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1. Documents Required .1 Maintain at job site, one copy each of following:
- .1 Contract drawings
 - .2 Specifications
 - .3 Addenda
 - .4 Reviewed shop drawings/submissions
 - .5 Change orders
 - .6 Other modifications to Contract
 - .7 Field test reports
 - .8 Copy of approved work schedule
 - .9 Manufacturer's installation and application instructions
2. Site Conditions .1 Records of existing structures and geotechnical reports may be available for inspection at the offices of Public Works and Government Services Canada, 1713 Bedford Row, Halifax, N.S. This material is not necessarily up to date and is for information purposes only. It should be complemented by site visits and consultation with appropriate expertise.
3. Work Schedule And Completion Dates .1 Harbour operations must not be impeded in any way as a result of construction sequencing. New west block and span treated timber cribwork wharf (new wharf) must be completed and fully functional, including electrical system installation, before demolition and removal of the existing west treated timber wharf (existing wharf) can begin. Demolition of the existing wharf and basin dredging cannot occur during the lobster season, which is the last week of November until June 1 each year. Dredging within a 25m radius of the K&N Fisheries building can only occur between September 1 and November 20. The contractor must note that the channel entrance must be accommodated during dredging operations. All work must be completed before October 31, 2020.
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- .2 Prepare and submit to the *Departmental Representative* within [5] days of notification of Contract award, [one] copy of the construction schedule, in the form of a bar chart, showing the dates for commencement and completion of each major activity of the work, including the work of subcontractors; dates for submissions, review and return of shop drawings, etc.; the dates of Substantial and Final Completion; and intended man hours of labour and equipment for each major item of work. If the schedule as submitted is unacceptable in any way, submit without delay a revised schedule satisfactory to the *Departmental Representative*.
- .3 The *Departmental Representative* is to notify the Contractor in writing of acceptance of the Construction Schedule. Comply with the Construction Schedule at all times. If, for any reason, the Construction Schedule is not followed, immediately notify the *Departmental Representative* of the change and submit a revised schedule for acceptance. Upon written acceptance by the *Departmental Representative*, this schedule will become the Construction Schedule.
- .4 Whenever required, give further written particulars concerning this schedule. The submission to and acceptance by the *Departmental Representative* of the Contractor's Construction Schedule or the furnishing of details and particulars thereto will not relieve the Contractor of any duties and responsibilities under the Contract.
4. Measurement Responsibilities
- .1 Notify *Departmental Representative* sufficiently in advance of operations to permit required measurements for payment purposes.
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5. Contractor's Use
of Site

- .1 Reduced access to site due to lobster season beginning mid-November until the end of May annually during fiscal years 2018-19 and 2019-20.
- .2 Co-operate with users of existing facilities. All work taking place will be coordinated and agreed to so that there will be minimal impact to the daily ongoing activities of the harbour.
- .3 Should interference's occur, take directions from *Departmental Representative*.
- .4 Do not unreasonably encumber site with materials or equipment.
- .5 Move stored products or equipment which interfere with operations of *Departmental Representative* or other Contractors.
- .6 Obtain and pay for use of additional storage or work areas needed for operations.
- .7 Comply with all regulations and authorities having jurisdiction over the work, whether on land or on water.
- .8 Ensure no damage occurs to existing structures as a result of operations. Any said damage will be repaired at Contractor's expense.
- .9 Provide temporary barriers and warning signs in locations where work is adjacent to areas used by public.

6. Codes and
Standards

- .1 Perform work in accordance with National Building Code of Canada (NBC) and any other code of provincial or local application provided that in any case of conflict or

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- discrepancy, the more stringent requirements will apply.
- .2 Meet or exceed requirements of specified standards, codes and referenced documents. When a standard or code is outdated, the latest edition will supersede the referenced date.
- .3 Observe and enforce construction safety measures by Canadian Construction Safety Code and Construction Safety Code of Nova Scotia. In the event of conflict between any provisions of above authorities the most stringent provision will apply.
7. Project Meetings .1 *Departmental Representative* will arrange project meetings and assume responsibility for setting times and recording and distributing minutes.
8. Setting Out of Work .1 Do all detail surveys necessary for the work, including locating and maintaining working points, and establishing lines and elevations. Perform all layout work, and carefully preserve benchmarks, reference points and stakes.
- .2 Provide such masts, scaffolds, batter boards, lines, straight edges, templates and other devices as may be necessary to facilitate layout, construction and inspection of the work. Whenever necessary, suspend work for such reasonable time as may be necessary to permit the *Departmental Representative* to check or inspect any portion of the Work. The Contractor will not be allowed any extra compensation or time for completion because of this suspension of work.
- .3 Elevations for the various grades and features of the specified works to be referenced and properly related to a
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benchmark, which will be approved by the *Departmental Representative*.

- .4 Verify all grades, lines, levels, and dimensions shown on the drawings and report any errors or inconsistencies to the *Departmental Representative* before commencing work. Provide and maintain well built batterboards at all points to facilitate the progress of the work. Establish all other grades, lines, levels required to facilitate the work.

9. Existing Services

- .1 Where work involves breaking into or connecting to existing services, carry out work at times directed by governing authorities, 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 acceptance 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.

10. Contract Documents

- .1 Contract Drawings:
- .1 The drawings for the Work consist of all drawings listed in these "Plans And Specifications" and any additional drawings issued at a later date by the *Departmental Representative*.
- .2 *Departmental Representative* may furnish additional drawings to assist in proper execution of work. These drawings will
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be issued for clarification only. Such drawings will have same meaning and intent as if they were included with plans referred to in Contract Documents.

.3 The drawings indicate the extent and general dimensions of the work. Make all necessary measurements to ensure that the result of the work is in accordance with the intent.

.4 Verify all existing conditions in field prior to proceeding with work.

.2 Contract Specifications:

.1 The general requirements and technical specifications are written solely for the General Contractor. They are organized into the NMS format of separate divisions and sections.

.2 Specification language is of the 'Short Form type' for example, where the word "provide" occurs, interpret it to mean "the Contractor shall furnish all labour, material and equipment necessary to complete the work".

.3 This Specification and accompanying drawings are intended to describe and provide for a finished project. They are intended to be complementary, and what is called for by either will be as binding as if called for by both. The Contractor shall understand that the work herein described will be complete in every detail, notwithstanding that every item necessarily involved is not particularly mentioned, and Contractor will be held to provide all labour, materials and equipment necessary for the entire completion of the work and will not avail himself of any errors or omissions.

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11. Permits and Regulations
- .1 Apply for, obtain and pay for all necessary permits, approvals and other authorizations required for the work.
 - .2 Comply with all by-laws, ordinances and regulations of all authorities having jurisdiction.
 - .3 Pay for any Municipal permits, per General Conditions as stated in the contract.
12. Cutting, Fitting and Patching
- .1 Execute cutting (including excavation), fitting and patching required to make work fit properly.
 - .2 Make cuts with clean, true, smooth edges. Make patches inconspicuous in final assembly.
 - .3 Where new work connects with existing and where existing work is altered, cut, patch and make good to match existing work.
 - .4 Obtain *Departmental Representative's* approval before cutting, boring or sleeving, or excavating adjacent to load-bearing members.
13. Record of Construction
- .1 As work progresses, maintain accurate records to show all deviations from the contract drawings, with particular reference to work which will be concealed. Prior to the inspection of the work for the issuance of the Final Certificate of Completion, provide the *Departmental Representative* with one set of white prints of the drawings with all deviations shown neatly thereon.
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| | .2 | Provide "as built" cross sections of any excavation, dredging or fill work. |
| 14. <u>Payment</u> | .1 | Payment for all work under this contract to be according to the Contract. |
| | .2 | No separate payment will be made for work specified under any sections of Specification under Division 01. The cost of this work is to be considered as overhead and to be included in the lump sum of the Contract. |
| | .3 | Dimensional changes as directed by the <i>Departmental Representative</i> to suit existing conditions, but not resulting in additional work or materials, will not be considered as extra to the Contract. |
| 15. <u>Site Examination</u> | .1 | All parties tendering are expected to visit the site of the work prior to submission of tenders and make themselves thoroughly acquainted with site conditions, conditions of existing objects to be removed, tides, degree of exposure and all information necessary for the proper carrying out of the work covered by the drawings and this Specification. Submission of Tender will be deemed that Contractor is conversant with site conditions. |
| | .2 | The <i>Departmental Representative</i> will give no consideration whatsoever to any claim by the Contractor resulting from failure to have made all the necessary investigations prior to tendering. |
| 16. <u>Maintenance of Shipping</u> | .1 | Liaise with the local port officials to coordinate activities such that any interference is minimized. |
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17. Cooperation & Assistance to Departmental Representative
- .1 Co-operate with *Departmental Representative* on inspection of work.
 - .2 Provide assistance when requested.
 - .3 Provide small motor boat with operator and sounding chain for *Departmental Representative's* use when requested.
18. Datum
- .1 The datum referred to in this Specification is Chart Datum. Chart Datum is, by International Agreement a plane below which the tide will seldom fall. The Canadian Hydrographic Service has adopted the plane of the lowest normal tide (L.N.T.) as Chart Datum. As the rise, fall, and range of tides varies daily, the Canadian Tide and Current Tables, as issued by the Canadian Hydrographic Service, should be consulted for tidal predictions and other tidal information relating to the work.
19. Contractor's Representative
- .1 Continuously maintain on the site an authorized representative to whom communication may be addressed and who will be competent to speak for the Contractor in discussing work methods.
20. Workers Compensation
- .1 Contractor and all sub-contractors must be registered under the Workers Compensation Act and provide evidence of good standing.
 - .2 At completion of Contract and before final payment is made, the Contractor will present to the *Departmental Representative* a Letter of Certification from the Workers Compensation Board, showing that all required assessments are paid in connection with all trades.
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| 21. | <u>Laws, Standards
Taxes and Fees</u> | .1 | Comply with all laws and standards governing all or any part of the work, pay all applicable taxes and pay for all permits and certificates required in respect of the execution of the work. Where variances exist between the requirements of agencies governing all or any part of the work, the most restrictive will govern, but in no instance will the standards established by the drawings and this Specification, which exceed such requirements, be reduced. |
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| 22. | <u>Protection and
Repair</u> | .1 | Repair any damage resulting from operations under this contract. |
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| 23. | <u>Location of
Equipment and
Fixtures</u> | .1 | Location of equipment, fixtures or any appurtenances indicated are to be considered approximate. |
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| 24. | <u>Inspection and
Testing</u> | .1 | The <i>Departmental Representative</i> may employ an Inspector and/or Testing Company to ensure work conforms with contract. |
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| 25. | <u>Disposal of
Debris</u> | .1 | Debris, including construction materials not incorporated in the work, oil products and containers, and other materials of this nature will be disposed of in suitable locations off the site. This includes costs of disposing of contaminated materials such as creosote treated timber. Disposal is the responsibility of the Contractor. |
| | | .2 | Material from the work will not be permitted to go adrift or otherwise become a menace to navigation. |
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| 26. | <u>Existing Soils
Conditions</u> | .1 | Any information pertaining to soils and all boreholes logs are furnished by the <i>Departmental Representative</i> as a matter of general information only and borehole |
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descriptions or logs are not to be interpreted as descriptive of conditions at locations other than those described by the boreholes themselves.

