Armour Angles

- .1 Unit of Measurement is Each
- .2 This item includes shop drawings, supply and installation of the armour angle assembly at approach ends of approach slabs.

3. Bridge Deck Waterproofing

- .1 Unit of Measurement is Square Metre (m<sup>2</sup>)
- .2 This item includes preparation of surfaces, supply and installation of waterproofing system on bridge deck and approach slabs as applied to the bridge deck and approach slabs and extending 80 millimetres vertically on each curb. Measurement shall be based on Contract Drawings.

4. Concrete Joint Sealant

- .1 Unit of Measurement is Metre (m)
- .2 This item includes supply and installation to complete the silicon joint sealing as indicated in the Contract Drawings.

5. Expansion Joint System

- .1 Unit of Measurement is Metre (m)
- .2 This item includes supply and installation to complete the expansion joint system where indicated in the Contract Drawings. The routing and cutting of the asphalt is also included in this item.

6. Clearing and Grubbing

- .1 Unit of Measurement is Hectare (ha)
- .2 This item includes cutting and disposal of all trees, brush, vegetative growth, stumps, roots, visible rock fragments greater than 0.25 m<sup>3</sup>, downed timber, embedded logs, humus, root mat and topsoil from areas identified the removal and off-site disposal from areas identified.

7. Common Excavation Roadway and Drainage

- .1 Unit of Measurement is Cubic Metre (m<sup>3</sup>)
- .2 This item includes excavation of common material after removal of grubbing and topsoil and for placement and compacting of approved fill (rock) to lines and elevations indicated.

8. Fill Against Structure

- .1 Unit of Measurement is Tonne (t)
- .2 This item includes supply, placement and compaction of fill against abutments to lines and elevations identified. Supply and installation of perforated pipe drain system as shown on the Contract Drawings are included under this item.

9. Rock Fill

- .1 Unit of Measurement is Tonne (t)
- .2 This item includes supply, transportation, placement and compacting of approved rock fill material from areas off site, required for construction of embankments or for other portions of work, to lines and elevations indicated.

10. Armour Rip Rap

- .1 Unit of Measurement is Cubic Metre (m<sup>3</sup>)
- .2 This item includes supply and placement where indicated. This also includes rework of existing armoured slopes near detour structure following removal of detour bridge. This item also includes the supply and installation of geotextile material beneath the armour rip rap. Measurement shall be based on Contract Drawings.

11. Steel H Piles

- .1 Unit of Measurement is Metre (m)



- .2 This item includes supply and installation of steel H piles for the new bridge abutments, incorporated into the finished work. This item includes any pile splices and supply, fabrication and installation of steel pile caps. Measurement for payment shall be linear length of actual pile installed as measured from pile tip to top of finished pile cap plate. PDA testing will be completed by PSPC but assistance in PDA testing is to be provided by the contractor.

#### 12. Asphalt Removal

- .1 Unit of Measurement is Square Meter (m<sup>2</sup>)
- .2 This item includes, cold-plane, cut, excavate, load, transport and dispose of asphalt concrete to the lines and elevations indicated on the drawings or as directed by the Departmental Representative.

#### 13. Granular Sub-Base (Type 2)

- .1 Unit of Measurement is Tonne (t)
- .2 This item includes supply, haulage, placement and compaction of Type 2 granular material to the limits and at the locations indicated on the drawings. There will be no payment for extra thickness of sub-base materials placed outside of the theoretical lines and grades as indicated on the drawings. Whenever in the opinion of the Departmental Representative there is extra thickness, the appropriate weight will be deducted.

#### 14. Aggregate Base Course (Type 1)

- .1 Unit of Measurement is Tonne (t)
- .2 This item includes supply, haulage, placement and compaction of Type 1 granular material to the limits and at the locations indicated on the drawings. There will be no payment for extra thickness of aggregate base materials placed outside of the theoretical lines and grades as indicated on the drawings. Whenever in the opinion of the Departmental Representative there is extra thickness, the appropriate weight will be deducted.

#### 15. Asphalt Mix Type C-HF

- .1 Unit of Measurement is Tonne (t)
- .2 This item includes supply, transportation of all materials including asphalt tack coat and asphalt binder; production, handling, preparation of surface, placing (including material transfer device), rolling and compaction of asphalt concrete Type C-HF. This item also includes keyed joints at each end of construction.

There will be no payment for extra thickness or extra width of asphalt placed outside of the theoretical lines and grades as indicated on the drawings. Whenever in the opinion of the Departmental Representative there is extra thickness or extra width, the appropriate weight will be deducted.

#### 16. Asphalt Concrete Bridge Decks

- .1 Unit of Measurement is Tonne (t)
- .2 This item includes supply, transportation of all materials including asphalt tack coat and asphalt binder; production, handling, preparation of surface, placing (including material transfer device), rolling and compaction of asphalt concrete for paving of bridge deck and

approach slabs. This item also includes the sealing of the asphaltic surface adjacent to the concrete curbs.

17. Hydraulic Seeding

- .1 Unit of Measurement is Square Metre (m<sup>2</sup>)
- .2 This item includes supply of all materials, preparation of surface, application and maintenance to areas identified.

18. Pipe Culverts – 600 mm Dia CPP Culvert Replacement

- .1 Unit of Measurement is Metre (m)
- .2 This item includes excavation and removal of existing culverts and supply, installation and backfilling of new culverts as identified on Contract Drawings.

19. Steel W-Beam Guide Rail – Bridge Approach

- .1 Unit of Measurement is Metre (m)
- .2 This item includes supply of all materials including Michigan Shoes, channel and reflectors, installation, backfilling, compaction, disposal of excess material and reinstatement of disturbed surfaces.

20. Galvanized Steel Barrier and Metal Railings for Structures

- .1 Unit of Measurement is Metre (m)
- .2 This item includes supply and installation as indicated and necessary for this work. Measurement shall be based on Contract Drawings.

21. Sign and Signpost Installation

- .1 Unit of Measurement is Each
- .2 This item includes supply and installation as indicated. Work considered incidental to this item are the removal of existing signs and posts being replaced including filling of holes and reinstatement of disturbed surfaces.

22. New Watermain

- .1 Unit of Measurement is Metre (m)
- .2 This item includes supply and installation of new watermain as indicated on the Contract Drawings. Work includes any required trenching, shoring, environmental controls and backfilling required to complete the work. Work also includes any tunnelling, boring or jacking for under crossings, including encasing pipes and grouting. Work also includes all required cleaning and field testing as outlined in project specifications. Measurement will be made of actual length in place, through valves and fittings, after work has been completed.

23. New Sanitary Pressure Sewer

- .1 Unit of Measurement is Metre (m)
- .2 This item includes supply and installation of new Sanitary Pressure Sewer as indicated on the Contract Drawings. Work includes any required trenching, shoring, environmental controls and backfilling required to complete the work. Work also includes any tunnelling, boring or jacking for under crossings, including encasing pipes and grouting. Work also includes all required cleaning and field testing as outlined in project

specifications. Measurement will be made of actual length in place, through valves and fittings, after work has been completed.

**END OF SECTION**

**Part 1            General**

**1.1                RELATED REQUIREMENTS**

- .1        Particular requirements for inspection and testing to be carried out by testing laboratory designated by Departmental Representative are specified under various sections.

**1.2                APPOINTMENT AND PAYMENT**

- .1        Departmental Representative will appoint and pay for services of testing laboratory except as follows:
  - .1        Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
  - .2        Inspection and testing performed exclusively for Contractor's convenience.
  - .3        Testing, adjustment and balancing of equipment and systems.
  - .4        Mill tests and certificates of compliance.
  - .5        Tests specified to be carried out by Contractor under supervision of Departmental Representative.
  - .6        Additional tests specified as follows in the following paragraph.
- .2        Where tests or inspections by designated testing laboratory reveal Work not in accordance with contract requirements, pay costs for additional tests or inspections as required by Departmental Representative to verify acceptability of corrected work.

**1.3                CONTRACTOR'S RESPONSIBILITIES**

- .1        Provide labour, equipment and facilities to:
  - .1        Provide access to Work for inspection and testing.
  - .2        Facilitate inspections and tests.
  - .3        Make good Work disturbed by inspection and test.
  - .4        Provide storage on site for laboratory's exclusive use to store equipment and cure test samples.
- .2        Notify Departmental Representative 48 hours minimum sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling of test.
- .3        Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.
- .4        Pay costs for uncovering and making good Work that is covered before required inspection or testing is completed and approved by Departmental Representative.

**Part 2            Products**

Not Used.

**Part 3            Execution**

Not Used.

**END OF SECTION**

**Part 1            General**

**1.1                ADMINISTRATIVE**

- .1      Schedule and administer project meetings throughout the progress of the work at the call of Departmental Representative.
- .2      Prepare agenda for meetings.
- .3      Distribute written notice of each meeting four days in advance of meeting date to Departmental Representative.
- .4      Provide physical space and make arrangements for meetings.
- .5      Preside at meetings.
- .6      Record the meeting minutes. Include significant proceedings and decisions. Identify actions by parties.
- .7      Reproduce and distribute copies of minutes within three days after meetings and transmit to meeting participants and, Departmental Representative.
- .8      Representative of Contractor, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

**1.2                PRECONSTRUCTION MEETING**

- .1      Within 15 days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2      Departmental Representative, Contractor, major Subcontractors, field inspectors and supervisors will be in attendance.
- .3      Establish time and location of meeting and notify parties concerned minimum 5 days before meeting.
- .4      Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.
- .5      Agenda to include:
  - .1      Appointment of official representative of participants in the Work.
  - .2      Schedule of Work: to be in GANTT Chart format.
  - .3      Schedule of submission of shop drawings, samples, colour chips. Submit submittals in accordance with Section 01 33 00 - Submittal Procedures.
  - .4      Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences in accordance with Section 01 52 00 - Construction Facilities.
  - .5      Site security in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.
  - .6      Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
  - .7      Record drawings in accordance with Section 01 33 00 - Submittal Procedures.
  - .8      Maintenance manuals in accordance with Section 01 78 00 - Closeout Submittals.

- .9 Take-over procedures, acceptance, warranties in accordance with Section 01 78 00 - Closeout Submittals.
- .10 Monthly progress claims, administrative procedures, photographs, hold backs.
- .11 Appointment of inspection and testing agencies or firms.
- .12 Insurances, transcript of policies.

