

1.1 SCOPE

- .1 The work covered under this contract consists of the Wharf Reconstruction Electrical at the public wharf located at Pigeon Hill, Gloucester County, NB.

1.2 DESCRIPTION OF WORK

- .1 In general, the Work includes the following:
 - .1 Arrange and pay allowance for NB Power to supply and install services to new 400A, 120/240V, 1Ø service entrance and Aliant telephone service.
 - .2 Supply and install Metered Service MS-1 and associated equipment and wire.
 - .3 Supply, install and connect all wiring and devices to wharf services including light poles, shrouds, receptacles, buyer winch receptacles, fuel pump, telephone, etc. Contractor to remove temporary power feeds and redirect to MS-1 as required.
 - .4 During a previous phase, the following wires were installed from MS-1 to poles, shrouds and fuel pump. These wires may be reused but must be meggered, terminated properly, and identified properly with panel/circuit markers.
 - .1 MS-1 to P-1 – 4#6 RW90, 1 GND (2-black, 2-white, 1-GND).
 - .2 MS-1 to P-1 – TEL cable.
 - .3 MS-1 to P-2 – 5#4 RW90 +, GND (3-black, 2-white, 1-GND).
 - .4 MS-1 to P-2 – TEL cable.
 - .5 MS-1 to S-1 – 7#4 RW90, 1 GND (4-black, 3-white, 1-GND).
 - .6 MS-1 to S-1 – TEL cable.
 - .7 MS-1 to S-2 – 7#4 RW90, 1 GND (4-black, 3-white, 1-GND).
 - .8 MS-1 to S-2 – TEL cable.
 - .9 MS-1 to P-3 – Empty.
 - .10 MS-1 to P-3 – Empty.
 - .11 MS-1 to fuel tank – Not confirmed.
 - .12 MS-1 to fuel tank – Not confirmed.
 - .5 Supply and install service to Harbour Authority Building and fuel pumps as indicated.
 - .6 Provide testing and commissioning of all systems.
- .2 Work previously completed:
 - .1 Underground conduit to shrouds S-1 and S-2, poles P1, P2, P3 and fuel pump.
 - .2 Concrete pole bases c/w bolts, mechanical protection and partial electrical boxes.
 - .3 Aluminum shrouds S-1 and S-2 installed c/w devices and temporary power feed on wharf.
- .3 Phase 1 deficiencies to be completed in Phase 2 work:
 - .1 At pole #1 and pole #2, the bolts into the concrete base to hold the steel protection needs to be re-grouted, the pole base repainted yellow and the conduits into the junction boxes need to be better sealed. Also, the steel guard around the pole needs to be hot dipped galvanized with reflective tape applied. The telephone conduit is piped into the power junction box which will have to be terminated in a separate outlet box. Nameplates to be installed indicating all receptacle outlets, circuits, pole numbers, etc. Supply and install poles, lights and all accessories.

- .2 At the fuel pump, spare conduits need to be identified and remove the light and the wood pole as all overhead power and telephone lines are to be removed.
- .3 At shroud #1 and #2, nameplates have to be installed and clamps installed for PVC conduits. A PVC outlet box and telephone outlet is to be supplied and installed. Shrouds to have 272mm high plate installed and welded across the front of the shroud to protect PVC junction box and PVC conduits. At shroud #2, remove the buyer's TECK cable out of the large PVC junction box and plug and cement the hole in the bottom of the junction box.
- .4 Relocate wood pole #3 to its proper location as shown on the drawings and connect power and telephone cables to junction and outlet boxes at the base of the pole c/w telephone outlet and 3#4 + G in 53 ØC up wood pole to weather head for connection to two (2) type 'R' light fixtures and other lights on wharf 401.
- .5 Remove all overhead power and telephone lines on wharf 402 indicated to be removed.

1.3 EXAMINATION OF SITE

- .1 It is recommended that Bidders visit the site and make their own estimates of facilities and difficulties attending the execution of work, actual site and soil conditions, severity, exposure and uncertainty of weather and all other contingencies affecting the execution of the Work. Site access may be limited due to winter conditions.

1.4 WORK SCHEDULE

- .1 The work to be carried out under this contract must be completed within the time limits set out in the terms of the contract and at the same time provide access to the wharf.
- .2 Within 7 calendar days of award of contract, the Contractor will submit a schedule of work to the Departmental Representative, showing anticipated progress stages and final completion of work within time required by contract documents.
- .3 Should Contractor find that he cannot maintain schedule as originally intended, he will immediately submit a revised schedule without being requested to do so by Departmental Representative.