27. Relics And
Antiquities

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

28. Temporary
Navigational
Buoys

- .1 The Contractor is to maintain temporary buoy's to mark the position of the outer end of the structure as construction proceeds. All buoy's are to meet the requirements of Canadian Coast Guard Standard TP968 and be equipped with radar reflectors.

<http://www.ccg-gcc.gc.ca/folios/00020/docs/CanadianAidsNavigationSystem2011-eng.pdf>

- .2 The Contractor shall coordinate the buoy installation with the local harbour authority.
- .3 The Contractor is responsible for all costs associated with the supply, installation and removal of all temporary navigational buoy's.

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Project Particulars and Measurement

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PROJECT PARTICULARS1. Description
of Work

- .1 The work under this contract involves construction of a new west block and span wharf and the demolition and removal of the existing west wharf, construction of new approach road alignment and dredging of the harbour basin.
- .2 The work includes but is not limited to:
 - .1 Supply and install new fill materials in the new approach road alignment;
 - .2 Supply and install rock mattress and scour protection required for the new wharf;
 - .3 Supply and install new fully ballasted block and span treated timber cribwork wharf, complete with reinforced concrete deck;
 - .4 Removal and disposal of the existing west wharf, which is to be removed and disposed off site, in accordance with appropriate provincial regulations;
 - .5 Dredging and disposal of material from within the harbour basin. The dredge material is to be disposed of within the containment berm at the Gunning Cove DFO-SCH facility in Shelburne Co. NS and when completely full to Falls Point DFO-SCH facility in Shelburne Co. NS;
 - .6 Complete new electrical installation component of the work.
- .3 Harbour operations must not be impeded in any way as a result of construction sequencing. New west block and span treated timber cribwork wharf (new wharf) must be completed and fully functional, including electrical system installation, before demolition and removal of the existing west treated timber wharf (existing wharf) can begin. Demolition of the existing wharf and

basin dredging cannot occur during the lobster season, which is the last week of November until June 1 each year. Dredging within a 25m radius of the K&N Fisheries building can only occur between September 1 and November 20. The contractor must note that the channel entrance must be accommodated during dredging operations. All work must be completed before October 31, 2020.

PROJECT MEASUREMENT

1. General

- .1 The unit and lump sum prices for all items herein shall be full compensation for the work and shall include the cost of furnishing all labour, materials, tools, construction utilities and equipment necessary to complete the work in accordance with the Contract, Drawings and Specifications. The unit and lump sum prices, shall cover all costs of surety, management, supervision, labour, materials, plant and services, security provisions, and all operations and allowances customary and necessary to complete the work and the Contract as a whole notwithstanding the fact that not every such necessary operation is mentioned or included specifically for measurement.
- .2 The contractor will be requested to provide a breakdown of the lump sum items for payment purposes following award of the contract.

2. Measurement For Payment

- .1 **LUMP SUM ITEMS: The following items are to be measured separately for costing purposes, then combined and submitted as one item under Lump Sum items in the tender Documents:**

Division 1

Departmental Representative's Site Office:
All work associated with the supply,

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maintenance, and removal from site of the *Departmental Representative's* site office per Section 01 51 00 of the Specification will constitute a lump sum for measurement purposes.

Mobilization and Demobilization: All work associated with the mobilization and demobilization of all equipment required to perform and complete the work as outlined in the Contract Drawings, including Contractor's site office, etc., shall constitute a lump sum for measurement purposes.

Division 26

Electrical Work: The electrical component of the work as outlined by the plans and specification will be measured for payment by the lump sum basis.

Division 31

Sitework, Demolition and Removals: All sitework, demolition, and removals required to complete the work will be measured for payment by the lump sum. Any additional demolition and removals essential to completion of the work will be considered incidental to this item. Contractor to be aware that two types of removals indicated on plans are to be included in this lump sum. This includes the existing west wharf removals and new west wharf removals. Dredging of materials to limits as shown on the drawings for placement of new rock mattress for the new west wharf will not be measured separately for payment but considered incidental to this lump sum. Dredging of materials to limits as shown on the drawings for removal of existing west wharf will not be measured separately for payment but considered incidental to this lump sum.

Note: The contractor shall expect cobbles and boulders and removal of such is considered incidental to the work.

Timber Cribwork: Timber cribwork including rock ballast shall be measured for payment by the lump sum. Supply and installation of pins, bolts, hardware, etc., shall not be measured but considered incidental to the work.

- .2 **UNIT PRICE ITEMS:** The following items outline the unit of measurement for unit price items as indicated in the tender documents:

Division 03

Reinforced Concrete Deck: Cast-in-place reinforced concrete for deck area, inclusive of wheel guard, curb beam, haunch beams will be measured for payment by the square meter (m²) calculated from neat plan view dimensions. Concrete placed beyond dimensions indicated will not be measured. All inserts, drains and rubbing strips are incidental to the work. Steel reinforcing will not be measured for payment but considered incidental to the work.

Division 06

Supply and Installation of Dimension Timber and Fenders: Treated dimension timber will be measured for payment by the cubic meter (m³) and will include fenders, sheathing, sheathing assembly binder posts, and wales. Calculations will be based on the timber dimensions indicated on the drawings. Installation of bolts and hardware will not be measured but considered incidental to the work.

Division 31

Supply and Installation of Crushed Rock Mattress: Supply of crushed rock mattress

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will be measured for payment by the cubic meter place measure (CMPM) calculated from the drawings. Placement of crushed rock mattress including leveling and grading to the finished grades will be considered incidental to the work.

Supply and installation of 200-300 kg Rip Rap: Rip Rap will be measured for payment by the cubic meter (CMPM) calculated from the drawings.

Supply and installation of 100-200 kg Rip Rap: Rip Rap will be measured for payment by the cubic meter (CMPM) calculated from the drawings.

Division 32

Granular Sub-Base: Supply and installation of Type 2 (Class "C") granular sub-base including compaction, will be measured for payment by the cubic meter (CMPM) calculated from the drawings.

Granular Base: Supply and installation of Type 1 (Class "A") granular base including compaction, will be measured for payment by the cubic meter (CMPM) calculated from the drawings.

Division 35

Dredging: Dredging will be measured for payment by the cubic meter place measurement (CMPM) of material removed above specified dredge grades and within the specified side slopes as shown on the drawings and identified as basin dredging limits. The dredge material is to be disposed of within the containment berm at the Gunning Cove DFO-SCH facility in Shelburne Co. NS and when completely full to Falls Point DFO-SCH facility in Shelburne Co. NS; This unit price will include the provision of a boat, motor and survey equipment as specified.

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Ladders: Supply and installation of treated timber ladders including holdfasts and extensions will be measured for payment per each. Bolts and hardware will not be measured but considered incidental to the work.

B1 Mooring Cleats: Supply and installation of mooring cleats will be measured for payment per each.

Pipe Mooring Cleats: Supply installation of mooring cleats will be measured for payment per each.

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| 1. <u>General</u> | .1 Submit to <i>Departmental Representative</i> , for review, shop drawings, product data, samples and other information specified. |
| | .2 Until submission is reviewed, work involving relevant product may not proceed. |
| 2. <u>Shop Drawings</u> | .1 Drawings to be originals prepared by Contractor, Subcontractor, Supplier or Distributor, which illustrate appropriate portion of work; showing fabrication, layout, setting or erection details as specified in appropriate Sections. |
| | .2 Identify details by reference to sheet and detail numbers shown on Contract Drawings. |
| | .3 Maximum sheet size 860 X 1120 mm. |
| | .4 Reproductions for submissions: opaque diazo prints. |
| 3. <u>Product Data</u> | .1 Certain Specification Sections specify that manufacturer's standard schematic drawings, catalogue sheets, diagrams schedules, performance charts, illustrations and other standard descriptive data will be accepted in lieu of shop drawings. |
| 4. <u>Samples</u> | .1 Submit samples in sizes and quantities specified. |
| | .2 Construct field samples and mock-ups at locations acceptable to <i>Departmental Representative</i> . |
| | .3 Accepted samples will become standards of workmanship and material against which, installed work will be checked on project. |
| 5. <u>Miscellaneous Data</u> | .1 Provide certificates, methodologies, designs and test results as required. |
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6. Coordination of Submissions
- .1 Review shop drawings, product data, samples and miscellaneous data prior to submission.
 - .2 Verify:
 - .1 Field Measurements.
 - .2 Field Construction Criteria.
 - .3 Catalogue numbers and similar data.
 - .3 Coordinate each submission with requirements of work and Contract documents. Individual submissions will not be reviewed until all related information is available.
 - .4 Contractor's responsibility for errors and omissions in submission is not relieved by *Departmental Representative's* review of submissions.
 - .5 Contractor's responsibility for deviations in submission from requirements in Contract documents is not relieved by *Departmental Representative's* review of submission, unless *Departmental Representative* gives written acceptance of specified deviations.
 - .6 Notify *Departmental Representative*, in writing at time of submission, of deviations from requirements of Contract documents stating reasons for deviations.
 - .7 After *Departmental Representative's* review, distribute copies.
7. Submission Requirements
- .1 Schedule submissions at least 14 days before dates reviewed submissions will be needed.
 - .2 Submit number of copies of shop drawings, product data which Contractor requires for distribution, plus 2 copies which will be retained by *Departmental Representative*.
 - .3 Accompany submissions with transmittal letter, in duplicate, containing:
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- .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 submitted.
 - .5 Other pertinent data.
- .4 Submissions shall include:
- .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Contractor
 - .2 Sub-Contractor
 - .3 Supplier
 - .4 Manufacturer
 - .5 Separate detailer when pertinent
 - .4 Identification of product or material.
 - .5 Relation to adjacent structure or materials.
 - .6 Field dimensions, clearly identified as such.
 - .7 Specification Section Number.
 - .8 Applicable standards, such as CSA or CGSB numbers.
 - .9 Contractor's stamp, initialled or signed, certifying review of submission, verification of field measurements and compliance with Contract documents.
8. Shop Drawings
Review
- .1 The review of shop drawings by Public Works and Government Services Canada or its authorized consultant is for the sole purpose of ascertaining conformance with the general concept. This review shall not mean that Public Works and Government Services Canada approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of responsibility for errors or omissions in the shop drawings or of responsibility for meeting all requirements of the construction and contract documents. Without restricting the
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generality of the foregoing, the Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for coordination of the work of all sub-trades.

9. Other Reviews .1 As for shop drawings above, other reviews are for the sole purpose of ascertaining conformance with the general concept.
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PART 1 - GENERAL

1.1 Section
Includes

- .1 Fire Safety Requirements
- .2 Hot Work Permit
- .3 Existing Fire Protection and Alarm Systems

1.2 Related Work

- .1 Section 01 35 29: Health and Safety
- .2 Section 01 35 25: Special Procedures on Lockout Requirements

1.3 References

- .1 FCC No. 301-June 1982 Standard for Construction Operations.
- .2 FCC No. 302-June 1982 Standard for Welding and Cutting.

1.4 Definitions

- .1 Hot Work defined as:
 - .1 Welding work
 - .2 Cutting of materials by use of torch or other open flame devices
 - .3 Grinding with equipment which produces sparks.

1.5 Submittals

- .1 Submit copy of Hot Work Procedures, to *Departmental Representative* for review, within 14 calendar days after contract award.
- .2 Include sample of Hot Work Permit.
- .3 Submit above documents in accordance with the submittal - general requirements specified in section 01 33 00.