### **1.3 PROGRESS MEETINGS**

- .1 During course of Work, Departmental Representative will schedule progress meetings monthly.
- .2 Contractor, major Subcontractors involved in Work, and Departmental Representative are to be in attendance.
- .3 Departmental Representative will notify parties minimum 4 days prior to meetings.
- .4 Departmental Representative will record minutes of meetings and circulate to attending parties and affected parties not in attendance within 3 days after meeting.
- .5 Progress agenda to include the following:
  - .1 Review, approval of minutes of previous meeting.
  - .2 Review of Work progress since previous meeting.
  - .3 Field observations, problems, conflicts.
  - .4 Problems which impede construction schedule.
  - .5 Review of off-site fabrication delivery schedules.
  - .6 Corrective measures and procedures to regain projected schedule.
  - .7 Revision to construction schedule.
  - .8 Progress schedule, during succeeding work period.
  - .9 Review submittal schedules: expedite as required.
  - .10 Maintenance of quality standards.
  - .11 Review proposed changes for effect on construction schedule and on completion date.
  - .12 Other business.

### **Part 2 Products**

Not Used.

### **Part 3 Execution**

Not Used.

**END OF SECTION**

**Part 1            General**

**1.1                RELATED SECTIONS**

- .1        Refer to Technical Specifications which reference "SUBMITTALS" under PART 1 – GENERAL of each section.

**1.2                ADMINISTRATIVE**

- .1        Submit to Departmental Representative submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2        Do not proceed with Work affected by submittal until review is complete.
- .3        Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4        Where items or information is not produced in SI Metric units converted values are acceptable.
- .5        Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .6        Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7        Verify field measurements and affected adjacent Work are co-ordinated.
- .8        Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.
- .9        Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.
- .10      Keep one reviewed copy of each submission on site.

**1.3                SHOP DRAWINGS AND PRODUCT DATA**

- .1        The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2        Submit drawings bearing stamp and signature of qualified professional engineer registered or licensed in Province of Nova Scotia, Canada.
- .3        Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.



- .4 Allow ten (10) business days, unless otherwise noted, for Departmental Representative's review of each submission
- .5 Adjustments made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .6 Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative in writing of revisions other than those requested.
- .7 Accompany submissions with transmittal letter, in duplicate, containing:
  - .1 Date.
  - .2 Project title and number.
  - .3 Contractor's name and address.
  - .4 Identification and quantity of each shop drawing, product data and sample.
  - .5 Other pertinent data.
- .8 Submissions include:
  - .1 Date and revision dates.
  - .2 Project title and number.
  - .3 Name and address of:
    - .1 Subcontractor.
    - .2 Supplier.
    - .3 Manufacturer.
  - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
  - .5 Details of appropriate portions of Work as applicable:
    - .1 Fabrication.
    - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
    - .3 Setting or erection details.
    - .4 Capacities.
    - .5 Performance characteristics.
    - .6 Standards.
    - .7 Operating weight.
    - .8 Wiring diagrams.
    - .9 Single line and schematic diagrams.
    - .10 Relationship to adjacent work.
- .9 After Departmental Representative's review, distribute copies.
- .10 Submit electronic copy of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.

- .11 Submit electronic copy of product data sheets or brochures for requirements requested in specification Sections and as requested by the Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.
- .12 Submit electronic copy of test reports for requirements requested in specification Sections and as requested by Departmental Representative.
  - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
  - .2 Testing must have been within 2 years of date of contract award for project.
- .13 Submit electronic copy of certificates for requirements requested in specification Sections and as directed by Departmental Representative.
  - .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
  - .2 Certificates must be dated after award of project contract complete with project name.
- .14 Submit electronic copy of manufacturer's instructions for requirements requested in specification Sections unless otherwise directed by Departmental Representative.
  - .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
- .15 Submit electronic copy of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Departmental Representative.
  - .1 Documentation of the testing and verification actions by manufacturer's representative to confirm compliance with manufacturer's standards and instructions.
- .16 Delete information not applicable to project.
- .17 Supplement standard information to provide details applicable to project.
- .18 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, electronic copy will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.
- .19 The review of shop drawings by Departmental Representative is for sole purpose of ascertaining conformance with general concept.
  - .1 This review shall not mean that Departmental Representative approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.
  - .2 Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that

pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of sub-trades.

#### **1.4 SAMPLES**

- .1 Submit for review samples as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to Departmental Representative's site office.
- .3 Notify Departmental Representative in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .6 Make changes in samples which Departmental Representative may require, consistent with Contract Documents.
- .7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

#### **1.5 CERTIFICATES AND TRANSCRIPTS**

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.
- .2 Submit transcription of insurance immediately after award of Contract.
- .3 Submit Certificates of Conformance to the Departmental Representative, stating that the component(s) has been installed in conformance with the approved shop drawings. Certificate of Conformance to bear the seal and signature of a Professional Engineer licensed in the province of Nova Scotia.
- .4 Certificates of Conformance required for, but not limited to, the following:
  - .1 All components where shop drawings are required (unless otherwise directed by the Departmental Representative).
  - .2 As specified elsewhere in the Contract Documents.

#### **1.6 PROCEDURES**

- .1 Provide procedures required as specified in the Contract documents or as directed by the Departmental Representative.

#### **1.7 OTHER SUBMISSIONS**

- .1 Provide a construction schedule and cash flow forecasts updated every month.
- .2 Provide all other submissions as required by law and the Contract documents.

**Part 2            Products**

Not Used.

**Part 3            Execution**

Not Used.

**END OF SECTION**

## **Part 1 General**

### **1.1 REFERENCES**

- .1 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS)
- .2 Government of Canada
  - .1 Canada Labour Code – Part II (entitled Occupational Health and Safety)
  - .2 Canada Occupational Health and Safety Regulations (COHS)
- .3 Province of Nova Scotia
  - .1 Occupational Health and Safety Act
  - .2 Occupational Health and Safety Regulations made pursuant to the Act
- .4 Part 8 of the National Building Code
- .5 Municipal by-laws and ordinances.

### **1.2 DEFINITIONS**

- .1 Competent Person: means a person who is:
  - .1 Qualified by virtue of personal knowledge, training and experience to perform assigned work in a manner that will ensure the health and safety of persons in the workplace;
  - .2 Knowledgeable about the provisions of occupational health and safety statutes and regulations that apply to the Work; and
  - .3 Knowledgeable about potential or actual danger to health and safety associated with the Work.
- .2 Medical Aid Injury: any minor injury for which medical treatment was provided and the cost of which is covered by Workers' Compensation Board of the province in which the injury was incurred.
- .3 Work site: where used in this section shall mean areas, located at the premises where Work is undertaken, used by Contractor to perform all of the activities associated with the performance of the Work.

### **1.3 SUBMITTALS**

- .1 Make submittals in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Submit site specific Health and Safety Plan: within 10 days of notification of Bid Acceptance and prior to commencement of work.
- .3 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments. Revise plan as appropriate and resubmit within ten (10) working days after receipt of comments.
- .4 Submit revisions and updates made to the Contractor's Health and Safety plan during the course of the Work.

- .5 Submit records of Contractor's Health and Safety meetings when requested.
- .6 Submit Construction Safety Checklists after completion.
- .7 Submit copies of reports of directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .8 Submit copies of incident and accident reports.
- .9 Submit WHMIS MSDS – Material Safety Data Sheets.
- .10 Submit proof of Workers' Compensation Coverage through submission of Letter of Good Standing. Contractor must maintain good standing throughout the duration of the contract.
- .11 Submit Certificate of Recognition or Letter of Good Standing issued jointly by the Workers' Compensation Board of Nova Scotia and an occupational health and safety organization approved by the Workers' Compensation Board of Nova Scotia.
- .12 Contractor's responsibility for Health and Safety is not relieved in any way by the Department Representative's review or lack of review of these submittals.

#### **1.4 COMPLIANCE REQUIREMENTS**

- .1 Comply with the Occupational Health and Safety Act for the Province of Nova Scotia, and the Regulations made pursuant to the Act.
- .2 Comply with Canada Labour Code Part II, and the Canada Occupational Safety and Health Regulations made under Part II of the Canada Labour Code.
- .3 Observe and enforce construction safety measures required by:
  - .1 2020 National Building Code of Canada, Part 8;
  - .2 Provincial Worker's Compensation Board;
  - .3 Municipal by-laws and ordinances.
- .4 In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on the course of action to be followed.
- .5 Maintain Workers Compensation Coverage for duration of Contract. Submit Letter of Good Standing to Departmental Representative upon request.
- .6 Medical Surveillance: Where prescribed by legislation or regulations, obtain and maintain worker medical surveillance documentation.

#### **1.5 RESPONSIBILITY**

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons and environment adjacent to the site to the extent that they may be affected by the conduct of Work.
- .2 Comply with and enforce compliance by all workers, sub-contractors and other persons granted access to work site with safety requirements of Contract Documents, applicable federal, provincial, and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

## **1.6 SITE CONTROL AND ACCESS**

- .1 Control work site and entry points. Grant and allow entry to only workers and other persons so authorized. Immediately stop non-authorized persons from circulating within construction areas and remove from site.
- .2 Implement procedures for granting permission to enter onto work site to all persons who require access. Procedures to include the provision of a site safety orientation session.
- .3 Delineate and isolate construction areas from other areas of site by use of appropriate means. Erect barricades, fences, boarding and temporary lighting as required. See Section 01 56 00 – Temporary Barriers and Enclosures for minimum type of barriers acceptable.
- .4 Erect signage at entry points and at other strategic locations indicating restricted access and conditions of access. Signage must be professionally made in both official languages or by use of well understood graphic symbols.
- .5 Secure work site against entry when inactive or unoccupied and to protect persons against harm. Provide security guard as deemed necessary to protect site against entry.
- .6 Ensure persons granted access is fitted and wear appropriate personnel protective equipment (PPE). Be responsible for the provision of such PPE to persons who require access to conduct work or perform inspections.