1.5 WORK COMMENCEMENT

- .1 Contractor is to commence work as soon as possible after award, to meet completion date.
- .2 The weather conditions may require the use of additional work force to complete the project within the specified completion time.
- .3 The Contractor is to make every effort to ensure that sufficient material and equipment is delivered to site at the earliest possible date after award.

1.6 INTERFERENCE WITH WHARF OPERATION

- .1 The access to the wharf is required during construction. Obtain approval of Harbour Authority for any wharf closures. A minimum of 48 hours notice for closures is required and the work itself should be coordinated in advance with fishing activities.

1.7 TERM ENGINEER

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

1.8 INTERPRETATION OF DOCUMENTS

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

1.9 MEASUREMENT FOR PAYMENT

- .1 Notify Departmental Representative sufficiently in advance of request to permit required measurements for payment.
- .2 No separate payments will be made for the cost of snow and ice removal at the construction site, for access roads and for storage sites, or extra payment due to delays caused by ice movements, winter storms and wharf traffic.

1.10 CODES AND STANDARDS

- .1 Perform work in accordance with National Building Code (NBC) and the Canada Labour Code and any other code of provincial or local application provided that in any case of conflict or discrepancy, the more stringent requirements shall apply.
- .2 Meet or exceed requirements of specified standards, codes and referenced documents.
- .3 Whenever reference is made to standard specifications it will be considered the latest publication of that specification as of the time of advertisement of tenders except where specified otherwise.

1.11 SITE INFORMATION

- .1 Any soundings or wharf elevations indicated on the plans are made available for tendering purposes only. It should be noted that this information may differ from present site conditions.

1.12 SITE OPERATIONS

- .1 Arrange for sufficient space adjacent to project site for the conduct of operations, storage of materials and so on. Exercise care so as not to obstruct or damage public or private property in area.
- .2 At completion of work, restore area to its original condition. Damage to ground and property will be repaired by Contractor. Remove all construction materials, residue, excess, etc., and leave site in a condition acceptable to Departmental Representative.
- .3 Contractor will take adequate precautions to protect existing timber deck and asphalt when operating tracked equipment.

1.13 CONTRACTOR'S USE OF SITE

- .1 The Contractor is advised that the construction operations, including storage of materials, for this contract must not interfere with the fishing activity and/or the operations at the wharf. Plan and execute work to minimize interferences. Consult Harbour Authorities and follow their directions with respect to use of site.
- .2 The Contractor will be solely responsible for arranging the storage of materials on or off the site, and any materials stored at the site which interfere with any of the day to day activities at or near the site will be moved promptly at the Contractor's expense upon request by the Departmental Representative.
- .3 Exercise care so as not to obstruct or damage public or private property in the area.

1.14 LAYOUT OF WORK

- .1 Contractor will lay out work on ground to satisfaction of Departmental Representative using base and datum information shown on drawings or as directed by Departmental Representative.
- .2 Assume full responsibility for and execute complete layout of work to locations, grades, lines and elevations indicated.
- .3 Supply, install and maintain devices, survey stakes and markers required for laying out work. The method of laying out work requires the review and approval of the Departmental Representative. The Contractor shall verify all dimensions in the field prior to start of work.

1.15 EXISTING SERVICES

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

- .2 Submit schedule to and obtain approval from Departmental Representative for any shutdown or closure of active service or facility. Adhere to approved schedule and provide notice to affected parties.
- .3 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.
- .4 Record locations of maintained, rerouted and abandoned service lines.
- .5 All costs related to the existing services must be included in the Site Work Removal item.

1.16 PROTECTION OF EXISTING SERVICES AND FACILITIES

- .1 It will be the responsibility of the Contractor to become fully acquainted with the existing services and take necessary steps to protect the services during construction operations.
- .2 The Contractor will bear the cost of making good all damage to existing structures and facilities at the site resulting from his operations under this Contract. All repairs will be with new materials approved by Departmental Representative.
- .3 The Contractor will immediately restore any existing service disrupted as a result of his operations at no cost to the Departmental Representative.

1.17 CUTTING, FITTING AND PATCHING

- .1 Execute cutting (including excavation), fitting and patching required to make work fit properly.
- .2 Where new work connects with existing and where existing work is altered, cut, patch and make good to match existing work.