1.6 Fire Safety &
Hot Work Requirement

- .1 Implement and follow fire safety measures during Work. Comply with following:
 - .1 National Fire Code, 1995
 - .2 Fire Protection Standards FCC 301, Standard for Construction Operations and FCC 302, Standard for Welding and Cutting as
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- issued by the Fire Protection Services of Human Resources Development Canada.
- .3 Federal and Provincial Occupational Health and Safety Acts and Regulations as specified in section 01 35 29.
- .2 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.
- .3 FCC standards, noted above, may be viewed at the Regional Fire Protection Services' office (previously known as the Fire Commissioner of Canada) located at 99 Wyse Road, 8th floor, Dartmouth, NS; telephone: (902)-426-6053.
- .4 Hot Work Requirements:
- .1 Obtain *Departmental Representative's* written Authorization to Proceed for the performance of Hot Work on site as may be required in the course of Work.
- .2 To obtain authorization submit to *Departmental Representative* for review:
- .1 Contractor's Hot Work Procedures to be followed on site in accordance with clause 1.8 below.
- .2 Type of work and frequency of situations which will require Hot Work.
- .3 Upon confirmation that effective fire safety measures will be implemented for hot work, *Departmental Representative* will grant Authorization to Proceed.
- .4 In most cases, *Departmental Representative* will issue only
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one written authorization covering the entire construction project and duration of work. However in some cases, depending on the nature or phasing of work, the quantity of various trades needing to perform welding and cutting on site, or other deemed situation, *Departmental Representative* might designate certain portions of the work as separate entities, each entity requiring individual written authorization to proceed. Follow *Departmental Representative's* directives in this regard.

- .5 Do not perform any Hot Work until receipt of *Departmental Representative's* written Authorization to Proceed.
- .6 In tenant occupied facilities, coordinate performance of Hot Work with Facility Manager through the *Departmental Representative*. When directed perform Hot Work during non-operative hours when Facility is vacant of employees. Follow *Departmental Representative's* directives in this regard.

1.7 Conformance

- .1 Ensure that Hot Work Procedures, as established for project and agreed upon with *Departmental Representative*, are stringently followed. Enforce use and compliance by all workers.
- .2 Brief all workers and subcontractors on Hot Work Procedures and Permit system.
- .3 Failure to comply with the established hot work procedures may result in the issuance of a Non-Compliance Notification at *Departmental Representative's* discretion with possible disciplinary measures imposed as specified in section 01 35 29.

1.8 Hot Work
Procedures

- .1 Develop Hot Work Procedures, to be followed when Hot Work is required as part of the work.
- .2 Describe safe work practices and sequence of activities to be followed on site by Contractor and workers to minimize the potential occurrence of a fire resulting from Hot Work.
- .3 Hot Work Procedures to include:
 - .1 Requirement to perform hazard assessment of the site or immediate work area, based on type and extent of Hot Work required, in accordance with Hazard Assessment and Safety Plan requirements of section 01 35 29. Carryout hazard assessment for each hot work event.
 - .2 Use of a Hot Work Permit system, issued by an authorized person in Contractor's employ, for each event when Hot Work is required, granting permission to carryout hot work.
 - .3 Provision of a designated person(s) to carryout a Fire Safety Watch for a minimum of 30 minutes immediately upon completion of the hot work.
- .4 Procedures to comply with fire safety codes and standards specified herein and occupational health and safety regulations specified in section 01 35 29.
- .5 Generic procedures, if used, must be edited, supplemented with pertinent information and tailored to reflect specific project conditions. Clearly label as being the Hot Work Procedures applicable to this contract.
- .6 Include within procedures the step by step process on how to prepare and issue the Hot Work Permit.

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- .7 Hot Work Procedures to be in typewritten format, listing step by step procedures and worker instructions, clearly establishing and allocating responsibilities of:
 - .1 Worker(s),
 - .2 Designated person authorized to issue the Hot Work Permit,
 - .3 Fire Safety Watcher,
 - .4 Subcontractors and Contractor.

1.9 Hot Work
Permit

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- .1 Develop "Hot Work Permit" form in typewritten format.
 - .2 Hot Work Permit form to include, as a minimum, the following data:
 - .1 Project name and project number;
 - .2 Building name, address and specific floor, room or area where hot work will be performed;
 - .3 Date when permit issued
 - .4 Description on type of hot work to be carried out;
 - .5 Special precautions required, including type of fire extinguisher needed;
 - .6 Name and signature of authorized person, designated by Contractor, to issue the permit.
 - .7 Name of worker(s) (clearly printed) to which the permit is being issued.
 - .8 Time duration of permit (not to exceed 8 hours) indicating "Start" time & date and "Completion" time & date when Hot Work permit will be in effect.
 - .9 Worker signature with date and time when hot work terminated.
 - .10 Specified period of time requiring Safety Watch.
 - .11 Name and signature of person designated as Fire Safety Watcher, complete with time & date when safety watch terminated, certifying that the surrounding area was under his continual watch and inspection for
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the minimum time period specified in Permit and commenced immediately upon the completion of Hot Work.

- .3 Industry Standard forms shall only be used if all data specified above is included on form.
- .4 Each Hot Work Permit to be completed in full and signed as follows:
 - .1 Authorized person issuing Permit before hot work commences;
 - .2 Worker(s) upon completion of Hot Work;
 - .3 Fire Safety Watcher upon termination of safety watch and;
 - .4 Returned to Contractor's Site Superintendent for safe keeping.

1.10 Fire Protection and Alarm Systems

- .1 Fire protection and alarm systems shall not be:
 - .1 Obstructed.
 - .2 Shut-off, unless approved by *Departmental Representative*.
 - .3 Left inactive at the end of a working day or shift.
- .2 Do not use fire hydrants, standpipes and hose systems for purposes other than fire fighting.

1.11 Documents on Site

- .1 Keep Hot Work Permits and Hazard assessment documentation on site for duration of Work.
- .2 Upon request, make available to *Departmental Representative* or to authorized safety representative for inspection.

2.1 Not Used .1 Not Used.

PART 3 - EXECUTION

3.1 Not Used .1 Not Used.

PART 1 - GENERAL

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|-----------------------------|----|---|
| <u>1.1 Section Includes</u> | .1 | Procedures to isolate and lockout electrical facility or other equipment from energy source. |
| <u>1.2 Related Work</u> | .1 | Section 01 35 29: Health and Safety |
| | .2 | Section 01 35 24: Fire Safety Requirements |
| <u>1.3 References</u> | .1 | CSA C22.1-2002 - Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations. |
| | .2 | CSA C22.3 No. 1-M87 (R2001) - Overhead Systems. |
| | .3 | CSA C22.3 No. 7-94 (R2000) - Underground Systems. |
| | .4 | COSH, Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code. |
| <u>1.4 Definitions</u> | .1 | Electrical Facility: means any system, equipment, device, apparatus, wiring, conductor, assembly or part thereof that is used for the generation, transformation, transmission, distribution, storage, control, measurement or utilization of electrical energy, and that has an amperage and voltage that is dangerous to persons. |
| | .2 | Guarantee of Isolation: means a guarantee by a competent person in control or in charge that a particular facility or equipment is isolated. |
| | .3 | De-energize: in the electrical sense, that a piece of equipment is isolated and grounded, e.g. if the equipment is not grounded, it cannot be considered de-energized (DEAD). |
| | .4 | Guarded: means that an equipment or facility is covered, shielded, fenced, enclosed, |
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inaccessible by location, or otherwise protected in a manner that, to the extent that is reasonably practicable, will prevent or reduce danger to any person who might touch or go near such item.

- .5 Isolate: means that an electrical facility, mechanical equipment or machinery is separated or disconnected from every source of electrical, mechanical, hydraulic, pneumatic or other kind of energy that is capable of making it dangerous.
- .6 Live/alive: means that an electrical facility produces, contains, stores or is electrically connected to a source of alternating or direct current of an amperage and voltage that is dangerous or contains any hydraulic, pneumatic or other kind of energy that is capable of making the facility dangerous to persons.

1.5 Compliance Requirements

- .1 Perform lockouts in compliance with:
 - .1 Canadian Electrical Code
 - .2 Federal and Provincial Occupational Health and Safety Acts and Regulations as specified in section 01 35 29.
 - .3 Regulations and code of practice as applicable to mechanical equipment or other machinery being de-energized.
 - .4 Procedures specified herein.
- .2 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.

1.6 Submittals

- .1 Submit copy of proposed Lockout Procedures and sample form of lockout permit or lockout tags for review.
 - .2 Submit documentation within 14 calendar days of contract award. Do not proceed with work
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until submittal has been reviewed by
Departmental Representative.

- .3 Submit above documents in accordance with the submittal - general requirements specified in section 01 33 00.
- .4 Resubmit Lockout Procedures with noted revisions as may result from *Departmental Representative's* review.

1.7 Isolation of Existing Services

- .1 Obtain *Departmental Representative's* written authorization prior to conducting work on an existing active, energized service or facility required as part of the work and before proceeding with lockout of such services or facility.
 - .2 To obtain authorization, submit to *Departmental Representative* following documentation:
 - .1 Written Request for Isolation of the service or facility and;
 - .2 Copy of Contractor's Lockout Procedures.
 - .3 Make a Request for Isolation for each event, unless directed otherwise by *Departmental Representative*, and as follows:
 - .1 Fill-out standard forms in current use at the Facility when so directed by *Departmental Representative* or;
 - .2 Where no form exist at Facility, make request in writing identifying:
 - .1 Identification of system or equipment to be isolated, including its location;
 - .2 Time duration, indicating Start time & date and Completion time & date when isolation will be in effect.
 - .3 Voltage of service feed to system or equipment being isolated.
 - .4 Name of person making the request.
 - .3 Document to be in typewritten format.
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- .4 Do not proceed until receipt of written notification from *Departmental Representative* granting the Isolation Request and authorization to proceed with the isolation of designated equipment or facility. *Departmental Representative* may designate other individual at the Facility as the person authorized to grant the Isolation Request.
- .5 Conduct safe, orderly shut down of equipment or facilities, de-energize and isolate power and other sources of energy and lockout items in accordance with requirement of clause 1.8 below.
- .6 Plan and schedule shut down of existing services in consultation with the *Departmental Representative* and the Facility Manager. Minimize impact and downtime of facility operations.
- .7 Determine in advance, as much as possible, in cooperation with the *Departmental Representative*, the type and frequency of situations which will require a Request for Isolation. Follow *Departmental Representative's* directives in this regard.
- .8 Conduct hazard assessment as part of the planning process of isolating existing equipment and facilities. Hazard Assessments to conform with requirements of Health and Safety Section 01 35 29.

1.8 Lockouts

- .1 Isolate and lockout electrical facilities, mechanical equipment and machinery from all potential energy sources prior to starting work on such items.
- .2 Develop and implement lockout procedures to be followed on site as an integral part of the Work.