## **1.7 PROTECTION**

- .1 Provide temporary facilities for protection and safe passage of vehicular traffic around and adjacent to work site.
- .2 Provide safety barricades, lights and signage on work site as required to provide a safe working environment for workers.
- .3 Carry out work placing emphasis on health and safety of public, site personnel and protection of the environment over cost and schedule consideration for work.
- .4 Should unforeseen or peculiar safety related hazard or condition become evident during performance of work, immediately take measures to rectify the situation and prevent damage or harm. Advise Departmental Representative verbally and in writing.

## **1.8 FILING OF NOTICE**

- .1 File Notice of Project and other Notices with Provincial authorities prior to commencement of work.

## **1.9 PERMITS**

- .1 Obtain permits, licenses and compliance certificates, at appropriate times and frequency as stipulated by authorities having jurisdiction.
- .2 Where particular permit or compliance certificate cannot be obtained at the required stage of work, notify Departmental Representative in writing and obtain Departmental Representative's approval to proceed prior to carrying out that portion of work.
- .3 Post all permits on site. Submit copies to Departmental Representative.

## **1.10 HAZARD ASSESSMENTS**

- .1 Implement and carry out a health and safety hazard assessment program as part of the work. Program to include:
  - .1 Initial hazard assessment carried out immediately upon notification of contract award and prior to commencement of work.
  - .2 On-going hazard assessments performed during the progress of work identifying new or potential health risks and safety hazards not previously known. As a minimum hazard assessments shall be carried out when:
    - .1 New sub-trade work, new subcontractor(s) or new workers arrive at the site to commence another portion of the work.
    - .2 The scope of work has been changed by Change Order.
    - .3 Potential hazard or weakness in current health and safety practices are identified by Departmental Representative or by an authorized safety representative.
  - .3 Hazard assessments to be project and site-specific, based on review of contract documents, site and weather conditions.
  - .4 Each hazard assessment to be made in writing. Keep copies of all assessments on site for duration of work. Upon request, make available to Departmental Representative for inspection.

## **1.11 PROJECT/SITE CONDITIONS**

- .1 The following are known or potential project related safety hazards at site:
  - .1 Running water, potential heavy flows.
  - .2 Highway traffic.
  - .3 Working over water.
  - .4 Heavy equipment.
  - .5 Slope stability and temporary shoring.
  - .6 Wildlife.
  - .7 Working at heights.
  - .8 Working overhead.
  - .9 Suspended scaffolding.
  - .10 Demolition.
  - .11 Exposure.
  - .12 Remote site.
- .2 Above lists shall not be construed as being complete and inclusive of safety and health hazards encountered as a result of Contractor's operations during the course of work.
- .3 Include above items into the hazard assessment program specified herein.

## **1.12 SAFETY MEETINGS**

- .1 Prior to commencement of work attend health and safety meeting conducted by Departmental Representative. Departmental Representative will advise of time and location. Ensure attendance of:



- .1 Superintendent of Work.
- .2 Designated Health and Safety Site Representative
- .3 Subcontractors.
- .2 Conduct regularly scheduled tool box and safety meetings during the Work in conformance with Occupational Health and Safety regulations.
- .3 Keep documents on site.

### **1.13 HEALTH AND SAFETY PLAN**

- .1 Develop written site-specific Project Health and Safety Plan, based on hazard assessments, prior to commencement of work. Submit plan to Departmental Representative within 10 calendar days of Contract Award date.
- .2 Health and Safety Plan shall contain the following components:
  - .1 List of health risks and safety hazards identified by hazard assessments.
  - .2 Control measures used to mitigate risks and hazards identified.
  - .3 On-site Contingency and Emergency Response Plan as specified below.
  - .4 On-site Communications Plan as specified below.
  - .5 Name of Contractor's designated Health and Safety Site Representative and information showing proof of their competence and reporting relationship in Contractor's company.
  - .6 Names, competence and reporting relationship of other supervisory personnel used in the Work for occupational health and safety purposes.
  - .7 On-site Contingency and Emergency Response Plan shall include:
    - .1 Operational procedures, evacuation measures and communication process to be implemented in the event of an emergency.
    - .2 Evacuation plan: site layouts showing escape routes, marshalling areas. Details of alarm notification methods, fire drills, location of firefighting equipment and other related data.
    - .3 Name, duties and responsibilities of persons designated as Emergency Warden(s) and deputies.
    - .4 Emergency Contacts: name and telephone number of officials from Contractor, Sub-Contractors, federal and provincial departments having jurisdiction, local emergency resource organization.
    - .5 Harmonize plan with Facility's Emergency Response and Evacuation Plan. Departmental Representative will provide pertinent data including name of PCA and Facility Management contacts.
  - .8 On-site Communications Plan:
    - .1 Procedures for sharing of work related safety information to workers and Sub-Contractors, including emergency and evacuation measures.
    - .2 List of critical work activities to be communicated with Facility Manager which have a risk of endangering health and safety of Facility users.
  - .9 Address all activities of the Work including those of Sub-Contractors.

- .10 Review and update Health and Safety Plan regularly during the Work. Update as conditions warrant addressing additional health risks and safety hazards, such as whenever new trade or Sub-Contractors arrive at Work site.
- .11 Departmental Representative will respond in writing, where deficiencies or concerns are noted and may request re-submission of the Health and Safety Plan with correction of deficiencies or concerns.
- .12 Post copy of the Health and Safety Plan, and updates, prominently at Work site.

#### **1.14 SAFETY SUPERVISION AND INSPECTIONS**

- .1 Designate Health and Safety Site Representative to be present on site at all times during work, responsible for supervising health and safety and conducting safety inspections of work site.
- .2 Health and Safety Representative shall be assigned the responsibility and authority to:
  - .1 Implement, monitor and enforce daily compliance with health and safety requirements of the Work.
  - .2 Conduct site safety orientation session to persons granted access to the Work site.
  - .3 Ensure that persons allowed site access are knowledgeable and trained in health and safety pertinent to their activities at the site or are escorted by a competent person while on the Work site.
  - .4 Authority to stop and start work as deemed necessary for reasons of health and safety.
- .3 Conduct regularly scheduled safety inspections of work site as follows:
  - .1 Informal Inspections: carry out a minimum bi-weekly basis. Note deficiencies and remedial action taken in a log book or diary.
  - .2 Formal Inspections: carry out on a minimum monthly basis. Use standardized safety checklist forms. Prepare written report for each formal inspection. Document deficiencies, remedial action needed and assign responsibility for rectification to appropriate subcontractor or worker.
- .4 Cooperate with Facility's Health and Safety Site Coordinator responsible for the entire site or facility, should one be designated by Departmental Representative.
- .5 Maintain safety inspection documentation on site

#### **1.15 TRAINING**

- .1 Ensure that workers, subcontractors and other authorized persons granted access to site are effectively trained in occupational health and safety and practices pertinent to their assigned tasks.
- .2 Maintain employee records and evidence of training received.
- .3 Make training records readily available for review by Departmental Representative upon request.
- .4 Should any unforeseen or peculiar safety-related factor, hazard or condition become evident during performance of Work immediately stop work and advise Department Representative verbally and in writing.

- .5 Follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative.

#### **1.16 MINIMUM SITE SAFETY RULES**

- .1 Notwithstanding the requirement to abide by federal and provincial health and safety regulations, the following safety rules shall be considered minimum requirements at the work site and obeyed by all persons granted access:
  - .1 Wear personnel protective equipment (PPE) appropriate to function and task on site; the minimum requirements being hard hat, safety footwear (and eye protection where appropriate).
  - .2 Immediately report unsafe activities, conditions, near-miss accidents, injuries and damages.
  - .3 Maintain site and storage areas in tidy condition free of hazards causing injury.
  - .4 Obey warning signs and safety tags.
- .2 Brief workers on site safety rules, and on the disciplinary measures to be taken for violation or non-compliance of such rules. Post such information on site.

#### **1.17 CORRECTION OF NON-COMPLIANCE**

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction of by the Departmental Representative.
- .2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Departmental Representative will stop Work if non-compliance of health and safety regulations is not corrected in a timely manner.

#### **1.18 INCIDENT REPORTING**

- .1 Investigate and immediately report to Departmental Representative incidents that:
  - .1 Require reporting to Provincial Department of Occupational Safety and Health, Workers' Compensation Board or to other regulatory agency.
  - .2 Medical aid injuries.
  - .3 Property damage in excess of \$10,000.00,
  - .4 Interruption to Facility operations resulting in an operational loss to a Federal department or client in excess of \$5,000.00,
  - .5 Required notification to Workers Compensation Board or other regulatory agencies as stipulated by applicable regulations.
- .2 Submit report in writing.

#### **1.19 HAZARDOUS PRODUCTS**

- .1 Comply with requirements of Workplace Hazardous Materials Information Systems (WHMIS).
- .2 Keep MSDS data sheets on site. Provide copies of all data sheets to Departmental Representative upon receipt of materials on site.

- .3 Post all MSDS data sheets on site, in a common area, visible to workers.

#### **1.20 BLASTING**

- .1 Blasting or other use of explosives is not permitted.

#### **1.21 POWDER ACTUATED DEVICES**

- .1 Use power actuated fastening devices only after receipt of written permission from Departmental Representative.

#### **1.22 CONFINED SPACES**

- .1 Abide by occupational health and safety regulations regarding work in confined spaces.
- .2 Safely for Inspectors:
  - .1 Provide PPE and training to Departmental Representative and other persons who require entry into confined spaces to perform inspections.
  - .2 Be responsible for efficacy of equipment and safety of persons during their entry and occupancy in the confined space.

#### **1.23 POSTING OF DOCUMENTS**

- .1 Post documents indicated herein and as required by Authority having jurisdiction.

#### **1.24 RECORDS ON SITE**

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on Work site in accordance with Acts and Regulations of Province having jurisdiction.
- .2 Post other documents as specified herein, including:
  - .1 Site specific Health and Safety Plan.
  - .2 WHMIS data sheets.
  - .3 Incident reports.
  - .4 Tool box and safety meeting minutes.
- .3 Make available to Departmental Representative, or authorized safety representative, for inspection upon request.

#### **Part 2 Products**

Not Used.

#### **Part 3 Execution**

Not Used.

**END OF SECTION**

**Part 1 General**

**1.1 PRECEDENCE**

- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

**1.2 RELATED SECTIONS**

- .1 Section 01 74 21 – Constructional / Demolition Waste Management and Disposal.