1.18 PROJECT MEETING

- .1 Departmental Representative will arrange for the start up project meeting. All subsequent meetings will be arranged by the Contractor.
- .2 All Project Meetings will take place on site of work unless so directed by Departmental Representative.
- .3 Departmental Representative will assume responsibility for recording minutes of the start up meeting and forwarding copies to all parties present at the meeting. The Contractor will assume responsibility for recording minutes of all subsequent meetings and forward copies to all parties present at all meetings within 5 days following the meetings.
- .4 Contractor's superintendent is to be present at all Project Meetings.

1.19 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each of following:
 - .1 Contract drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Reviewed shop drawings.
 - .5 Change orders.
 - .6 Other modifications to Contract.
 - .7 Field test reports.
 - .8 Copy of approved work schedule.
 - .9 Copy of the Health and Safety plan, posted on site.
 - .10 Copy of New Brunswick Occupational Health and Safety Act.

1.20 TAXES AND PERMITS

- .1 Pay applicable federal, provincial and municipal taxes.
- .2 Obtain all building permits required for the work.

1.21 COOPERATION AND ASSISTANCE TO DEPARTMENTAL REPRESENTATIVE

- .1 Cooperate with Departmental Representative on inspection of work and provide any assistance required.
- .2 On request of Departmental Representative, furnish use of such boats, equipment, labour and materials forming ordinary and usual part of operations as may be reasonably necessary to inspect the work. The contractor will provide an approved flat bottom duty boat complete with outboard engine under this contract. The boat will be made available on request at all times throughout the duration of the contract. It will also be available for the use of the Departmental Representative or his representative when required.

1.22 ADDITIONAL DRAWINGS

- .1 Departmental Representative may furnish additional drawings to assist proper execution of work. These drawings will be issued for clarification only. Such drawings shall have same meaning and intent as if they were included with plans referred to in Contract documents.

1.23 SNOW AND ICE REMOVAL

- .1 Assume full responsibility for snow and ice removal to gain access to the construction site, access to the wharf and storage areas, if required.

1.24 CLEANING DURING CONSTRUCTION

- .1 Maintain project grounds and public properties free from accumulation of waste materials and rubbish.
- .2 Provide on site garbage containers for collection of waste materials and rubbish.
- .3 Remove waste materials and rubbish from the site or building each day.

END OF SECTION

1.1 GENERAL

- .1 Submit to Departmental Representative, for review, shop drawings, product data and samples specified.

1.2 SHOP DRAWINGS

- .1 Drawings to be originals prepared by Contractor, subcontractor, supplier or distributor, which illustrates appropriate portion of work, showing fabrication, layout, setting or erection details as specified in the appropriate sections.
- .2 Identify details by reference to sheet and detail numbers shown on contract drawings.
- .3 Maximum sheet size: 850 mm x 1120 mm.
- .4 Reproductions for submission: opaque diazo print.

1.3 PRODUCT DATA

- .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.
- .2 Above will only be accepted if they conform to the following:
 - .1 Delete information which is not applicable to this project.
 - .2 Supplement standard information to provide additional information applicable to project.
 - .3 Show dimensions and clearances required.

1.4 SAMPLES AND MOCKUPS

- .1 Submit samples in sizes and quantities specified.
- .2 Where colour, pattern or texture is criterion, submit full range of samples.
- .3 Construct each sample or mockup complete, including work of all trades required to finish work.
- .4 Construct field samples and mockups at locations acceptable to Departmental Representative.
- .5 Reviewed samples or mockups will become standards of workmanship and material against which installed work will be checked on project.

1.5 COORDINATION OF SUBMISSIONS

- .1 Review shop drawings and product 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.
- .4 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.
- .5 Contractor's responsibility for deviations in submission from requirements of contract document is not relieved by Departmental Representative's review of submission unless Departmental Representative given written acceptance of specified deviations.
- .6 Notify Departmental Representative, in writing, at time of submission of deviations from requirements of contract documents.
- .7 After Departmental Representative's review, distribute copies.