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- .3 Use energy isolation lockout devices specifically designed and appropriate for type of facility or equipment being locked out.
 - .4 Use industry standard lockout tags.
 - .5 Provide appropriate safety grounding and guards as required.
 - .6 Prepare Lockout Procedures in writing. Describe safe work practices, work functions and sequence of activities to be followed on site to safely isolate all potential energy sources and lockout/tagout facilities and equipment.
 - .7 Include within procedures a system of worker request and issuance of individual lockout permit by a person, employed by Contractor, designated to be "in-charge" and being responsible for:
 - .1 Controlling issuance of permits or tags to workers.
 - .2 Determining permit duration.
 - .3 Maintaining record of permits and tags issued.
 - .4 Submitting a Request for Isolation to *Departmental Representative* when required in accordance with Clause 1.7 above.
 - .5 Designating a Safety Watcher, when one is required based on type of work.
 - .6 Ensuring equipment or facility has been properly isolated, providing a Guarantee of Isolation to worker(s) prior to proceeding with work.
 - .7 Collecting and safekeeping lockout tags, returned by workers, as a record of the event.
 - .8 Clearly establish, describe and allocate, within procedures, the responsibilities of:
 - .1 Workers.
 - .2 Designated person controlling issuance of lockout tags/permits.
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- .3 Safety Watcher.
 - .4 Subcontractors and General Contractor.
 - .9 Procedures shall meet the requirements of Codes and Regulations specified in clause 1.5 above.
 - .10 Generic procedures, if used, must be edited, supplemented with pertinent information and tailored to reflect specific project conditions. Clearly label as being the procedures applicable to this contract.
 - .1 Incorporate site specific rules and procedures established by Facility Manager and in force at site. Obtain such procedures through *Departmental Representative*.
 - .11 Procedures to be in typewritten format.
 - .12 Submit copy of Lockout Procedures to *Departmental Representative*, in accordance with submittal requirements of clause 1.6 herein, prior to commencement of work.
- 1.9 Conformance
- .1 Ensure that lockout procedures, as established for project on site, are stringently followed. Enforce use and compliance by all workers.
 - .2 Brief all persons working on electrical facilities, mechanical and other equipment fed by an energy source on requirements of this section.
- 1.10 Documents on Site
- .1 Post Lockout Procedures on site in common location for viewing by workers.
 - .2 Keep copies of Request for Isolation submitted to *Departmental Representative* and lockout permits or tags issued to workers during the course of work for full project duration.
 - .3 Upon request, make such data available to
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Harbour Improvements Upper Port Latour

Upper Port Latour

Shelburne County Nova Scotia

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Special Procedures on Lockout Requirements

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*Departmental Representative or to authorized
safety representative for inspection.*

PART 2 - PRODUCTS

2.1 Not Used .1 Not Used.

PART 3 - EXECUTION

3.1 Not Used .1 Not Used.

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- 1.1 RELATED WORK
- .1 Section 01 35 24: Special Procedures on Fire Safety Requirements.
 - .2 Section 01 35 25: Special Procedures on Lockout Requirements.
- 1.2 DEFINITIONS
- .1 COSH: Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code.
 - .2 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, and;
 - .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 or safety associated with the Work.
 - .3 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.
 - .4 PPE: personal protective equipment
 - .5 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.
 - .2 Submit site-specific Health and Safety Plan prior to commencement of Work.
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Health and Safety

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- .1 Submit within 5 work days of notification of Bid Acceptance. Provide 2 copies.
 - .2 *Departmental Representative* will review Health and Safety Plan and provide comments.
 - .3 Revise the Plan as appropriate and resubmit within 5 work days after receipt of comments.
 - .4 *Departmental Representative's* review and comments made of the Plan shall not be construed as an endorsement, approval or implied warranty of any kind by Canada and does not reduce Contractor's overall responsibility for Occupational Health and Safety of the Work.
 - .5 Submit revisions and updates made to the Plan during the course of Work.
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- .3 Submit name of designated Health & Safety Site Representative and support documentation specified in the Safety Plan.
 - .4 Submit building permit, compliance certificates and other permits obtained.
 - .5 Submit copy of Letter in Good Standing from Provincial Workers Compensation or other department of labour organization.
 - .1 Submit update of Letter of Good Standing whenever expiration date occurs during the period of Work.
 - .6 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
 - .7 Submit copies of incident reports.
 - .8 Submit WHMIS MSDS - Material Safety Data Sheets.
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1.4 COMPLIANCE
REQUIREMENTS

- .1 Comply with Occupational Health and Safety Act for Province of Nova Scotia, and Regulations made pursuant to the Act.
 - .2 Comply with Occupational Health and Safety Act for Province of Newfoundland and Labrador, and Occupational Health & Safety Regulations made pursuant to the Act.]
 - .3 Comply with Canada Labour Code - Part II (entitled Occupational Health and Safety) and the Canada Occupational Health and Safety Regulations (COSH) as well as any other regulations made pursuant to the Act.
 - .1 The Canada Labour Code can be viewed at: <http://laws-lois.justice.gc.ca/eng/>
 - .2 COSH can be viewed at: <http://laws-lois.justice.gc.ca/eng/regulations/SOR-86-304/index.html>
 - .3 A copy may be obtained at: Canadian Government Publishing Public Works & Government Services Canada Ottawa, Ontario, K1A 0S9 Tel: (819) 956-4800 (1-800-635-7943) Publication No. L31-85/2000 E or F)
 - .4 Treasury Board of Canada Secretariat (TBS):
 - .1 Treasury Board, Fire Protection Standard April 1, 2010
www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=17316§ion=text
 - .5 Canadian Standards Association (CSA):
 - .1 CSA S350-M1980(R2003), Code of Practice for Safety in Demolition of Structures.
 - .6 Observe construction safety measures of:
 - .1 Part 8 of National Building Code
 - .2 Municipal by-laws and ordinances.
 - .7 In case of conflict or discrepancy between above specified requirements, the more stringent shall apply.
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|------------------------------------|----|--|
| | .8 | Maintain Workers Compensation Coverage in good standing for duration of Contract. Provide proof of clearance through submission of Letter in Good Standing. |
| | .9 | Medical Surveillance: Where prescribed by legislation or regulation, obtain and maintain worker medical surveillance documentation. |
| 1.5 <u>RESPONSIBILITY</u> | .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 extent that they may be affected by 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 by-laws, regulations, and ordinances, and with site-specific Health and Safety Plan. |
| 1.6 <u>SITE CONTROL AND ACCESS</u> | .1 | Control the Work and entry points to Work Site. Approve and grant access only to workers and authorized persons. Immediately stop and remove non-authorized persons.
.1 <i>Departmental Representative</i> will provide names of those persons authorized by <i>Departmental Representative</i> to enter onto Work Site and will ensure that such authorized persons have the required knowledge and training on Health and Safety pertinent to their reason for being at the site, however, Contractor remains responsible for the health and safety of authorized persons while at the Work Site. |
| | .2 | Isolate Work Site from other areas of the premises by use of appropriate means.
.1 Erect fences, hoarding, barricades and temporary lighting as required to effectively delineate the Work Site, |
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- stop non-authorized entry, and to protect pedestrians and vehicular traffic around and adjacent to the Work and create a safe environment.
 - .2 Post signage at entry points and other strategic locations indicating restricted access and conditions for access.
 - .3 Use professionally made signs with bilingual message in the 2 official languages or international known graphic symbols.
 - .3 Provide safety orientation session to persons granted access to Work Site. Advise of hazards and safety rules to be observed while on site.
 - .4 Ensure persons granted site access wear appropriate PPE. Supply PPE to inspection authorities who require access to conduct tests or perform inspections.
 - .5 Secure Work Site against entry when inactive or unoccupied and to protect persons against harm.
- 1.7 PROTECTION
- .1 Give precedence to safety and health of persons and protection of environment over cost and schedule considerations for Work.
 - .2 Should unforeseen or peculiar safety related hazard or condition become evident during performance of Work, immediately take measures to rectify situation and prevent damage or harm. Advise *Departmental Representative* verbally and in writing.
- 1.8 FILING OF NOTICE
- .1 File Notice of Project with pertinent provincial health and safety authorities prior to beginning of Work.
 - .1 *Departmental Representative* will assist in locating address if needed.
- 1.9 PERMITS
- .1 Post permits, licenses and compliance certificates at Work Site.
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- .2 Where a particular permit or compliance certificate cannot be obtained, notify *Departmental Representative* in writing and obtain approval to proceed before carrying out applicable portion of work.
- 1.10 HAZARD ASSESSMENTS
- .1 Perform site specific health and safety hazard assessment of the Work and its site.
- .2 Carryout initial assessment prior to commencement of Work with further assessments as needed during progress of work, including when new trades and subcontractors arrive on site, including when new trades and subcontractors arrive on site.
- .3 Record results and address in Health and Safety Plan.
- .4 Keep documentation on site for entire duration of the Work.
- 1.11 MEETINGS
- .1 Attend pre-construction health and safety meeting, convened and chaired by *Departmental Representative*, prior to commencement of Work, at time, date and location determined by *Departmental Representative*. Ensure attendance of:
- .1 Superintendent of Work
- .2 Designated Health & 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.
- 1.12 HEALTH AND SAFETY PLAN
- .1 Prior to commencement of Work, develop written Health and Safety Plan specific to
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the Work. Implement, maintain, and enforce Plan for entire duration of Work and until final demobilization from site.

- .2 Health and Safety Plan shall include the following components:
 - .1 List of health risks and safety hazards identified by hazard assessment.
 - .2 Control measures used to mitigate risks and hazards identified.
 - .3 On-site Contingency and Emergency Response Plan as specified below.
 - .4 On-site Communication Plan as specified below.
 - .5 Name of Contractor's designated Health & Safety Site Representative and information showing proof of his/her 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.
 - .3 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 and floor plan layouts showing escape routes, marshalling areas. Details on alarm notification methods, fire drills, location of fire fighting 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:
 - .1 General Contractor and subcontractors.
 - .2 Pertinent Federal and Provincial Departments and Authorities having jurisdiction.
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- .3 Local emergency resource organizations.
 - .5 Harmonize Plan with Facility's Emergency Response and Evacuation Plan. *Departmental Representative* will provide pertinent data including name of PWGSC and Facility Management contacts.
 - .4 On-site Communication Plan:
 - .1 Procedures for sharing of work related safety information to workers and subcontractors, 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.
 - .5 Address all activities of the Work including those of subcontractors.
 - .6 Review Health and Safety Plan regularly during the Work. Update as conditions warrant to address emerging risks and hazards, such as whenever new trade or subcontractor arrive at Work Site.
 - .7 *Departmental Representative* will respond in writing, where deficiencies or concerns are noted and may request re-submission of the Plan with correction of deficiencies or concerns.
 - .8 Post copy of the Plan, and updates, prominently on Work Site.
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1.13 SAFETY
SUPERVISION

- .1 Employ Health & Safety Site Representative responsible for daily supervision of health and safety of the Work.
 - .2 Health & Safety Site Representative may be the Superintendent of the Work or other person designated by Contractor and shall be assigned the responsibility and authority to:
 - .1 Implement, monitor and enforce daily compliance with health and safety requirements of the Work.
 - .2 Monitor and enforce Contractor's site-specific Health and Safety Plan.
 - .3 Conduct site safety orientation session to persons granted access to Work Site.
 - .4 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.
 - .5 Stop the Work as deemed necessary for reasons of health and safety.
 - .3 Health & Safety Site Representative must:
 - .1 Be qualified and competent person in occupational health and safety.
 - .2 Have site-related working experience specific to activities of the Work.
 - .3 Be on Work Site at all times during execution of the Work.
 - .4 All supervisory personnel assigned to the Work shall also be competent persons.
 - .5 Inspections:
 - .1 Conduct regularly scheduled safety inspections of the Work on a minimum bi-weekly basis. Record deficiencies and remedial action taken.
 - 2 Conduct Formal Inspections on a minimum monthly basis. Use standardized
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safety inspection forms. Distribute to subcontractors.