**1.3 REFERENCES**

- .1 Canadian Environmental Protection Act.
- .2 Nova Scotia Provincial Standards
- .3 Guidelines for Protection of Freshwater Fish Habitat, DFO Canada
- .4 John Paul Lane Impact Assessment Report, Singleton Environmental Consulting
- .5 Indigenous Services Canada Simple Environmental Review Report

**1.4 ENVIRONMENTAL PERFORMANCE**

- .1 The Contractor shall comply with all mitigative measures, terms and conditions outlined in the Impact Assessment Report, ISA Environmental Review Report, DFO Recommendations, and relevant Federal and Provincial Regulations.

**1.5 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 An Environmental Briefing will be held prior to work commencing at the site, which will outline environmental factors to be considered during the work. It is mandatory that all current staff of the Contractor attend this meeting with the Departmental Representative, Eskasoni Representative and Environmental Protection Officer (EPO).
- .3 Before commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by Departmental Representative. Environmental Protection Plan is to present comprehensive overview of known or potential environmental issues which must be addressed during construction.
- .4 Address topics at level of detail commensurate with environmental issue and required construction tasks.
- .5 Environmental Protection Plan: include as applicable:
  - .1 Names of persons responsible for ensuring adherence to Environmental Protection Plan.
  - .2 Names and qualifications of persons responsible for manifesting hazardous waste to be removed from site.
  - .3 Names and qualifications of persons responsible for training site personnel.
  - .4 Descriptions of Environmental Protection Personnel Training Program.

- .5 Erosion and Sediment Control Plan identifying type and location of erosion and sediment controls to be provided including monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.
- .6 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use.
  - .1 Plan to include measures for marking limits of use areas including methods for protection of features to be preserved within authorized work areas.
- .7 Spill Contingency Plan to include procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
- .8 Non-Hazardous Solid Waste Disposal Plan identifying methods and locations for solid waste disposal including clearing debris and recycling of decommissioned bridge materials.
- .9 Air Pollution Control Plan detailing provisions to assure that dust, debris, materials, and trash, do not become air borne and travel off project site.
- .10 Contaminant Prevention Plan identifying potentially hazardous substances to be used on job site; intended actions to prevent introduction of such materials into air, water, or ground; and detailing provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
- .11 Waste Water Management Plan identifying methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines.

## **1.6 DRAINAGE**

- .1 A part of the Environmental Protection Plan, the Contractor shall provide Erosion and Sediment Control Plan that identifies type and location of erosion and sediment controls to be provided. Plan: include monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.
- .2 Provide temporary drainage and pumping required to keep excavations and site free from water.
- .3 Do not pump water containing suspended materials into waterways, or drainage systems.
- .4 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with Provincial authority requirements.

## **1.7 SITE CLEARING AND PLANT PROTECTION**

- .1 Restrict vegetation removal to areas indicated or designated by Departmental Representative.
- .2 Sensitive areas should be cleared in a manner which will minimize disturbance to surface vegetation and soils. Areas such as stream crossings should only be cleared immediately prior to construction using light equipment.

- .3 Bulldozers, graders, and other clearing and grubbing equipment should not be operated outside of designated clearing boundaries and should have a restricted turning radius.
- .4 Vegetation and topsoil should not be removed to obtain fill for road construction purposes.
- .5 Whenever possible, organic debris and topsoil removed during grading operations should be stored for use during site restoration. Such stockpiles should be located well away from any stream or water body and should be covered with coarse material to minimize wind and water erosion.
- .6 Should cultural resources artifacts be unearthed or discovered during project excavation, work in that area should be stopped and the Departmental Representative contacted immediately.
- .7 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .8 Minimize stripping of topsoil and vegetation.

## **1.8 SITE SET-UP AND USE**

- .1 All site activities related to construction are to be confined within the defined project boundaries.
- .2 Work sites will be equipped with appropriate and properly maintained sanitary facilities.
- .3 Garbage must be collected and removed daily from the worksite. All material must be removed, transported and disposed of in accordance with existing provincial-municipal solid waste disposal guidelines, project waste management plan and/or regulations.
- .4 Temporary storage parking areas, and turn-a-round facilities for contractor-related equipment and vehicles will be limited to those areas agreed to and designated by the Departmental Representative.
- .5 To reduce potential negative impacts on fauna, noise control measures, such as properly functioning mufflers on equipment, must be in place.
- .6 Littering is prohibited.

## **1.9 DISPOSAL OF WASTES**

- .1 Do not bury rubbish and waste material on site. Remove all garbage from site daily.
- .2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.

## **1.10 WORK ADJACENT TO WATERWAYS**

- .1 Do not operate construction equipment in waterways.
- .2 All work is to be done in the dry. Environmental controls required to separate the work from the waterway is the responsibility of the Contractor.
- .3 Existing abutments are to be removed to 1 meter below final finished grade. All work is to be carried out with siltation control which separates the work area from the watercourse. The method of siltation control shall be provided as part of the Erosion and Sediment Control Plan.

- .4 No fresh concrete, lime, cement, or other construction materials or debris is to enter the watercourse.
- .5 All heavy equipment to be used on the project site is to be cleaned of mud, soil or debris prior to being brought to the site, in good working order, without leaks of fuel, oil, grease or lubricants.
- .6 The movements of fish through the project site will be unimpeded at all times.
- .7 Contractor is to have a copy of the environmental assessment and all applicable permits at the project site at all times.
- .8 Do not use waterway beds for borrow of material.
- .9 No excavated fill, waste material or debris from the removal of the existing bridge structure is to enter the watercourse.
- .10 Do not clean or drain equipment in waterways.
- .11 Blasting is prohibited.
- .12 Temporary diversion ditches, approved by the Departmental Representative are to be plastic lined.
- .13 Temporary storage sites for debris and soil generated from clearing operations should be deposited away from watercourses, should be surrounded by a natural vegetative buffer, should be screened from the road and should be selected by the Departmental Representative.
- .14 All temporary structures, piles, falseworks and debris are to be completely removed from the waterway.
- .15 Dredged material is not to re-enter the waterway.
- .16 Design and construct temporary crossings to minimize erosion to waterways.
- .17 Do not skid logs or construction materials across waterways.

#### **1.11 POLLUTION CONTROL**

- .1 Maintain temporary erosion and pollution control features installed under this Contract.
- .2 Control emissions from equipment and plant in accordance with local authorities' emission requirements.
- .3 Prevent sandblasting and other extraneous materials from contaminating air and waterways beyond application area.
- .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

#### **1.12 EARTH MOVEMENT**

- .1 Clearing and grubbing of project site is to be kept to a minimum.
- .2 Where engineering requirements can be met, excavated materials from this project must be used for backfilling.
- .3 All surplus excavated material must be removed from the site as soon as possible and disposed of at an approved location and in an approved manner.



- .4 Any proposed sources of borrow material shall be approved by the Departmental Representative prior to start-up.
- .5 When vegetation must be removed, then the extent and duration of exposure should be kept to a minimum. Plan the phases of development so that only areas which are actively being developed are exposed.
- .6 Topsoil from excavated sections shall be stockpiled for subsequent application to side slopes requiring revegetation. Steep slopes on stockpiles should be avoided in order to prevent erosion.
- .7 Sediment traps, basins, or ponds, whether temporary or permanent, shall be installed before construction begins on the rest of the site.
- .8 Dust control measure will be necessary, especially when asphalt is removed. The use of chemical dust control agents must be pre-approved by the Departmental Representative.
- .9 Where there is potential for severe erosion and/or downstream siltation the Contractor shall cover excavations during major precipitation events as directed by Departmental Representative.

### **1.13 EROSION AND SEDIMENTATION CONTROL**

- .1 Appropriate preventative controls shall be in place at all times during construction to prevent undue erosion and sedimentation. As part of the Environmental Protection Plan, the Contractor is required to provide to the Departmental Representative seven days before start-up an Erosion and Sedimentation Control Plan. Such a plan shall incorporate necessary silt fences, silt / sediment traps, plastic lined trenches and ditches, temporary culverts or diversions as approved by the Departmental Representative
- .2 Backfilled slopes shall be mechanically compacted and grades should be consistent with the prevailing down-slope grade. Exposed soils should be immediately stabilized against erosion by covering with seed and hay mulch, clean rock, gravel or other suitable materials. Hydroseeding operations with approved seed mix will be carried out, as directed by Departmental Representative. All environmental controls must be monitored on a daily basis and following precipitation events. Any required maintenance or remediation must be done immediately.

### **1.14 HAZARDOUS MATERIALS**

- .1 As part of the Environmental Protection Plan, the Contractor must submit a Fuel and Hazardous Materials Management and Spill Contingency Plan.
- .2 The management of fuels, lubricants and chemicals must meet with the requirements of the Nova Scotia Dangerous Goods and Hazardous Waste Management Criteria and all other appropriate provincial and federal regulations to include but not be limited to the following:
  - .1 Temporary fuel storage sites are to be located a minimum 200 m from any watercourse.
  - .2 Fuel storage containers must be accompanied by impermeable structures that would provide containment of 125% of the container capacity in the event of a leak or spill.
  - .3 Fueling and lubricating of equipment cannot be done closer than 100 m to any watercourse.

- .4 All refuelling and lubricating operations should employ protection measures such as drip pans, to reduce the potential for escape of petroleum products to the environment.
- .3 No material toxic to fish or any aquatic life shall be permitted to enter any stream, river, or lake. This shall include, but not be limited to lubricants, fuels, testing fluids, insecticides, detergents, herbicides, cement, lime or concrete.
- .4 The Departmental Representative must be immediately contacted after a spill of more than 10 L of fuel or lubricant, and after any amount of other chemical products has escaped. All stained soil resulting from the Contractor's use of chemicals and fuel is to be cleaned up and disposed of at an approved disposal site.
- .5 Storage of large amounts of fuel (more than 900 L) on site is not permitted. The Contractor is expected to be prepared to effect the containment and cleanup of all spills related to the Work.