1.6 SUBMISSION REQUIREMENTS

- .1 Schedule submissions at least seven (7) days before dates reviewed submissions will be needed.
- .2 Submit number of opaque diazo copies of shop drawings, product data which Contractor requires for distribution plus four (4) copies which will be retained by Departmental Representative.
- .3 Accompany submissions with transmittal letter, in duplicate, containing:
 - .1 Data.
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Number of each shop drawings, product data and sample submitted.
 - .5 Other pertinent data.
- .4 Submissions shall include:
 - .1 Original and/or revision dates.
 - .2 Project title and number.
 - .3 Name of:
 - .1 Contractor
 - .2 Subcontractor
 - .3 Supplier
 - .4 Manufacturer
 - .5 Separate detail
 - .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, initialed or signed, certifying review of submission, verification of field measurements and compliance with Contract documents.

1.7 SHOP DRAWING REVIEW

- .1 Review of shop drawings by Public Works and Government Services Canada or its authorized consultant is for the sole purpose of ascertaining confirmation 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 Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omission in the shop drawings or of responsibility for meeting all requirements of the construction and contract documents. Without restricting the 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 the fabrication process or to techniques of construction and installation and for co-ordination of work of all sub-trades.

END OF SECTION

1.1 SECTION INCLUDES

- .1 Fire Safety Requirements Includes:
 - .1 Hot Work Permit

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 submittal - general requirements specified in Section 01 33 00.

1.6 FIRE SAFETY AND HOT WORK REQUIREMENTS

- .1 Implement and follow fire safety measures during Work. Comply with following:
 - .1 National Fire Code, 2005.
 - .2 Fire Protection Standards FCC 301, Standard for Construction Operations and FCC 302, Standard for Welding and Cutting as 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; Tel: (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 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 Noncompliance Notification at Departmental Representative's discretion with possible disciplinary measures imposed as specified in Health & Safety 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.
 - .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

- .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 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.
 - .4 Returned to Contractor's Site Superintendent for safe keeping.

1.10 DOCUMENTS

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

END OF SECTION

1.1 DESCRIPTION

- .1 Procedures to isolate and lockout electrical facility or other equipment from energy source.

1.2 RELATED WORK

- .1 Section 01 35 29: Health and Safety.
- .2 Section 01 35 24: Special Procedures on Fire Safety Requirements.

1.3 REFERENCES

- .1 CSA C22.1-2010 - Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations.
- .2 CSA C22.3 No. 1-01 - Overhead Systems.
- .3 CSA C22.3 No. 7-94 (R2004) - Underground Systems.
- .4 COSH, Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code.

1.4 DEFINITIONS

- .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, 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 of lockout tags for review.
- .2 Submit documentation within 7 calendar days of contract award. Do not proceed with work 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

- .2 Departmental Representative or;
Where no form exist at Facility, make request in writing identifying:
 - .1 Identification of system or equipment to be isolated, including it's 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.
- .4 Do not proceed until receipt of written notification from Departmental Representative granting the Isolation Request and authorizing 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 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.
- .3 Failure to perform lockouts in accordance with regulatory requirements or follow procedures specified herein 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.

1.9 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 procedures issued to workers during the course of work for full project duration.

- .3 Upon request, make such data available to Departmental Representative or to authorized safety representative for inspection.

END OF SECTION

1.1 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.

1.2 SUBMITTALS

- .1 Make submittals in accordance with Section 01 33 00.
- .2 Submit site-specific Health and Safety Plan prior to commencement of Work.
 - .1 Submit within five 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.
- .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.

1.3 COMPLIANCE REQUIREMENTS

- .1 Comply with Occupational Health and Safety Act for Province of New Brunswick, and General Regulations made pursuant to the Act.
- .2 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: [www.http://laws.justice.gc.ca/en/L-2/](http://laws.justice.gc.ca/en/L-2/)
 - .2 COSH can be viewed at: [www.http://laws.justice.gc.ca/eng/SOR-86-304/ n e .html](http://laws.justice.gc.ca/eng/SOR-86-304/ne.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)
- .3 Observe construction safety measures of:
 - .1 Part 8 of National Building Code
 - .2 Municipal by-laws and ordinances.
- .4 In case of conflict or discrepancy between above specified requirements, the more stringent shall apply.
- .5 Maintain Workers Compensation Coverage in good standing for duration of Contract. Provide proof of clearance through submission of Letter in Good Standing.
- .6 Medical Surveillance: Where prescribed by legislation or regulation, obtain and maintain worker medical surveillance documentation.

1.4 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons and environment adjacent to the site to 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.

1.5 SITE CONTROL AND ACCESS

- .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 Departmental Representative will provide names of those persons authorized by Departmental Representative 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, stop non-authorized entry, and to protect pedestrians and vehicular traffic around and adjacent to the Work and create a safe environment. See Section 01 50 00 for minimum acceptable requirements.
 - .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. Provide security guard where adequate protection cannot be achieved by other means.