.3 Follow-up and ensure corrective measures are taken.

.6 Cooperate with Facility's Occupational Health and Safety representative should one be designated by *Departmental Representative*.

.7 Keep inspection reports and supervision related documentation on site.

1.14 TRAINING

.1 Use only skilled workers on Work Site who are effectively trained in occupational health and safety procedures and practices pertinent to their assigned task.

.2 Maintain employee records and evidence of training received. Make data available to *Departmental Representative* upon request.

.3 When unforeseen or peculiar safety-related hazard, or condition occur during performance of Work, 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* verbally and in writing.

1.15 MINIMUM SITE SAFETY RULES

.1 Notwithstanding requirement to abide by federal and provincial health and safety regulations; ensure the following minimum safety rules are obeyed by persons granted access to Work Site:

.1 Wear appropriate PPE pertinent to the Work or assigned task; minimum being hard hat, safety footwear, safety glasses and hearing protection.

.2 Immediately report unsafe condition at site, near-miss accident, injury and damage.

.3 Maintain site and storage areas in a tidy condition free of hazards causing injury.

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- .4 Obey warning signs and safety tags.
 - .2 Brief persons of disciplinary protocols to be taken for non compliance.
 - 1.16 CORRECTION OF NON-COMPLIANCE
 - .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by *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.
 - 1.17 INCIDENT REPORTING
 - .1 Investigate and report the following incidents to *Departmental Representative*:
 - .1 Incidents requiring notification 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 Interruptions to Facility operations resulting in an operational lost to a Federal department in excess of \$5000.00.
 - .2 Submit report in writing.
 - 1.18 HAZARDOUS PRODUCTS
 - .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS).
 - .2 Keep MSDS data sheets for all products delivered to site.
 - .1 Post on site.
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.2 Submit copy to *Departmental Representative.*

1.19 SITE RECORDS

- .1 Maintain on Work Site copy of safety related documentation and reports stipulated to be produced in compliance with Acts and Regulations of authorities having jurisdiction and of those documents specified herein.
- .2 Upon request, make available to *Departmental Representative* or authorized Safety Officer for inspection.

1.20 POSTING OF DOCUMENTS

- .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
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1.1 References

- .1 Canada Shipping Act, Transport Canada, 2001, amended 2013-12-01
- .2 Canadian Coast Guard Regulations, Fisheries and Oceans Canada
- .3 Canadian Environmental Assessment Act, 2012, amended 2013-11-25
- .4 Canadian Environmental Protection Act, 1999, amended on 2014-03-28
- .5 Fisheries Act, 1985, Fisheries and Oceans Canada, amended 2013-11-25
- .6 Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters, 1998
- .7 Migratory Birds Convention Act, 1994, Environment Canada, amended 2010-12-10
- .8 Navigation Protection Act, 1985. Transport Canada, amended 2014-04-01
- .9 Nova Scotia - Environment Act
- .10 Species at Risk Act, 2002, amended 2013-03-08
- .11 The Federal Policy on Wetland Conservation, 1991, Environment Canada
- .12 Transportation of Dangerous Goods Act, 1992, Transport Canada, amended 2009-06-16
- .13 Workplace Hazardous Materials Information System, Health Canada.

1.2 Definitions

- .1 Archaeological Resources: All tangible evidence of human activity that is of historical, cultural or scientific interest. Examples include features, structures, archaeological objects or remains at or from
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- an archaeological site, or an object recorded as an isolated archaeological find.
- .2 Buffer zone: a vegetated land that protects watercourses from adjacent land uses. It refers to the land adjacent to watercourses, such as streams, rivers, lakes, ponds, oceans, and wetlands, including the floodplain and the transitional lands between the watercourse and the drier upland areas.
- .3 Deleterious substance: (a) any substance that, if added to any water, would degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water, or (b) any water that contains a substance in such quantity or concentration, or that has been so treated, processed or changed, by heat or other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water.
- .4 Fish habitat: spawning grounds and any other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly in order to carry out their life processes.
- .5 Hazardous material: Product, substance, or organism that is used for its original purpose; and that is either dangerous goods or a material that may cause adverse impact to the environment or adversely affect health of persons, animals, or plant life when released into the environment.
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- .6 Invasive or alien species: refers to a species or subspecies introduced outside its normal distribution whose establishment and spread threaten ecosystems, habitats or species with economic or environmental harm.
- .7 Navigable water: a canal and any other body of water created or altered as a result of the construction of any work.
- .8 Surface watercourse: refers to the bed and shore of a river, stream, lake, creek, pond, marsh, estuary or salt-water body that contains water for at least part of each year.
- .9 Wetlands: land where the water table is at, near or above the surface or which is saturated for a long enough period to promote such features as wet-altered soils and water tolerant vegetation. Wetlands include organic wetlands or "peatlands," and mineral wetlands or mineral soil areas that are influenced by excess water but produce little or no peat.

1.3 Transportation

- .1 Transport hazardous materials and hazardous waste in compliance with the Transportation of Dangerous Goods Act.
- .2 Eliminate free board spillage when excavating, loading and hauling material.
- .3 Trucks transporting excavated material will have watertight boxes.
- .4 Do not overload trucks when hauling excavated material.
- .5 Maintain trucks clean and free of mud, dirt and other foreign matter.

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- .6 Secure contents against spillage. Avoid potential release of contents and of any foreign matter onto highways, roads and access routes used for the work. Immediately clean any ground spills and soils to extent as directed by authority having jurisdiction.
 - .7 Prior to commencement of work, advise and seek approval from the *Departmental Representative* of the existing roads and temporary routes / roads proposed to be used to access work areas and to haul material to and from the site, including roads to the dredge material disposal site.
 - .8 Construction material and debris is not to become waterborne.
 - .9 Any tools, equipment, vehicles, temporary structures or parts thereof used or maintained for the purpose of building or placing a work in navigable water are not to remain in place after the completion of the project.
 - .10 Vessels are to be permitted safe access through the worksite at all times, and assisted as necessary.
 - .11 All materials and equipment used in construction must be marked in accordance with the Collision Regulations of the *Canada Shipping Act, 2001* when located on the waterway.
 - .12 Advise the Canadian Coast Guard, Marine Communication and Traffic Services (MCTS) at (902)564-7751 or toll free at 1-800-686-8676 sufficiently in advance of commencement of work or when deploying or removing site markings in order to allow for appropriate Notices to Shipping/Mariners action.
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- .13 Work activities must comply with all / any conditions of the Navigation Protection Act (NPA) permit issued by Transport Canada.
- 1.5 Temporary Causeways and Access Roads
- .1 It will be the Contractor's responsibility to gain access to the work area. The construction and removal of temporary causeways and access roads will be at the Contractor's expense and will be removed immediately after clearance of the excavated area.
- .2 It will be the Contractor's responsibility to identify a location for the disposal of material imported by the Contractor for the construction of temporary causeways and access roads.
- .3 All material used for construction of temporary causeways and access roads must be clean and free from excessive fines, organics, debris and non-toxic (i.e., free of fuel, oil, grease and/or any other contaminants), non-ore bearing and from a provincially approved non-water source.
- .4 Material is to be screened, if required, to ensure that no fines or stones less than 0.2 kilograms are placed in the work. Gradation of the material to be imported for the construction of the causeways, roads etc. shall be within the following limits:

Imperial Size	Metric Size	Percent Passing
18"	450 mm	100
8"	200 mm	44-75
4"	100 mm	24-50
2"	50 mm	7-14

- .5 Heavy machinery and equipment must be operated from a dry platform only. Temporary causeways and access roads shall
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be constructed at an elevation such that machinery and equipment is operating completely out of the water at all stages of the tide. If tidal work is being carried out, machinery and equipment shall be relocated back to a suitable elevation to prevent operating in submerged waters.

- .6 The Contractor is to maintain temporary buoys to mark the position of the access road including the outer toe as construction proceeds. All buoys are to meet requirements of the applicable Canadian Coast Guard standard and be equipped with radar reflectors.

1.5 Operation of
Machinery

- .1 Ensure that machinery arrives on site in a clean condition and is maintained free of fluid leaks, invasive species and noxious weeds.
- .2 Whenever possible, operate machinery on land above the high water mark, on ice, or from a floating barge in a manner that minimizes disturbance to the banks and bed of the water body.
- .3 Wash, refuel and service machinery and store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering the water.

1.6 Containment and
Spill Management

- .1 Comply with Federal (*CEPA Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations*) and Provincial regulations, codes, standards and guidelines for the storage of fuel and allied petroleum products on site.
- .2 Do not dump petroleum products or any other deleterious substances on ground or in the water.

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- .3 Be diligent and take all necessary precautions to avoid spills and contaminate the soil and water (both surface and subsurface) when handling petroleum products on site and during fueling and servicing of vehicles and equipment.
 - .4 Maintain on site appropriate emergency spill response equipment consisting of at least one 250-litre (55 gallon) overpack spill kit for containment and cleanup of spills.
 - .5 Maintain vehicles and equipment in good working order to prevent leaks on site.
 - .6 In the event of a petroleum spill, immediately notify the *Departmental Representative* and the Canadian Coast Guard (CCG) at 1-800-565-1633 (24 hour report line). Perform cleanup in accordance with all regulations and procedures stipulated by authority having jurisdiction.
 - .7 Materials such as paint, primers, blasting abrasives, rust solvents, degreasers, grout, or other chemicals are not to enter the watercourse.
 - .8 Develop a response plan that is to be implemented immediately in the event of a sediment release or spill of a deleterious substance.
- 1.7 Disposal of
Dredged/Excavated
Material
- .1 Material will be disposed of on the Upper Port La Tour Small Craft Harbour property.
 - .2 Water that decants from the disposed dredge spoil shall not enter any waterways.
 - .3 Site should allow for diffuse, dispersion or diversion onto a field or woodland, but not into drainage ditches that would carry water to a waterway.
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- .4 The contractor will be responsible to construct berms to contain the disposed dredge/excavated material including any required settling ponds or other controls.
 - .5 Items such as rubber tires, bottles, cans and other debris or litter must be removed from the disposal site following regarding. Failure to remove such debris may constitute a littering offence under applicable regulations.
 - .6 Control runoff of water containing suspended materials or other harmful substances in accordance with requirements of all federal, provincial and municipal authorities having jurisdiction.
- 1.8 Hazardous
Material handling
- .1 Store and handle hazardous materials in accordance with applicable federal and provincial regulations, codes, standards and guidelines. Store in location that will prevent spillage into the environment.
 - .2 Label containers to WHMIS requirements and keep MSDS data sheets on site for all hazardous materials.
 - .3 Maintain inventory of hazardous materials and hazardous waste stored on site. List items by product name, quantity and date when stored.
 - .4 Store and handle flammable and combustible materials in accordance with National Fire Code.
- 1.9 Disposal of Wastes
- .1 Do not bury rubbish, construction and demolition debris (i.e., concrete, creosote timbers, steel, impacted soil materials etc.) and waste materials on site.
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- .2 Dispose and recycle construction and demolition debris and waste materials in accordance with Provincial Waste Management Regulations and the project waste management requirements specified in sections 02 41 23 - Demolition and Removals
 - .3 Do not dispose of hazardous waste, volatile materials (such as mineral spirits, paints, thinners etc.) and petroleum products into waterways, storm or sanitary sewers or in waste landfill sites.
 - .4 Dispose of hazardous waste in accordance with applicable federal and provincial, regulations, codes, standards and guidelines.
 - .5 Concrete waste:
 - .1 Do not discharge residual or rejected concrete on site.
 - .2 Immediately clean any accidental release of concrete on site prior to solidification.
 - .3 Do not wash and clean concrete vehicles on site.
 - .4 Perform dumping of residual material and truck cleaning operations only at the concrete plant. Follow environmental regulations and good practices as approved by the Provincial Department of the environment and other authorities having jurisdiction.