#### **1.15 TREATED WOOD**

- .1 Workers should be made aware of the possible health risks associated with exposure to CCA or creosote treated timber as well as the recommended safe practices for handling such materials.
- .2 Disposal of treated wood wastes including saw-dust must be in accordance with all applicable Provincial and Municipal regulations. Similar attention must be given to disposal of the replaced guiderail posts which have been treated with creosote.

#### **1.16 SITE DECOMMISSIONING**

- .1 Unless prior permission from the Departmental Representative is obtained, all contractor equipment, facilities and materials must be removed from the site at the finish of each work phase, or if work is suspended due to weather or other circumstance, upon the suspension of work activities.
- .2 All work sites must be returned to a neat and tidy condition upon site abandonment.

#### **1.17 HISTORICAL/ARCHAEOLOGICAL CONTROL**

- .1 Provide historical, archaeological, cultural resources, biological resources, and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on project site: and identifies procedures to be followed if historical archaeological, cultural resources, biological resources and wetlands not previously known to be onsite or in area are discovered during construction.
- .2 Plan: include methods to assure protection of known or discovered resources and identify lines of communication between Contractor personnel and Departmental Representative.
- .3 Relics and antiquities and items of historical or scientific interest such as cornerstones and contents, commemorative plaques, inscribed tablets, and similar objects found on site or in structures demolished, shall remain property of Canada. Protect such articles and request direction from Departmental Representative.
- .4 Give immediate notice to Departmental Representative if evidence of archaeological finds are encountered during construction and await written instructions before proceeding with work in the area.

**1.18 NOTIFICATION**

- .1 Departmental Representative will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.
- .2 Contractor: after receipt of such notice, inform Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.
  - .1 Take action only after receipt of written approval by Departmental Representative.
- .3 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

**Part 2 Products**

Not Used.

**Part 3 Execution**

**3.1 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Leave Work area clean at end of each day.

**END OF SECTION**

**Part 1 General**

**1.1 RELATED SECTIONS**

- .1 Section 01 33 00 – Submittal Procedures
- .2 Section 01 77 00 – Closeout Procedures
- .3 Section 01 78 00 – Closeout Submittals

**1.2 DEFINITIONS**

- .1 Quality Control (QC): The process of checking specific product or services to determine if they comply with relevant quality standards and identify ways to eliminate causes of unsatisfactory product or service performed.
- .2 Quality Assurance (QA): The process of ensuring that the Contractor's Quality Management Plan (QMP) (QC, non-conformances, etc.) is being followed. The results of the QA are provided as feedback to both the Contractor and the Departmental Representative. Where required, the Contractor shall implement changes to the project based on the feedback received from the QA process.

**1.3 INSPECTION**

- .1 Allow Departmental Representative adequate time and access to Work. If part of Work is in preparation at locations other than Place of Work, allow time and access to such Work whenever it is in progress.
- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative instructions, or law of Place of Work.
- .3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, until particular inspections or tests have been fully and satisfactorily completed and until such time as Departmental Representative gives permission to proceed. Pay costs to uncover and make good such Work.
- .4 Departmental Representative will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction. If such Work is found in accordance with Contract Documents, Departmental Representative shall pay cost of examination and replacement.
- .5 The Departmental Representative shall participate in the taking of survey of all quantities with the Contractor responsible to complete the surveys in the presence of the Departmental Representative.

**1.4 INDEPENDENT INSPECTION AGENCIES**

- .1 Independent Inspection/Testing Agencies will be engaged and coordinated by Departmental Representative for purpose of inspecting and/or testing portions of Work. These agencies include, but are not limited to, concrete testing, pile testing, structural steel testing, coating testing and inspection, aggregate tests, compaction tests, asphalt

tests. Cost of such services will be borne by Departmental Representative. The Contractor remains responsible for:

- .1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
  - .2 Inspection and testing performed exclusively for Contractor's convenience.
  - .3 Mill tests and certificates of compliance.
  - .4 Tests as specified within various sections designated to be carried out by Contractor under the supervision of Departmental Representative.
- .2 Provide equipment and materials required for executing inspection and testing by appointed agencies.
  - .3 Employment of inspection/testing agencies does not relax responsibility of Contractor to perform Work in accordance with Contract Documents.
  - .4 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Departmental Representative at no additional cost to Contract. Contractor shall pay costs for retesting and re-inspection.

## **1.5 ACCESS TO WORK**

- .1 Allow inspection/testing agencies access and required time to Work, off site manufacturing and fabrication plants.
- .2 Co-operate to provide reasonable facilities for such access.
- .3 Make good work disturbed by inspections and tests.

## **1.6 PROCEDURES**

- .1 Notify appropriate agency and Departmental Representative sufficiently in advance of when work is ready for tests, in order for Departmental Representative to make attendance arrangements with Testing Agency. When directed by Departmental Representative, notify such agency directly.
- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Deliver in required quantities to Testing Agency. Submit with reasonable promptness and in an orderly sequence to not cause delays in Work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space on site for Testing Agency's exclusive use to store equipment and cure test samples.

## **1.7 REJECTED WORK**

- .1 Remove defective Work, whether result of poor workmanship, use of defective or damaged products and whether incorporated in Work or not, which has been rejected by Departmental Representative as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
- .2 Make good damages to existing or new work, including work of other Contracts, resulting from removal or replacement of defective work.

- .3 If in opinion of Departmental Representative it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Departmental Representative will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by Departmental Representative.

## **1.8 TESTING BY CONTRACTOR**

- .1 Provide all necessary instruments, equipment and qualified personnel to perform tests designated as Contractor's responsibilities herein or elsewhere in the Contract Documents. Contractor is to perform Axial Compression Performance Test Loading to confirm design pile capacity has been achieved.

## **1.9 REPORTS**

- .1 Submit the original and electronic copy of inspection and test reports to Departmental Representative.
- .2 Provide copies to subcontractor of work being inspected or tested and manufacturer or fabricator of material being inspected or tested.

## **1.10 TESTS AND MIX DESIGNS**

- .1 Furnish test results and mix designs as requested and as specified in relevant Technical Specification section.
- .2 Cost of tests and mix designs beyond those called for in Contract Documents or beyond those required by law of Place of Work will be appraised by Departmental Representative and may be authorized as recoverable.

## **1.11 MILL TESTS**

- .1 Submit mill test certificates as required of specification Sections or as requested by Departmental Representative.

## **1.12 PILE / PDA-TESTING**

- .1 Pile / PDA Testing will be completed by Departmental Representative. Contractor is to participate in testing by providing machinery and access for testing.

## **Part 2 Products**

Not Used.

## **Part 3 Execution**

Not Used.

**END OF SECTION**

**Part 1            General**

**1.1               RELATED SECTIONS**

- .1      Section 01 33 00 – Submittal Procedures
- .2      Section 01 35 29.06 – Health and Safety
- .3      Section 01 35 43 – Environmental Procedures
- .4      Section 01 55 26 – Traffic Regulation
- .5      Section 01 56 00 – Temporary Barriers and Enclosures

**1.2               ACTION AND INFORMATIONAL SUBMITTALS**

- .1      Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2      Submit shop drawings for all temporary structures which are required to be engineered. Shop drawings submitted to bear signature and stamp of qualified professional engineer registered or licensed in Province of Nova Scotia, Canada.

**1.3               INSTALLATION AND REMOVAL**

- .1      Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation.
- .2      Identify areas which have to be gravelled to prevent tracking of mud.
- .3      Indicate use of supplemental or other staging area.
- .4      Provide construction facilities in order to execute work expeditiously.
- .5      Remove from site all such work after use.

**1.4               SCAFFOLDING**

- .1      Scaffolding in accordance with CAN/CSA-S269.2-16.
- .2      Provide and maintain scaffolding, ramps, ladders, swing staging, platforms and temporary stairs as required.

**1.5               HOISTING**

- .1      Provide, operate and maintain hoists required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for their use of hoists.
- .2      Hoists cranes to be operated by qualified operator.

**1.6               SITE STORAGE/LOADING**

- .1      Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
- .2      Do not load or permit to load any part of Work with weight or force that will endanger Work.

## **1.7 CONSTRUCTION PARKING**

- .1 Parking will be permitted in the area of the site provided it does not disrupt performance of Work, interfere with normal traffic flow and only after obtaining agreement with the Departmental Representative. Parking will not be permitted within 3 m from the edge of pavement.
- .2 Provide and maintain adequate access to project site.
- .3 Keep parking areas clean and maintain during period of Contract.

## **1.8 SECURITY**

- .1 Provide and pay for responsible security personnel to guard site and contents of site after working hours and during holidays.

## **1.9 OFFICES**

- .1 Provide office heated to 22 degrees C, lighted 750 lx and ventilated, of sufficient size to accommodate site meetings and furnished with drawing laydown table.
- .2 Provide marked and fully stocked first-aid case in a readily available location.
- .3 Subcontractors to provide their own offices as necessary. Direct location of these offices.
- .4 Departmental Representative's Site office.
  - .1 Provide separate temporary office trailer for Departmental Representative.
  - .2 Trailer to be minimum 6.1 m in length, with floor 0.3 m above grade, complete with 4 50% opening windows and one lockable door.
  - .3 Trailer to be insulated and provide heating system to maintain 22 degrees C inside temperature at -20 degrees C outside temperature.
  - .4 Finish inside walls and ceiling with plywood, hardboard or wallboard and paint in selected colours. Finish floor with 19 mm thick plywood.
  - .5 Install electrical lighting system to provide min 750 lx using surface mounted, shielded commercial fixtures with 10 % upward light component.
  - .6 Provide communications hook-up for telephone, fax and internet. Capacity of internet to be suitable for business applications.
  - .7 Provide private washroom facilities adjacent to office complete with flush or chemical type toilet, lavatory, mirror and hand wash facility (chemical or potable water and soap) and maintain supply of paper towels and toilet tissue.
  - .8 Equip office with 1 x 2 m table, 4 chairs, 6 m of shelving 300 mm wide, one 3 drawer filing cabinet, one plan rack and one coat rack and shelf.
  - .9 Equip office with water cooler / filter and maintain supply of bottled water.
  - .10 Maintain in clean condition.
  - .11 If site office cannot provide telephone and internet connection, a second office within 3 km of the site is to be provided which conforms to all conditions including telephone and internet connection.

## **1.10 EQUIPMENT, TOOL AND MATERIALS STORAGE**

- .1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.