1.6 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.

1.7 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.

1.8 PERMITS

- .1 Post permits, licenses and compliance certificates, specified in section [01 10 10], at Work Site.
- .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.

1.9 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].
- .3 Record results and address in Health and Safety Plan.
- .4 Keep documentation on site for entire duration of the Work.

1.10 PROJECT/SITE CONDITIONS

- .1 Following are potential health, environmental and safety hazards at the site for which Work may involve contact with:
- .2 Existing hazardous and controlled products stored on site:
 - .1 none identified
 - .2 Existing hazardous substances or contaminated materials:
 - .1 none identified
 - .3 Known latent site and environmental conditions:
 - .1 Working near and over water.
 - .2 Cold weather and exposure.
 - .3 Public access to the site.
 - .4 Heavy Equipment.
 - .5 Working with lights.
 - .6 Load losses Roll overs.
 - .4 Facility on-going operations:
 - .1 none identified
- .3 Above items shall not be construed as being complete and inclusive of potential health and safety hazards encountered during Work.
- .4 Include above items in the hazard assessment of the Work.
- .5 MSDS Data sheets of pertinent hazardous and controlled products stored on site can be obtained from Departmental Representative.

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 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.
 - .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.

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.

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.
 - .4 Obey warning signs and safety tags.
- .2 Brief persons of disciplinary protocols to be taken for non-compliance. Post rules on site.

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.
 - .2 Submit copy to Departmental Representative.

1.19 BLASTING

- .1 Blasting or other use of explosives is not permitted on site without prior receipt of written permission and instructions from Departmental Representative.

1.20 POWDER ACTUATED DEVICES

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

1.21 CONFINED SPACES

- .1 Abide by occupational health and safety regulations regarding work in confined spaces.

1.22 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.

1.23 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

END OF SECTION

1.1 RELATED WORK

- .1 Waste Management and Disposal: Section 01 74 19.

1.2 REFERENCES

- .1 WHMIS: Workplace Hazardous Materials Information System, Health Canada.
- .2 Transportation of Dangerous Goods Act. Transport Canada, updated 2008-02-21.
- .3 Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters, Department of Fisheries and Oceans Canada, 1998.
- .4 MBCA: Migratory Birds Convention Act, Environment Canada, 1994.
- .5 Canadian Coast Guard Regulations, Department of Fisheries and Oceans Canada.
- .6 Canadian Shipping Act, Transport Canada, 2001.
- .7 AWWA: American Wood Preserver Association.

1.3 DEFINITIONS

- .1 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.
- .2 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.
- .3 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.
- .4 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.
- .5 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.

1.4 TRANSPORTATION

- .1 Transport hazardous materials and hazardous waste in compliance with Federal Transportation of Dangerous Goods Act.
- .2 Do not overload trucks when hauling material. Secure contents against spillage.
- .3 Maintain trucks clean and free of mud, dirt and other foreign matter.
- .4 Avoid potential release of contents and of any foreign matter onto highways, roads and access routes used for the Work. Take extra care when hauling [dredged] material and other hazardous materials. Immediately clean any spillage and soils.
- .5 Before commencement of work, advise the Departmental Representative of the existing roads and temporary routes proposed to be used to access work areas and to haul material to and from the site, including roads to the dredged disposal field.

1.5 DISPOSAL OF DREDGED MATERIAL

- .1 Obtain applicable permit from the Department of the Environment for the Province of New Brunswick and stringently follow all directives and procedures stipulated in permit for transportation and disposal of dredged material to approved disposal site.
- .2 Eliminate free board spillage when excavating, loading and hauling dredged material.
- .3 Do not overload trucks when hauling dredged material or other hazardous material. Secure contents against spillage. Clean ground spills to extent as directed by authority having jurisdiction and by Departmental Representative.
- .4 Obtain approval from Departmental Representative of the proposed route to be used to haul dredged material to the disposal site.
- .5 Place and spread dredged material at the disposal field in a uniform and well graded manner. Minimize height and slopes of the disposed material. Match slopes and contours of the existing surrounding terrain as much as possible following grades as directed by Departmental Representative.
- .6 Control disposal and runoff of water containing suspended materials or other harmful substances in accordance with requirements of authority having jurisdiction.
- .7 Suction Dredging:
 - .1 Routinely inspect pipe for any potential breach in the sediment train and keep in good leak free condition at all times.
 - .2 Should leakage occur along the pipeline immediately cease dredging operations and repair leak.