1.10 Water Quality

- .1 All rock material that will be used for the project must be free of excessive fines, clean, non-ore bearing, non-toxic material (i.e., free of fuel, oil, grease and/or other contaminants) from a provincially approved, non-watercourse source, and approved for use in marine infilling projects.
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- .2 Conduct excavation of watercourse in such a manner to limit turbidity and reduce sediment suspension in the water to an absolute minimum at all times.
 - .1 Maintain appropriate production speed and momentum of the excavation equipment. Make adjustments as required and as approved by *Departmental Representative*.
 - .2 Strategically position excavator equipment and haul vehicles to avoid over the water swings of dredged material whenever possible.
 - .3 Restrict the amount of material dredged to the area and depth required for navigation.
 - .3 Where work may affect the water quality adjacent to water intake lines used by lobster holding facilities, fish processing facilities and other harbour users, schedule work in cooperation with the Harbour Authority as directed by *Departmental Representative* to minimize interference and impact to harbour users.
 - .4 Do not wash down equipment within a 30 meter buffer zone of a wetland, watercourse or other identified environmentally sensitive area.
 - .5 Develop and implement an Erosion and Sediment Control Plan for the site that minimizes risk of sedimentation of the water body during all phases of the work. Erosion and sediment control measures should be maintained until all disturbed ground has been permanently stabilized, suspended sediment has resettled to the bed of the water body or settling basin and runoff water is clear. The plan should, where applicable, include:
 - a) Installation of effective erosion and sediment control measures before
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- starting work to prevent sediment from entering the water body.
 - b) Measures for managing water flowing onto the site, as well as water being pumped / diverted from the site such that sediment is filtered out prior to the water entering a water body. For example, pumping / diversion of water to a vegetated area, construction of a settling basin or other filtration system.
 - c) Site isolation measures (e.g., silt boom or silt curtain) for containing suspended sediment where in-water work is required (e.g., dredging, underwater cable installation).
 - d) Measures for containing and stabilizing waste material (e.g., dredging spoils, construction waste and materials, commercial logging waste, uprooted or cut aquatic plants, accumulated debris) above the high water mark of nearby water bodies to prevent re-entry.
 - e) Regular inspection and maintenance of erosion and sediment control measures and structures during the course of the work.
 - f) Repairs to erosion and sediment control measures and structures if damage occurs.
 - g) Removal of non-biodegradable erosion and sediment control materials once site is stabilized.
- .6 Employ suitable operational and engineering controls (e.g., silt curtain), as approved by the Departmental Representative, around the work area, or
- .7 Hire a qualified professional to develop a Water Quality Monitoring (WQM) program for the site. The Contractor will not be permitted to start any in-water work until
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the WQM program is approved by the
Departmental Representative.

- a) The WQM program must include a map and GPS coordinates. Turbidity measurements (NTUs) shall be collected during all work below HNT or work above HNT that could create turbidity. Measurements are to be taken approximately midway through daily activities both within 30 metres of the in-water activity (in-plume) and at a background location (at least 100 metres outside the plume). Background and in-plume turbidity samples shall be measured in as close a timeframe as technically possible.
 - b) Turbidity levels shall not exceed 8 NTUs above background levels when background levels are between 8 and 80 NTUs. Turbidity levels shall not increase more than 10% above background when background is greater than 80 NTUs. Background levels shall be measured at the closest undisturbed area adjacent to the work.
 - c) A summary report listing turbidity measurements up until the current date is to be submitted on a daily basis to the Departmental Representative. The report must include the date, time, weather conditions, in-water activity, GPS location of where the sample was taken and the turbidity measurement in NTUs.
 - d) If there are exceedances, the Contractor shall cease all in-water work activities immediately and DFO Fisheries Protection Program (DFO-FPP) Biologist, Colleen Smith must be contacted at 902-293-7834 to determine what adaptive measures shall be employed including additional
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operational and engineering controls
(e.g. silt curtains, methodology, etc.)

.8 Water contamination by preservative treated wood:

- .1 Preservative treated lumber and timber, whether plant or site treated, shall be cured for a minimum of 30 days from date of the treatment application before their installation in areas which will be in contact with the water.
- .2 Do not cut treated wood lumber over the surface of a watercourse or wetland.
- .3 Do not use liquid applied preservative products over the surface of a watercourse or wetland.
- .4 Wood treated with Chromate Copper Arsenate (CCA) or Ammoniac Copper Zinc Arsenate (ACZA) must be CSA or American Wood Preserver Association (AWPA) approved.
- .5 Do not use timber or lumber treated with creosote, petroleum and pentachlorophenol for any part of the work.

1.11 Socioeconomic
Restrictions

- .1 Abide by municipal and provincial regulations for any restrictions on work performed during the night time and on flood lighting of the site. Obtain applicable permits.
- .2 Place flood lights in opposite direction of adjacent residential and business areas.
- .3 Work equipment and machinery must be equipped with purposely designed mufflers to reduce noise on site to lowest possible level. Maintain mufflers in good operating condition at all times.

1.12 Bird and Bird

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Habitat

- .1 Become knowledgeable with and abide by the Migratory Birds Convention Act (MBCA) in regards to the protection of migratory birds, their eggs, nests and their young encountered on site and in the vicinity.
 - .2 Minimize disturbance to all birds on site and adjacent areas during the entire course of the Work.
 - .3 Do not approach concentrations of seabirds, waterfowl and shorebirds when anchoring equipment, accessing wharves or ferrying supplies.
 - .4 No Night work during migratory bird nesting season (April 1 to August 31).
 - .5 Do not use beaches, dunes and other natural previously undisturbed areas of the site to conduct work unless specifically approved by the *Departmental Representative*.
 - .6 Should nests of migratory birds be encountered during work, immediately notify *Departmental Representative* for directives to be followed.
 - .1 Do not disturb nest site and neighbouring vegetation until nesting is completed.
 - .2 Minimize work immediately adjacent to such areas until nesting is completed.
 - .3 Protect these areas by following recommendations of Canadian Wildlife Service.
 - .7 Do not disturb Barn Swallow nests:
 - .1 Establish barriers outside of nesting season to deter establishment of Barn Swallow nests within project area.
 - .2 Survey the west wharf and surrounding buildings for the presence of active nests prior to commencement of work.
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- .3 If a Barn Swallow nest does become active within the project area do not disturb the nest site until nesting is complete. Minimize work immediately adjacent to such areas until nesting is complete. The Contractor shall ensure that if a nest or chick of a Barn Swallow is detected within the project area, work in the area shall be halted and the Department Representative shall be notified.

1.13 Fish Protection

- .1 Avoid wet, windy and rainy periods that may increase erosion and sedimentation.
 - .2 Ensure that all in-water activities, or associated in-water structures, do not interfere with fish passage, constrict the channel width, or reduce flows.
 - .3 Screen any water intakes or outlet pipes to prevent entrainment or impingement of fish. Entrainment occurs when a fish is drawn into a water intake and cannot escape. Impingement occurs when an entrapped fish is held in contact with the intake screen and is unable to free itself.
 - .4 Be aware of the risk for contamination of the fish habitat at the site as a result of alien species being introduced in the water.
 - .5 To minimize the possibility of fish habitat contamination and the spread of aquatic invasive (alien species), all construction equipment which will be immersed into the water of a watercourse, or has the possibility of coming into contact with such water during the course of the work, must be cleaned and washed to ensure that they are free of marine growth and alien species.
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- .1 Equipment shall include boats, barges, cranes, excavators, haul trucks, pumps, pipe lines and other all miscellaneous tools and equipment previously used in a marine environment.
 - .6 Cleaning and washing of equipment shall be performed immediately upon their arrival at the site and before use in or over the body of water.
 - .7 Conduct cleaning and washing operations as follows:
 - .1 Scrape and remove heavy accumulation of mud and dispose appropriately.
 - .2 Wash all surfaces of equipment by use of a pressurized fresh water supply.
 - .3 Immediately follow with application of a heavy sprayed coating of undiluted vinegar or other environmentally approved cleaning agent to thoroughly remove all plant matter, animals and sediments.
 - .4 Check and remove all plant, animal and sediment matter from the all bilges and filters.
 - .5 Drain standing water from equipment and let fully dry before use.
 - .6 Upon removal from the water, drain standing water from equipment and let fully dry before removal off the site.
 - .8 Do not perform cleaning and washdown within a 30 metre buffer zone of a wetland, watercourse or other identified environmentally sensitive area.
 - .9 Record of Assurance Logbook:
 - .1 Maintain an on-going log of past and present usage and washdowns of all equipment to illustrate mitigation measures undertaken against fish habitat contamination by alien species.
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- .2 Write data in a hard cover bound logbook to include the following:
 - .1 Date and location where equipment was previously used in a watercourse or wetland;
 - .2 Type of work performed.
 - .3 Dates of wash down for each piece of equipment;
 - .4 Cleaning method and cleaning agent(s) used.
 - .10 Keep Record of Assurance Logbook updated from project to project. Upon request, submit logbook to *Departmental Representative* for review.
 - .11 Abide by requirements and recommendations from Fisheries and Oceans Canada - Fisheries Protection Program in cleaning and wash down of equipment.
 - .12 Work activities must comply with all/any conditions of the Fisheries Act Authorization issued by Fisheries and Oceans Canada.
- 1.14 Air Quality
- .1 Keep airborne dust and dirt resulting from the work on site to an absolute minimum.
 - .2 Dust suppression by the application of water must be employed, when required. Apply dust control measures to roads, parking lots and work areas. The *Departmental Representative* shall determine locations where water is to be applied, the amount of water to be applied, and the times at which it shall be applied. Waste oil must not to be used for dust control under any circumstances.
 - .3 Spray surfaces with water or other environmentally approved product. Use purposely suited equipment or machinery and apply in sufficient quantity and frequency to provide effective result and continued
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Environmental Protection Procedures
for Marine Work