- .2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

#### **1.11 SANITARY FACILITIES**

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.

#### **1.12 PROTECTION AND MAINTENANCE OF TRAFFIC**

- .1 Refer to Section 01 55 26 – Traffic Regulation.
- .2 Provide access and temporary relocated roads as necessary to maintain traffic.
- .3 Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by Departmental Representative.
- .4 Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs
- .5 Protect travelling public from damage to person and property.
- .6 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.
- .7 Verify adequacy of existing roads and allowable load limit on these roads. Contractor responsible for repair of damage to roads caused by construction operations.
- .8 Construct access and haul roads necessary.
- .9 Haul roads: constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided.
- .10 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.
- .11 Dust control: adequate to ensure safe operation at all times.
- .12 Location, grade, width, and alignment of construction and hauling roads: subject to approval by Departmental Representative.
- .13 Lighting: to assure full and clear visibility for full width of haul road and work areas during night work operations.
- .14 Provide snow removal during period of Work.
- .15 Remove, upon completion of work, haul roads designated by Departmental Representative.

#### **1.13 CLEAN-UP**

- .1 Remove construction debris, waste materials, packaging material from work site daily.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways.

- .3 Store materials resulting from demolition activities that are salvageable.
- .4 Stack stored new or salvaged material not in construction facilities.

**Part 2 Products**

Not Used.

**Part 3 Execution**

**3.1 GENERAL**

- .1 Construct and maintain construction facilities in accordance with applicable Sections contained in these specifications.

**3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL**

- .1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties, watercourses, and walkways, according to requirements of authorities having jurisdiction.
- .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

**END OF SECTION**

**Part 1 General.**

**1.1 REFERENCES**

- .1 Government of Canada Weights and Measures Act 1985.
- .2 Government of Canada Weights and Measures Regulations 1990.

**1.2 CERTIFICATION**

- .1 Prior to use, Contractor shall have weigh scales certified as meeting requirements of Statutes of Canada, Weights and Measures Act. Display certificate in a visible location.

**1.3 OPERATION**

- .1 Contractor shall provide a weigher at scale location to issue tickets and prepare a daily summary sheet to submit to Departmental Representative. Tickets shall include information to identify the truck and registered weight along with tare, gross and net weights.
  - .1 Tickets shall not be issued to vehicles which exceed the vehicle's registered weight.

**Part 2 Products**

**2.1 EQUIPMENT**

- .1 Weigh scales: of sufficient capacity to weigh loaded vehicles in a single operation. The weigh scale shall be calibrated in SI units.
- .2 Scale house:
  - .1 To enclose mass indicator and where weigher can perform work and maintain records.
  - .2 Waterproof, one sliding window facing scale platform, one other window for cross ventilation, entrance door not to face on to scale platform.
- .3 Approved weigh tickets, in triplicate, with consecutive serial numbers shall be provided by Contractor.

**Part 3 Execution**

**3.1 INSTALLATION**

- .1 Provide, install and maintain scales and scale house at location approved by Departmental Representative.
- .2 Remove scales and scale house when no longer required and as directed by Departmental Representative. Level approach ramps.
- .3 The work shall include installation of the anchorage assemblies.

**3.2 MAINTENANCE**

- .1 Maintain scale platform and scale mechanism clean and free from gravel, asphalt, snow, ice and debris.
- .2 Maintain approach ramps in good condition free from sags and ruts.
- .3 Have scales re-tested and re-certified if requested by Departmental Representative.

**END OF SECTION**

## **Part 1 General**

### **1.1 DESCRIPTION**

- .1 This section is to provide traffic control as stipulated in the Nova Scotia Public Works (NSPW) Temporary Workplace Traffic Control Manual (TWTCM).
- .2 A Traffic Control Plan must be approved by the Departmental Representative prior to commencing any work. Traffic Control Plan to be submitted prior to the pre-construction meeting.
- .3 The Departmental Representative reserves the right to direct the contractor to reduce either the number or length of traffic control work areas during peak traffic volumes or when cumulative delays exceed the specified maximum.
- .4 One lane of unrestricted access must be maintained throughout construction.

### **1.2 REFERENCE STANDARD**

- .1 Regulate traffic in accordance with the Public Highways Act (Nova Scotia) as stipulated in the Temporary Workplace Traffic Control Manual (TWTCM) distributed by the Nova Scotia Department of Transportation and Infrastructure Renewal.

### **1.3 DEFINITIONS**

- .1 Traffic delay: period of time for which vehicle(s) is stopped or delayed in travelling through the contract limits due to the performance of Work on this project. Traffic delay applies to both single lane operation and road closure.
- .2 Road closure: period of time for which the road within the contract limits is not open to the public.

### **1.4 RELATED SECTIONS**

- .1 Section 01 11 00 – Summary of Work
- .2 Section 01 35 29.06 – Health and Safety
- .3 Section 01 56 00 – Temporary Barriers and Enclosures
- .4 Section 05 12 33 – Structural Steel for Bridges

### **1.5 REFERENCES**

- .1 Manual of Uniform Traffic Control Devices (MUTCD) for Streets and Highways.
- .2 Nova Scotia Temporary Workplace Traffic Control Manual – Latest Edition.

### **1.6 PROTECTION OF PUBLIC TRAFFIC**

- .1 Comply with requirements of Acts, Regulations and By-Laws in force for regulation of traffic or use of roadways upon or over which it is necessary to carry out Work or haul materials or equipment.
- .2 When working on travelled way:

- .1 Place equipment in position to present minimum of interference and hazard to travelling public.
- .2 Keep equipment units as close together as working conditions will permit and preferably on same side of travelled way.
- .3 Do not leave equipment on travelled way overnight.
- .3 Do not close any lanes of road without approval of Departmental Representative. Before re-routing traffic, erect suitable signs and devices in accordance with instructions contained in TWTCM. Provide sufficient crushed gravel (50 mm thickness of Aggregate Base Course) to ensure a smooth riding surface during work.
- .4 Keep travelled way graded, free of pot holes and of sufficient width for required number of lanes of traffic.
  - .1 Provide detours as indicated and phasing of traffic throughout construction shall be carried out as indicated on the drawings, unless otherwise approved by the Departmental Representative.
  - .2 Traffic is not permitted to travel on subgrade or granular sub-base. A minimum 50 mm thickness of aggregate base course must be constructed prior to opening to traffic.
- .5 Ensure at least 1 lane of traffic is open at all times.
- .6 As indicated, provide well graded, gravelled detours or temporary roads to facilitate passage of traffic around restricted construction area. Provide and maintain signs and roadway.
  - .1 Do grading for detour in accordance with Section 31 24 13 – Roadway Embankments.
  - .2 Place and compact granular sub-base in accordance with Section 32 11 16.01 – Granular Sub-Base.
  - .3 Place and compact granular base in accordance with Section 32 11 23 – Aggregate Base Courses.
- .7 Provide and maintain reasonable road access and egress to property fronting along work under Contract and in other areas as indicated, unless other means of road access exists that meet approval of Departmental Representative.
- .8 All flag persons and traffic control personnel shall have successfully completed a traffic control training course. Proof of training for all persons shall be available on site at all times.

## **1.7 INFORMATIONAL AND WARNING DEVICES**

- .1 Provide and maintain NSPW approved temporary; signs, flashing warning lights and other devices required to indicate construction activities or other temporary and unusual conditions resulting from Project work which requires road user response.
- .2 All traffic signs are to be bilingual or symbolic.
- .3 Supply and erect signs, delineators, barricades and miscellaneous warning devices as specified in TWTCM.
- .4 Place signs and other devices in locations recommended by TWTCM.

- .5 The contractor shall provide an Accredited Temporary Workplace Signer, who has successfully completed the Temporary Workplace Traffic Control Training Course to be on site at all times when active construction is taking place. The Accredited Temporary Workplace Signer will be responsible to supervise the placement and dismantling of all temporary condition signs and devices that indicate to the road user that highway construction activity exist and also to ensure that proper traffic control procedures are carried out in accordance with the TWTCM. The Accredited Temporary Workplace Signer is considered part of the contractor's supervision and administration staff and compensation the provision of this individual is considered incidental to the work.
- .6 A traffic control plan and emergency response plan must be approved by the Departmental Representative prior to commencing any work.
- .7 Continually maintain traffic control devices in use by:
  - .1 Checking signs daily for legibility, damage, suitability and location. Clean, repair or replace to ensure clarity and reflectance.
  - .2 Removing or covering signs which do not apply to conditions existing from day to day.

## **1.8 CONTROL OF PUBLIC TRAFFIC**

- .1 Provide traffic control personnel who have a valid provincial license and are trained in accordance with, and properly equipped as specified in TWTCM manuals in following situations:
  - .1 When public traffic is required to pass working vehicles or equipment that block all or part of travelled roadway.
  - .2 When it is necessary to institute one-way traffic system through construction area or other blockage where traffic volumes are heavy, approach speeds are high and traffic signal system is not in use.
  - .3 When workers or equipment are employed on travelled way over brow of hills, around sharp curves or at locations where oncoming traffic would not otherwise have adequate warning.
  - .4 Where temporary protection is required while other traffic control devices are being erected or taken down.
  - .5 For emergency protection when other traffic control devices are not readily available.
  - .6 In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.
  - .7 At each end of restricted sections where pilot vehicles are required.
- .2 All Traffic Control Personnel shall be equipped with portable radios of sufficient range to ensure continuous communication within the traffic control zone.
- .3 All construction vehicles shall operate in accordance with and subject to traffic control restrictions and operations in place on the project.
- .4 In addition to traffic control during the normal hours of work, the contractor shall have a responsible person on site at all times to monitor that the traffic signage is working properly (including nights, weekends and holidays).

**1.9 TRAFFIC MANAGEMENT PLAN REQUIREMENT**

- .1 Contractor to provide a Traffic Control plan, prior to construction, for approval by the Departmental Representative.

**1.10 OPERATIONAL REQUIREMENTS**

- .1 Conduct operations as to create the minimum of inconvenience to traffic.
- .2 Maintain existing conditions for traffic throughout period of contract except that, when required for construction under contract and when measures have been taken as specified herein and approved by Departmental Representative to protect and control public traffic, existing conditions for traffic may be restricted as follows:
  - .1 In accordance with TWTCM.
  - .2 The maximum cumulative traffic delay through the limits of construction shall not exceed 15 minutes.
- .3 Temporary concrete (F-shape) barriers shall be installed as indicated on the drawings and in locations where existing guide rail has been removed or where conditions warrant guide rail to protect the travelling public.

**Part 2 Products**

Not Used

**Part 3 Execution**

Not Used

**END OF SECTION**



**Part 1 General**

**1.1 RELATED SECTIONS**

- .1 Section 01 35 29.06 – Health and Safety
- .2 Section 01 55 26 – Traffic Regulation
- .3 Section 01 74 21 – Construction/Demolition Waste Management and Disposal
- .4 Section 02 41 16 – Structure Demolition

**1.2 REFERENCES**

- .1 Canadian General Standards Board (CGSB)
  - .1 CGSB 1.59-97, Alkyd Exterior Gloss Enamel.
  - .2 CAN/CGSB 1.189-00, Exterior Alkyd Primer for Wood.
- .2 Canadian Standards Association (CSA International)
  - .1 CSA-O121-17, Douglas Fir Plywood.
- .3 Nova Scotia Public Works (NSPS)
  - .1 Nova Scotia Temporary Workplace Traffic Control Manual (TWTCM)

**1.3 INSTALLATION AND REMOVAL**

- .1 Provide temporary controls in order to execute Work expeditiously.
- .2 Remove from site all such work after use.

**1.4 HOARDING**

- .1 Erect temporary site enclosures when and where required using 38 x 89mm construction grade lumber framing at 600mm centres and 1200 x 2400 x 13mm exterior grade fir plywood to CSA O121.
- .2 Apply plywood panels vertically as indicated flush and butt jointed.
- .3 Provide one or two lockable truck entrance gates and at least one pedestrian door as directed and conforming to applicable traffic restrictions on adjacent streets. Equip gates with locks and keys.
- .4 Erect and maintain pedestrian walkways including roof and side covers, complete with signs and electrical lighting as required by law.
- .5 Paint public side of site enclosure in selected colours with one coat primer to CAN/CGSB 1.189 and one coat exterior paint to CGSB 1.59. Maintain public side of enclosure in clean condition.
- .6 Erect temporary site enclosure where and when required using new 1.2m high snow fence wired to rolled steel "T" bar fence posts spaced at 2.4 m on centre. Provide one lockable truck gate. Maintain fence in good repair.
- .7 Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.

**1.5 GUARD RAILS AND BARRICADES**

- .1 Provide secure, rigid guard rails and barricades around deep excavations, and open edges of structures or as indicated in Contract Documents. Provide as required by governing authorities and as indicated.

**1.6 WEATHER ENCLOSURES**

- .1 Provide weather tight closures where and when required to facilitate construction operations.
- .2 Design enclosures to withstand wind pressure and snow loading.

**1.7 DUST TIGHT SCREENS**

- .1 Provide dust tight screens to localize and control dust generating activities, and for protection of workers and the environment.
- .2 Maintain and relocate protection until such work is complete.

**1.8 ACCESS TO SITE**

- .1 Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.

**1.9 PUBLIC TRAFFIC FLOW**

- .1 Provide and maintain competent signal flag operators, traffic signals, barricades and flares, lights, or lanterns as required to perform Work and protect public.

**1.10 FIRE ROUTES**

- .1 Maintain access to property including overhead clearances for use by emergency response vehicles.

**1.11 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY**

- .1 Protect surrounding private and public property from damage during performance of Work.
- .2 Be responsible for damage incurred.

**1.12 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

**Part 2            Products**

Not Used.

**Part 3            Execution**

Not Used.

**END OF SECTION**

**Part 1 General**

**1.1 PRECEDENCE**

- .1 For Federal Government projects, Division 1 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

**1.2 REFERENCES**

- .1 Conform to these reference standards, in whole or in part as specifically requested in specifications.
- .2 If there is question as to whether products or systems are in conformance with applicable standards, Departmental Representative reserves right to have such products or systems tested to prove or disprove conformance.
- .3 Cost for such testing will be borne by Departmental Representative in event of conformance with Contract Documents or by Contractor in event of non-conformance.
- .4 Conform to latest date of issue of referenced standards in effect on date of submission of Tenders, except where specific date of issue is specifically noted.

**1.3 QUALITY**

- .1 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Procurement policy is to acquire, in cost effective manner, items containing highest percentage of recycled and recovered materials practicable consistent with maintaining satisfactory levels of competition. Make reasonable efforts to use recycled and recovered materials and in otherwise utilizing recycled and recovered materials in execution of work.
- .3 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
- .4 Should disputes arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.
- .5 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.
- .6 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations.

**1.1 AVAILABILITY**

- .1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify Departmental Representative of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.

- 1.2 In event of failure to notify Departmental Representative at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Departmental Representative reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

### **1.3 STORAGE, HANDLING AND PROTECTION**

- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .4 Store cementitious products clear of earth or concrete floors, and away from walls.
- .5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.
- .6 Store sheet materials, lumber on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .7 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
- .8 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.
- .9 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

### **1.4 TRANSPORTATION**

- .1 Pay costs of transportation of products required in performance of Work.

### **1.5 MANUFACTURER'S INSTRUCTIONS**

- .1 Unless otherwise indicated in specifications install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that Departmental Representative will establish course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.

### **1.6 QUALITY OF WORK**

- .1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify

Departmental Representative if required Work is such as to make it impractical to produce required results.

- .2 Do not employ anyone unskilled in their required duties. Departmental Representative reserves right to require dismissal from site, workers deemed incompetent or careless.
- .3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Departmental Representative, whose decision is final.

#### **1.7 CO-ORDINATION**

- .1 Ensure co-operation of workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination and placement of openings, sleeves and accessories.

#### **1.8 REMEDIAL WORK**

- .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Co-ordinate adjacent affected Work as required.
- .2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

#### **1.9 LOCATION OF FIXTURES**

- .1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.
- .2 Inform Departmental Representative of conflicting installation. Install as directed.

#### **1.10 PROTECTION OF WORK IN PROGRESS**

- .1 Prevent overloading of parts of new and existing bridges. Do not cut, drill or sleeve load bearing structural member, unless specifically indicated without written approval of Departmental Representative.

#### **1.11 EXISTING UTILITIES**

- .1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work, pedestrian and vehicular traffic.
- .2 Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.

**Part 2            Products**

Not Used.

**Part 3            Execution**

Not Used.

**END OF SECTION**

**Part 1            General**

**1.1                RELATED SECTIONS**

- .1            Section 01 78 00 – Closeout Submittals.

**1.2                REFERENCES**

- .1            Owner's identification of existing survey control points and property limits.

**1.3                QUALIFICATIONS OF SURVEYOR**

- .1            Qualified registered land surveyor, licensed to practice in Nova Scotia, acceptable to Departmental Representative.

**1.4                SURVEY REFERENCE POINTS**

- .1            Existing horizontal and vertical working points are designated on drawings.
- .2            Locate, confirm and protect working points prior to starting site work. Preserve permanent reference points during construction.
- .3            Make no changes or relocations without prior written notice to Departmental Representative.
- .4            Report to Departmental Representative when reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
- .5            Require surveyor to replace control points in accordance with original survey control.

**1.5                SURVEY REQUIREMENTS**

- .1            Establish permanent bench marks on site, as required, referenced to established bench marks by survey control points. Record locations, with horizontal and vertical data in Project Record Documents.
- .2            Establish lines and levels, locate and lay out, by instrumentation.
- .3            Stake for grading, fill and topsoil placement.
- .4            Stake slopes and berms.
- .5            Establish pipe invert elevations.
- .6            Establish foundation elevations.
- .7            Establish lines and levels for mechanical and electrical work.
- .8            Special care shall be taken when setting girder bearing elevations and deck screed elevations.

**1.6                EXISTING SERVICES**

- .1            Before commencing work, establish location and extent of service lines in area of Work and notify Departmental Representative of findings.



**1.7 RECORDS**

- .1 Maintain a complete, accurate log of control and survey work as it progresses.
- .2 On completion of foundations and major site improvements, prepare a certified survey showing dimensions, locations, angles and elevations of Work.

**1.8 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit name and address of Surveyor to Departmental Representative.
- .2 On request of Departmental Representative, submit documentation to verify accuracy of field engineering work.
- .3 Submit certificate signed by surveyor certifying and noting those elevations and locations of completed Work that conform with Contract Documents.

**Part 2 Products**

Not Used.

**Part 3 Execution**

Not Used.

**END OF SECTION**

**Part 1 General**

**1.1 RELATED SECTIONS**

- .1 Section 01 74 21 – Construction/Demolition Waste Management and Disposal

**1.2 PROJECT CLEANLINESS**

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, including that caused by Owner or other Contractors.
- .2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site.
- .3 Clear snow and ice from access to site, bank/pile snow in designated areas only.
- .4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .5 Provide on-site containers for collection of waste materials and debris.
- .6 Provide and use marked separate bins for recycling. Refer to Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .7 Dispose of waste materials and debris off site.
- .8 Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.
- .9 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .10 Provide adequate ventilation during use of volatile or noxious substances.
- .11 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

**1.3 FINAL CLEANING**

- .1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Prior to final review remove surplus products, tools, construction machinery and equipment.
- .3 Remove waste products and debris including that caused by Owner or other Contractors, and leave Work clean and suitable for occupancy.
- .4 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site.
- .5 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .6 Inspect finishes and ensure specified workmanship and operation.
- .7 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.

- .8 Remove dirt and other disfiguration from exterior surfaces.
- .9 Sweep and wash clean finished paved areas within the work site.
- .10 Clean downspouts and drainage systems.
- .11 Remove debris and surplus materials from site.
- .12 Remove snow and ice from access to site.

**1.4 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

**Part 2 Products**

Not Used.

**Part 3 Execution**

Not Used.

**END OF SECTION**

**Part 1            General**

**1.1                WASTE MANAGEMENT GOALS**

- .1        Prior to start of Work conduct meeting with Departmental Representative to review and discuss PSPC's Waste Management Plan and Goals.
- .2        Accomplish maximum control of solid construction waste.
- .3        Preserve environment and prevent pollution and environmental damage.