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- dust control during the entire course of the work.
- .4 Do not use oil or any other petroleum products for dust control.
- 1.15 Fires .1 Fires and burning of rubbish on site is not permitted.
- 1.16 Archaeological .1 All construction personnel are responsible for reporting any unusual materials unearthed during construction to the construction supervisor. If the find is believed to be an archaeological resource, the Construction Supervisor will immediately stop work in the vicinity of the find and notify the PSPC Project Manager.
- .2 If an archaeological and / or historically significant item is discovered during the work activities, work in the area will be stopped immediately and the Departmental representative will be contacted as well as the provincial Archaeological Services unit.
Nova Scotia - NS Department of Communities, Culture and Heritage, Special Places Program, telephone: (902) 424-6475
- .3 Work can only resume in the vicinity of the find when authorized by the PWGSC Project Manager and Construction Supervisor, after approval has been granted by the Nova Scotia Department of Communities, Culture and Heritage.
- .4 In the event of the discovery of human remains or evidence of burials, excavation work will immediately cease and nearest law enforcement agency will be contacted immediately by the PSPC Project Manager and/or the Construction Supervisor.
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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.
 2. Appointment and Payment
 - .1 *Departmental Representative* will appoint and pay for services of testing laboratory except for the following:
 - .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 conveying systems, mechanical and electrical equipment and systems.
 - .4 Mill tests and certificates of compliance.
 - .5 Tests specified to be carried out by Contractor under the supervision of *Departmental Representative*.
 - .2 Where tests or inspections by designated testing laboratory reveal work not in accordance with contract requirements, Contractor shall pay costs for additional tests or inspections as *Departmental Representative* may require to verify acceptability of corrected work.
 3. Contractor's Responsibilities
 - .1 Furnish labour and facilities to:
 - .1 Provide access to work to be inspected and tested.
 - .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.
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- .2 Notify *Departmental Representative* sufficiently in advance of operations to allow for assignment of laboratory personal 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*.
 - .5 Refer to section 31 61 13 - Pile Foundations - General for requirements of PDA testing.
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| 1. <u>Access</u> | <ul style="list-style-type: none">.1 Provide and maintain adequate access to project site..2 If authorized to use existing roads or structures for access to project site, maintain such roads for duration of Contract and make good damage resulting from Contractor's use of roads..3 The contractor is to maintain full access to the work site. Should a court injunction be required ordering a person or group to refrain from impeding access to the site, such as a demonstration, picketing or union action, then obtaining the injunction and any associated costs will be considered incidental to this contract. Any delays associated with such activity will be considered incidental to this contract. |
| 2. Contractor's
<u>Site Office</u> | <ul style="list-style-type: none">.1 Establish on the site of the work and keep open at all times during the execution of the work an office where all letters, orders, notices and other communications may be received or acknowledged either by the Contractor or his authorized agent or representative. Provide a telephone in the office..2 Keep one up-to-date copy of contract documents, bulletins and other materials as specified under Section 01 10 10. |
| 3. <i>Departmental</i>
<i>Representative's</i>
<u>Site Office</u> | <ul style="list-style-type: none">.1 Provide temporary office for sole use of <i>Departmental Representative</i>, complete with heat and lights. Insulated office required during October to May. Locate on or adjacent to site..2 Inside dimensions minimum 5 m long x 3 m wide x 2.4 m high, with floor 0.3 m above |
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Temporary Facilities

Page 2

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- grade, complete with 4-50% opening windows and one lockable door.
- .3 Arrange and pay for telephone and fax machine installation and service in *Departmental Representative's* office for the *Departmental Representative's* exclusive use. Long distance calls placed on this phone by the *Departmental Representative* will be paid for by *Departmental Representative*.
- .4 Washroom facilities not required in the office. Provide outside sanitary facilities to approval.
- .5 Equip office with six chairs, flat 1200 X 2400 X 25 table with writing surface and 4 drawer lockable filing cabinet.
- .6 Maintain in clean condition.
4. Storage Sheds
- .1 Provide adequate weather tight sheds with raised floors, for storage of materials, tools and equipment which are subject to damage by weather.
- .2 Contractor to make his own arrangements for on-site storage areas.
5. Sanitary Facilities
- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.
6. Parking
- .1 Contractor to make own arrangements to provide parking space for work force.
7. Power
- .1 Arrange, pay for and maintain temporary electrical power supply in accordance with governing regulations and ordinances.
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| | .2 | Install temporary facilities for power such as pole lines and cables to approval of local power supply authority. |
| 8. <u>Water Supply</u> | .1 | Arrange, pay for and maintain temporary water supply in accordance with governing regulations and ordinances. |
| 9. <u>Barricades</u> | .1 | Provide and maintain sufficient barricades, fencing, notices, warning signs, light signals, etc. for the protection of adjoining property and to warn others and workmen engaged on the job of the dangers caused by the work. |
| | .2 | Types and location of barricades, etc. to be in accordance with local regulations and to the satisfaction of <i>Departmental Representative</i> . |
| | .3 | The presence of such barricades, lights, etc. shall not relieve the Contractor of the responsibility for any damages. |
| 10. <u>Security</u> | .1 | Contractor to make his own arrangements for security of his equipment, materials, damages resulting from fire and theft. |
| 11. <u>Site Signs and Notices</u> | .1 | Only Project Identification and Consultant/ Contractor signboards and notices for safety or instruction are permitted on site. |
| | .2 | Format, location and quantity of site signs and notices to be accepted by <i>Departmental Representative</i> . |
| | .3 | Signs and notices for safety or instruction to be in English and French languages, or commonly understood graphic symbols. |
| 12. <u>Removal of Temporary Facilities</u> | .1 | Remove temporary facilities from site when directed by <i>Departmental Representative</i> . |
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- .2 When project is closed down for a period of time, keep temporary facilities operational until no longer required by *Departmental Representative*.

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| 1. <u>General</u> | .1 Use new material and equipment unless otherwise specified. |
| | .2 Submit following information for any or all materials and products proposed for supply within 7 days of request by <i>Departmental Representative</i> :
.1 name and address of manufacturer
.2 trade name, model and catalogue number
.3 performance, descriptive and test data
.4 manufacturer's installation or application instructions
.5 evidence of arrangements to procure. |
| | .3 Provide material and equipment of specified design and quality, performing to published ratings and for which replacement parts are readily available. |
| | .4 Use products of one manufacturer for equipment or material of same type or classification unless otherwise specified. |
| 2. <u>Manufacturers Instructions</u> | .1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods. |
| | .2 Notify <i>Departmental Representative</i> in writing of any conflict between these specifications and manufacturers instructions. <i>Departmental Representative</i> will designate which document is to be followed. |
| 3. <u>Fastenings-General</u> | .1 All fastenings are to be the sizes indicated on the contract plans and are to be hot dipped galvanized to CSA-G164 Latest Edition unless otherwise noted. |
| 4. <u>Delivery and Storage</u> | .1 Deliver, store and maintain packaged material and equipment with manufacturer's seal and labels intact. |
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- .2 Prevent damage, adulteration and soiling of material and equipment during delivery, handling and storage. Immediately remove rejected material and equipment from site.
- .3 Store material and equipment in accordance with supplier's instructions.
5. Conformance .1 When material or equipment is specified by standard or performance specifications, upon request of *Departmental Representative*, obtain from manufacturer an independent testing laboratory report, stating that material or equipment meets or exceeds specified requirements.
6. Substitution .1 Proposals for substitution may be submitted only after award of Contract. Such requests must include statements of respective costs of items originally specified and proposed substitutions.
- .2 Proposals will be considered by *Departmental Representative* if:
- .1 Products selected by tenderer from those specified, are not available, or
- .2 Delivery date of products from those specified would unduly delay completion of Contract, or
- .3 Alternative products to those specified, which are brought to attention of, and considered by *Departmental Representative* as equivalent to those specified and will result in a credit to Contract amount.
- .3 Should proposed substitution be accepted either in part or in whole, assume full responsibility and costs when substitution affects other work on project. Pay for design or drawing changes required as result of substitution.
- .4 Amounts of all credits arising from approval of substitutions will be determined by
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Departmental Representative and Contract price will be reduced accordingly. No substitutions will be permitted without prior written approval of *Departmental Representative*.

- .5 Owner reserves the right for acceptance or rejection of substitution of materials.

7. Construction

Equipment and Plant

- .1 On request, prove to the satisfaction of *Departmental Representative* that the construction equipment and plant are adequate to manufacture, transport, place and finish work to quality and production rates specified. If inadequate, replace or provide additional equipment or plant as directed.

- .2 Maintain construction equipment and plant in good operating order.

8. Damaged and

Rejected Materials

- .1 Immediately replace, repair or otherwise make good any material damaged, broken or defaced during construction to the satisfaction of *Departmental Representative*.

- .2 Remove rejected materials from site.

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1. Record Drawings
- .1 *Departmental Representative* will provide two sets of white prints for record drawing purposes.
 - .2 Maintain project record drawings and accurately record deviations from contract documents caused by site conditions and changes ordered by *Departmental Representative*.
 - .3 Mark changes in red coloured ink.
 - .4 Record following information:
 - .1 Elevations of various elements in relation to Chart Datum.
 - .2 Field changes in dimensions and details.
 - .3 Changes made by Change Order.
 - .5 At completion of project and prior to final inspection, neatly transfer notations to second set and submit both sets to *Departmental Representative*.
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| 1. <u>General</u> | <ul style="list-style-type: none">.1 Conduct cleaning and disposal operations to comply with ordinances and antipollution laws..2 Store volatile waste in covered metal containers, and remove from premises at end of each working day..3 Prevent accumulation of waste which create hazardous conditions. |
| 2. Cleaning
During
<u>Construction</u> | <ul style="list-style-type: none">.1 Maintain the work, at least on a daily basis free from accumulations of waste material and debris..2 Provide on-site containers for collection of waste materials, and debris..3 Remove waste materials, and debris from site..4 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet concrete or newly painted surfaces. |
| 3. <u>Final Cleaning</u> | <ul style="list-style-type: none">.1 In preparation for acceptance of the project on an interim or final certificate of completion perform final cleaning..2 Remove grease, dust, dirt, stains, and other foreign materials from finished surfaces. |
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PART 1 - GENERAL

1.1 Definitions

- .1 Demolition Waste Audit (DWA): Relates to actual waste generated from project.
 - .2 Materials Source Separation Program (MSSP): Consists of series of ongoing activities to separate reusable and recyclable waste material into material categories from other types of waste at point of generation.
 - .3 Recyclable: Ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse by others.
 - .4 Recycle: Process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
 - .5 Recycling: Process of sorting, cleaning, 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.
 - .6 Reuse: Repeated use of product in same form but not necessarily for same purpose. Reuse includes:
 - .1 Salvaging reusable materials from remodeling projects before demolition stage for resale, reuse on current project or as storage for use on a future project.
 - .2 Returning reusable items including pallets or unused products to vendors.
 - .7 Salvage: Removal of structural and non-structural materials from deconstruction and disassembly projects for the purpose of reuse or recycling.
 - .8 Separate Condition: Refers to waste sorted into individual types.
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- .9 Source Separation: Acts of keeping different types of waste materials separate beginning from first time they became waste.
- 1.2 Materials Source Separation Program (MSSP)
- .1 Prepare MSSP and have ready for use prior to project start-up.
- .2 Implement MSSP for waste generated on project in compliance with approved methods and as reviewed by Authorities Having Jurisdiction.
- .3 Provide on-site facilities for collection, handling, and storage of anticipated quantities of reusable and recyclable materials.
- .4 Provide containers to deposit reusable and recyclable materials.
- .5 Locate containers in locations to facilitate deposit of materials without hindering daily operations.
- .6 Locate separated materials in areas which minimize material damage.
- .7 Collect, handle, store on-site and transport off-site, salvaged materials in separate condition and transport to recycling facility.
- 1.3 Storage, Handling and Protection
- .1 Unless specified otherwise, materials for removal become the Contractor's property.
- .2 Protect, stockpile, store and catalogue salvaged items.
- .3 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to approved local facility.
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- .4 Protect structural components not removed for demolition from movement or damage.
- .5 Support affected structures. If safety of facility is endangered, cease operations and immediately notify the *Departmental Representative* and *Authorities Having Jurisdiction*.
- .6 Protect surface drainage, mechanical and electrical from damage and blockage.
- .7 Separate and store materials produced during dismantling of structures in designated areas.
- .8 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities. On-site source separation is recommended.