**1.2                RELATED SECTIONS**

- .1        Section 01 33 00 – Submittal Procedures
- .2        Section 02 41 16 – Structure Demolition

**1.3                REFERENCES**

- .1        Nova Scotia Solid Waste Resource Strategy.
- .2        Nova Scotia's Environmental Act, Section 84, Used Oil Regulations.

**1.4                DEFINITIONS**

- .1        Waste Source Separation Program (WSSP): implementation and co-ordination of ongoing activities to ensure designated waste materials will be sorted into pre-defined categories and sent for recycling and reuse, maximizing diversion and potential to reduce disposal costs.
- .2        Recyclable: ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse.
- .3        Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .4        Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .5        Reuse: repeated use of product in same form but not necessarily for same purpose. Reuse includes:
  - .1        Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
  - .2        Returning reusable items including pallets or unused products to vendors.
- .6        Salvage: removal of structural and non-structural structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .7        Separate Condition: refers to waste sorted into individual types.
- .8        Source Separation: act of keeping different types of waste materials separate beginning from the point they became waste.

- .9 Waste Audit (WA): detailed inventory of estimated quantities of waste materials that will be generated during construction, demolition, deconstruction and/or renovation. Involves quantifying by volume/weight amounts of materials and wastes that will be reused, recycled or landfilled.
- .10 Waste Reduction Work Plan (WRW): written report which addresses opportunities for reduction, reuse, or recycling of materials.

## **1.5 DOCUMENTS**

- .1 Post and maintain in visible and accessible area at job site, one copy of following documents:
  - .1 Material Source Separation Plan
  - .2 Waste Reduction Workplan and any revisions to the document.

## **1.6 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Prepare and submit following prior to project start-up:
  - .1 Submit 2 copies of completed Waste Reduction Work Plan (WRW).
  - .2 Submit 2 copies of Waste Source Separation Program (WSSP).

## **1.7 WASTE REDUCTION WORKPLAN (WRW)**

- .1 Prepare and submit WRW prior to project start-up.
- .2 WRW identifies strategies to optimize diversion through reduction, reuse, and recycling of materials and comply with applicable regulations.
- .3 Structure WRW to prioritize actions and follow as first priority Reuse, then followed by Recycle.
- .4 Describe management of waste.
- .5 Post WRW or summary where workers at site are able to review content.

## **1.8 MATERIALS SOURCE SEPARATION PROGRAM (MSSP)**

- .1 Prepare MSSP and have ready for use prior to project start-up. The Demolition Waste Audit (DWA), with related weight bills and /or receipt must be submitted on a monthly basis with the Contractor's monthly Progress claim.
- .2 Implement MSSP for waste generated on project in compliance with approved methods and as reviewed by Departmental Representative.
- .3 Provide on-site facilities for collection, handling and storage of anticipated quantities of reusable and recyclable materials.
- .4 Located containers in locations, to facilitate deposit of materials without hindering daily operations.
- .5 Locate separated materials in areas with minimize material damage.

- .6 Collect, handle store on-site, and transport off-site salvaged materials in separated condition.
- .7 Transport to approved and authorized recycling facility.

#### **1.9 STORAGE, HANDLING AND PROTECTION**

- .1 Store, materials to be reused, recycled and salvaged in locations as specified in MSSP.
- .2 Unless specified otherwise, materials for removal become Contractor's property.
- .3 Protect, stockpile, store and catalogue salvaged items.
- .4 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.
- .5 Provide on-site facilities and containers for collection and storage of reusable and recyclable materials.
- .6 Separate and store materials produced during project in designated areas.
- .7 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated processing facilities.
  - .1 On-site source separation is required.
  - .2 Remove co-mingled materials to off-site processing facility for separation.
  - .3 Obtain waybills, receipts and/or scale tickets for separated materials removed from site.

#### **1.10 DISPOSAL OF WASTES**

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of waste, volatile materials, mineral spirits, oil, paint thinner and the like into waterways, storm, or sanitary sewers.
- .3 Keep records of construction waste including:
  - .1 Number and size of bins.
  - .2 Waste type of each bin.
  - .3 Total tonnage generated.
  - .4 Tonnage reused or recycled.
  - .5 Reused or recycled waste destination.
- .4 Remove materials from deconstruction as deconstruction/disassembly Work progresses.
- .5 Prepare project summary to verify destination and quantities on a material-by-material basis as identified in the waste audit.

#### **1.11 USE OF SITE FACILITIES**

- .1 Execute work with least possible interference or disturbance to normal use of premises.
- .2 Maintain security measures established by PSPC.

**1.12 SCHEDULING**

- .1 Co-ordinate Work with other activities at site to ensure timely and orderly progress of Work.

**Part 2 Products**

Not Used.

**Part 3 Execution**

**3.1 APPLICATION**

- .1 Do Work in compliance with WRW.
- .2 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.

**3.2 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Clean up Work area as work progresses.
- .2 Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.
- .3 Source separate materials to be reused/ recycled into specified sort areas.

**END OF SECTION**

**Part 1 General**

**1.1 RELATED REQUIREMENTS**

- .1 Section 01 78 00 - Closeout Submittals.

**1.2 INSPECTION AND DECLARATION**

- .1 Acceptance of Work Procedures:
  - .1 Contractor's Inspection: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
    - .1 Notify Departmental Representative in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.
    - .2 Request Departmental Representative's Inspection.
  - .2 Departmental Representative Inspection:
    - .1 Departmental Representative and Contractor will perform inspection of Work to identify obvious defects or deficiencies.
    - .2 Contractor to correct Work accordingly.
  - .3 Completion Tasks: submit written certificates in English that tasks have been performed as follows:
    - .1 Work: completed and inspected for compliance with Contract Documents.
    - .2 Defects: corrected and deficiencies completed.
    - .3 Work: complete and ready for final inspection.
  - .4 Final Inspection:
    - .1 When completion tasks are done, request final inspection of Work by Departmental Representative and Contractor.
    - .2 When Work incomplete according to Departmental Representative, complete outstanding items and request re-inspection.
  - .5 Declaration of Substantial Performance: when Departmental Representative considers deficiencies and defects corrected and requirements of Contract substantially performed, make application for Certificate of Substantial Performance.
  - .6 Final Payment:
    - .1 When Departmental Representative considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.
    - .2 When Work deemed incomplete by Departmental Representative, complete outstanding items and request re-inspection.
  - .7 Payment of Holdback: after issuance of Certificate of Substantial Performance of Work, submit application for payment of holdback amount in accordance with contractual agreement.



**1.3 FINAL CLEANING**

- .1 Clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Remove surplus materials, excess materials, rubbish, tools and equipment.  
Remove waste and surplus materials, rubbish and construction facilities from the site in accordance with applicable sections of these specifications.
- .2 Waste Management: separate waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

**Part 2 Products**

Not Used.

**Part 3 Execution**

Not Used.

**END OF SECTION**

**Part 1 General**

**1.1 RELATED SECTIONS**

- .1 Section 01 33 00 – Submittal Procedures
- .2 Section 01 45 00 – Quality Control
- .3 Section 01 71 00 – Examination and Preparation
- .4 Section 01 77 00 – Closeout Procedures

**1.2 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Provide As-built documents and samples.
- .3 Provide final site survey certificate.

**1.3 FORMAT**

- .1 Organize data as instructional manual.
- .2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets.
- .3 When multiple binders are used correlate data into related consistent groupings.
  - .1 Identify contents of each binder on spine.
- .4 Cover: identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.
- .5 Arrange content by systems, under Section numbers and sequence of Table of Contents.
- .6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- .7 Text: manufacturer's printed data, or typewritten data.
- .8 Drawings: provide with reinforced punched binder tab.
  - .1 Bind in with text; fold larger drawings to size of text pages.
- .9 Provide 1:1 scaled CAD files in dwg format on CD.

**1.4 CONTENTS - PROJECT RECORD DOCUMENTS**

- .1 Table of Contents for Each Volume: provide title of project;
  - .1 Date of submission; names.
  - .2 Addresses, and telephone numbers of Consultant and Contractor with name of responsible parties.
  - .3 Schedule of products and systems, indexed to content of volume.
- .2 For each product or system:

- .1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
- .3 Product Data: mark each sheet to identify specific products and component parts, and data applicable to installation; delete inapplicable information.
- .4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
- .5 Typewritten Text: as required to supplement product data.
  - .1 Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00 - Quality Control.

## **1.5 AS -BUILT DOCUMENTS AND SAMPLES**

- .1 Maintain at site for Departmental Representative one record copy of:
  - .1 Contract Drawings.
  - .2 Specifications.
  - .3 Addenda.
  - .4 Change Orders and other modifications to Contract.
  - .5 Reviewed shop drawings, product data, and samples.
  - .6 Field test records.
  - .7 Inspection certificates.
  - .8 Manufacturer's certificates.
- .2 Store record documents and samples in field office apart from documents used for construction.
- .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual. 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.

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

- .1 Record information on set of opaque drawings.
- .2 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
- .3 Contract Drawings and shop drawings: legibly mark each item to record actual construction, including:
  - .1 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface features.
  - .2 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
  - .3 Field changes of dimension and detail.

- .4 Changes made by change orders.
- .5 Details not on original Contract Drawings.
- .6 References to related shop drawings and modifications.
- .4 Specifications: legibly mark each item to record actual construction, including:
  - .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
  - .2 Changes made by Addenda and change orders.
- .5 Other Documents: maintain manufacturer's certifications, inspection certifications, field test records, required by individual specifications sections.

## **1.7 FINAL SURVEY**

- .1 Submit final site survey certificate, certifying that elevations and locations of completed Work are in conformance, or non-conformance with Contract Documents.

## **1.8 WARRANTIES AND BONDS**

- .1 Assemble approved information in binder, submit upon acceptance of work and organize binder as follows:
  - .1 Separate each warranty or bond 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 ten days after completion of applicable item of work.
  - .4 Verify that documents are in proper form, contain full information, and are notarized.
  - .5 Co-execute submittals when required.
  - .6 Retain warranties and bonds until time specified for submittal.
- .2 Except for items put into use with Department Representative's permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.

## **Part 2 Products**

Not Used.

## **Part 3 Execution**

Not Used.

**END OF SECTION**