1.4 Disposal of Wastes

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of any waste into waterways, storm or sanitary sewers.
- .3 Remove materials from deconstruction as deconstruction/disassembly Work progresses.
- .4 Prepare project summary to verify destination and quantities on a material-by-material basis as identified in pre-demolition material audit.

1.5 Use of Site and Facilities

- .1 Execute work with least possible interference or disturbance to normal use of premises.
- .2 Provide security measures which are to be approved by *Departmental Representative*.

Harbour Improvements Upper Port Latour**Upper Port Latour****Shelburne County Nova Scotia****Project No. R.097709.003**

Construction/Demolition Waste Management and Disposal Page 4

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| <u>1.6 Scheduling</u> | .1 | Coordinate Work with other activities on site to ensure timely and orderly progress of Work. |
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PART 2 - PRODUCTS

Not applicable

PART 3 - EXECUTION

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| <u>3.1 Application</u> | .1 | Handle waste materials not reused, salvaged or recycled in accordance with applicable acts, regulations and codes. |
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| <u>3.2 Cleaning</u> | .1 | remove tools and waste materials at completion of Work and leave work area in clean and orderly condition. |
| | .2 | Clean-up work area as work progresses. |
| | .3 | Source separate materials to be reused or recycled into specified sort areas. |

3.3 Diversion of Materials

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| | .1 | Separate materials from general waste stream and stockpile in separate piles or containers, as reviewed by <i>Departmental Representative</i> and consistent with applicable fire regulations and as follows, at a minimum:
1. Mark containers or stockpile areas.
2. Provide instruction on disposal practices. |
| | .2 | On-site sale or distribution of salvaged materials to third parties will not be permitted. |
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PART 1 - GENERAL

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| <u>1.1 Related Work</u> | .1 | Section 01 33 00 - Submissions / Shop Drawings. |
| <u>1.2 Submittals</u> | .1 | Make submittals in accordance with Section 01 33 00. |
| | .2 | Defective products shall be rejected, regardless of previous inspections. Replace products at Contractor's expense. |
| <u>1.3 Final Cleaning</u> | .1 | In preparation for acceptance of the project on an interim or final certificate of completion, perform final cleaning. |
| | .2 | Remove grease, dust, dirt, stains and other foreign materials from finished surfaces. |
| <u>1.4 As-Builts and Samples</u> | .1 | Maintain, in addition to requirements in General Conditions, at site for <i>Departmental Representative</i> , at least one record copy of:
.1 Contract Drawings;
.2 Specifications;
.3 Addenda;
.4 Change Orders and other modifications to the 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. Provide files, racks and secure storage. |
| | .3 | Label record documents and file in accordance with Section numbers used in this Specification Document. Label each document "PROJECT RECORD" in neat, large, printed letters. |
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1.5 Recording Actual
Site Conditions

- .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 viewing and inspection by *Departmental Representative*.
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- .1 Record information on set of blue line opaque drawings, and in copy of Project Manual, as provided by the *Departmental Representative*.
 - .2 Provide felt tip marking pens, maintaining separate colours for each major system, for recording information.
 - .3 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
 - .4 On Contract Drawings and shop drawings mark each item to record actual construction including, at a minimum:
 - .1 Measured depths of pile tips and driving records.
 - .2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - .3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
 - .4 Field changes of dimension and detail.
 - .5 Changes made by change orders.
 - .6 Details not on the original Contract Drawings.
 - .7 References to related shop drawings and modifications.
 - .8 Other pertinent information as specified or indicated.
 - .5 Specifications: Mark each item to record actual construction including, at a minimum:

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|-------------------------|----|---|
| | .1 | Manufacturer, trade name and catalogue number of each product actually installed, particularly optional items and substituted items. |
| | .2 | Changes made by Addenda and Change Orders. |
| | .6 | Other Documents: Maintain manufacturer's certifications and field test records required by individual specification sections. |
| <u>1.6 Final Survey</u> | .1 | Submit final site survey certificate in accordance with Section 01 71 00 certifying that elevations and locations of completed Work are in conformance, or where not in conformance, with Contract Documents. |
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PART 1 - GENERAL

- 1.1 Related Work
- .1 Refer to other Specification Sections for related information.
 - .2 Refer to **Section 01 33 00** for Shop Drawing/Submissions requirements.
- 1.2 Reference Standards
- .1 Do concrete formwork and falsework in accordance with CSA standard A23.1-14 (or latest edition), Concrete Materials and Methods of Concrete Construction, except where stricter standards specify otherwise.
 - .2 CSA S269.1-16 (or latest edition), Falsework for Construction Purposes
- 1.3 Submissions
- .1 Shop Drawings:
 - .1 **Upon request**, submit to *Departmental Representative* for review four (4) sets of formwork and falsework shop drawings, in accordance with **Section 01 33 00**, at least four (4) weeks prior to erection. All such drawings to be stamped and signed by a Professional Engineer registered in the Province of Nova Scotia.
 - .2 Clearly indicate method and schedule of construction, materials, arrangement of joints, ties, shores, liners, and locations of temporary embedded parts. Comply with CSA S269.1 for falsework drawings.
 - .2 Product Data/Samples:
 - .1 Provide product data and samples for form ties.
 - .3 Provide submissions in accordance with **Section 01 33 00**.
- 1.4 Measurement for Payment
- .1 This item will not be measured separately.
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PART 2 - PRODUCTS

- 2.1 Materials
- .1 Formwork lumber: plywood and wood formwork materials to CSA A23.1
 - .2 Falsework materials: to CSA S269.1
 - .3 Form stripping agent: colourless mineral oil, free of kerosene, with viscosity between 70 and 110 s Saybolt Universal, 15 to 14 mm²/s at 40DC, flash-point minimum 150DC, open cup.
 - .4 Form ties: removable or snap-off metal ties, fixed or adjustable length, free of devices leaving holes larger than 25 mm diameter in concrete surface. When forms are removed, no metal will be less than 50 mm from the surface of the concrete.

PART 3 - EXECUTION

- 3.1 Erection
- .1 Verify lines and levels before proceeding with formwork and ensure dimensions agree with drawings.
 - .2 Construct forms to produce finished concrete conforming to shape, dimensions, locations and levels indicated within tolerances required by CSA A23.1
 - .3 Line forms with material only as approved by *Departmental Representative*.
 - .4 Construct falsework in accordance with CSA S269.1
 - .5 Align form joints and make watertight. Keep form joints to minimum.
 - .6 Use 25 mm chamfer strips on external corners.
 - .7 Clean formwork in accordance with CSA A23.1, before placing concrete.
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- .8 Leave formwork in place for at least seven days, exclusive for days when temperature falls below 5NC, unless otherwise directed by *Departmental Representative*.
 - .9 Re-use of formwork and falsework subject to requirements of CSA A23.1
 - .10 All holes from form ties and rods to be plugged with mortar to requirements of CSA A23.1. When forms are removed, no metal will be less than 50 mm from the surface of the concrete,
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PART 1 - GENERAL

- 1.1 Related Work
- .1 Refer to other Specification Sections for related information.
 - .2 Refer to **Section 01 33 00** for Shop Drawing/Submission requirements.
- 1.2 Reference Standards
- .1 Do concrete reinforcement work in accordance with CSA standard A23.1-14 (or latest edition), Concrete Materials and Methods of Concrete Construction, except where stricter standards specify otherwise.
 - .2 Reinforcing Steel Manual of Standard Practice (latest edition) by Reinforcing Steel Institute of Ontario.
 - .3 CSA G30.18-09 (R2014) (or latest edition), Billet-Steel Bars for Concrete Reinforcement.
 - .4 CSA G30.3-M1983 (R1998) (or latest edition), Cold-Drawn Steel Wire for Concrete Reinforcement.
- 1.3 Source Sampling
- .1 Upon request, provide *Departmental Representative* with certified copy of mill test of steel supplied showing physical and chemical analysis not less than 2 weeks prior to commencement of work.
- 1.4 Submissions
- .1 Shop Drawings:
 - .1 Clearly indicate bar sizes, spacing, location and quantities of reinforcement, mesh, chairs, spacers and hangers with identifying code marks to permit correct placement without reference to structural drawings; to Reinforcing Steel Manual of Standard Practice.
 - .2 Detail placement of reinforcing where special conditions occur.
 - .3 Design and detail lap lengths and bar development lengths to CSA standard
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A23.1, unless otherwise specified on drawings.

.2 Product Data/Samples:

.1 Provide product data for supports and spacers.

.3 Test Results:

.1 Provide Mill Test Certificates cross referenced to the product supplied to the site.

.4 Provide submissions in accordance with Section 01 33 00.

1.5 Storage

.1 Store reinforcing steel on racks or sills that will permit easy access for identification and handling and prevent it from becoming coated with material which would adversely affect bond.

.2 Do not store reinforcing steel in direct contact with the ground.

1.6 Measurement for Payment

.1 This item will not be measured separately.

.2 Wire ties and spacers to be considered incidental to supply and placing of reinforcement.

PART 2 - PRODUCTS

2.1 Materials

.1 Reinforcing steel: to CSA G30.18; billet steel grade 400 deformed bars.

.2 Wire ties: to CSA G30.3 plain, cold drawn annealed steel wire.

.3 Spacers: PVC, Fabricated to suit site dimensions.

2.2 Reinforcing Steel Fabrication

.1 Fabricate reinforcing to CSA standard A23.1

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- .2 Fabrication tolerances for reinforcing steel to Reinforcing Steel Manual of Standard Practice.
 - .3 Obtain *Departmental Representative's* acceptance for locations of reinforcement splices other than shown on steel placing drawings.
 - .4 Ship bundles of bar reinforcement, clearly identified in accordance with bar list.
 - .5 Do not weld reinforcing steel.

PART 3 - EXECUTION

3.1 Placing

- .1 Accurately place reinforcing in positions indicated and hold firmly during placing, compacting and setting of concrete.
- .2 Tie reinforcement where spacing in each direction is:
 - .1 Less than 300 mm: - tie at alternate intersections.
 - .2 300 mm or more: - tie at each intersection.

3.2 Field Bending

- .1 Do not field bend reinforcement except where indicated or authorized by *Departmental Representative*.
- .2 When authorized, bend reinforcement without heat, by applying slow and steady pressure.
- .3 Replace bars which develop cracks or splits.

3.3 Cleaning

- .1 Clean reinforcing before placing concrete.

3.4 Inspection

- .1 Do not place concrete until *Departmental Representative* has inspected and accepted reinforcement work in place.

3.5 Surface Conditions

- .1 Reinforcement, at time concrete is placed, to be free from mud, oil or other non-metallic coatings that adversely affect bonding capacity.
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- .2 Reinforcement, with rust, mill scale, or combination of both to be considered as satisfactory, provided minimum dimensions, including height of deformations, and mass of hand wire brushed test specimen are not less than specified requirements in applicable CSA Standards.
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