1.6 HAZARDOUS MATERIAL HANDLING

- .1 Handle and store hazardous materials on site in accordance with WHMIS procedures and requirements.
- .2 Store all hazardous liquids in location and manner to prevent their spillage into the environment.
- .3 Maintain written inventory of all hazardous materials kept on site. List product name, quantity and storage date.
- .4 Keep MSDS data sheets on site for all items.

1.7 PETROLEUM, OIL AND LUBRICANTS

- .1 Comply with Federal and Provincial laws, regulations, codes and guidelines for the storage of fuel and petroleum products on site.
- .2 Do not place fuel storage tanks and store fuel or other petroleum products within a 30 metre buffer zone of watercourses and wetlands. Do not fuel or lubricate equipment within this 30 metre buffer zone. Obtain approval from Departmental Representative of acceptable location on site for fuel storage and equipment service.
- .3 Do not dump petroleum products or any other deleterious substances on ground or in the water.
- .4 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.
- .5 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.
- .6 Maintain vehicles and equipment in good working order to prevent leaks on site.
- .7 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 clean-up in accordance with all regulations and procedures stipulated by authority having jurisdiction.

1.8 DISPOSAL OF WASTES

- .1 Do not bury rubbish, demolition debris and waste materials on site.
- .2 Dispose and recycle demolition debris and waste materials in accordance with project waste management requirements specified in Section 01 74 19.

- .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 laws, regulations, codes 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.

1.9 WATER QUALITY

- .1 Conduct excavation work of a watercourse or wetland 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 excavated material whenever possible.
- .2 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.
- .3 Visually monitor the water turbidity of the surrounding areas adjacent to the work and up to the established dredge limit of 200 metre.
 - .1 Should excessive change occur in the turbidity beyond the dredge limit which differs from existing conditions of the surrounding water bodies, such as a distinct color difference; notify the Departmental Representative to obtain appropriate mitigation measures to be followed.
- .4 Water quality during suction dredging:
 - .1 Minimize out-fall of the dredge material at the disposal site by placing the pipeline outtake at or near the water level surface.
 - .2 Restrict vessel traffic adjacent to the disposal site to an absolute minimum to avoid the re-suspension of dredged material from propeller wash.
- .5 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 AWWA approved.
- .5 Do not use timber and lumber treated with creosote, petroleum and pentachlorophenol for any part of the Work.
- .6 Do not washdown equipment within a 30 metre buffer zone of a wetland, watercourse or other identified environmentally sensitive area.

1.10 BLASTING

- .1 Develop a Blasting Plan for any blasting required in the Work identifying measures employed to minimize the impact on fish, mammals, water quality and the environment.
- .2 Blasting Plan shall include the following minimum requirements:
 - .1 Predictive analysis conducted to assess the zone of influence of the blasting activities.
 - .2 Ensure that fish and mammals are scared away from the blasting area by use of boat, pre-blasting caps or by other means.
 - .3 Make use of shock wave padding (bubble curtain or air curtain) to minimize the transmission of the blast through the water.
 - .4 The number and magnitude of explosives used is kept to an absolute minimum as required for the Work.
- .3 Submit Blasting Plan to Departmental Representative for review prior to the commencement of any blasting.
- .4 Obtain required permit required by authority having jurisdiction.

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 Equip equipment and machinery 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 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 During night time work, position flood lights in opposite direction of nearby bird nesting habitat.
- .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 in wetlands be encountered during work, immediately notify Departmental Representative for directives to be followed.
 - .1 Do not disturb nest site and neighboring 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.

1.13 FISH AND FISH HABITAT

- .1 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.
- .2 To minimize the possibility of fish habitat contamination, 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.
 - .1 Equipment shall include boats, barges, cranes, excavators, haul trucks, pumps, pipe lines and all other miscellaneous tools and equipment previously used in a marine environment.
- .3 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.
- .4 Conduct cleaning and washing operations as follows:
 - .1 Scrap 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 all the 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.

- .5 Do not perform cleaning and washdown within a 30 metre buffer zone of a wetland, watercourse or other identified environmentally sensitive area.
- .6 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.
 - .2 Write data in a hard cover bound logbook,
 - .3 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 washdown for each piece of equipment;
 - .4 Cleaning method and cleaning agent(s) used.
- .7 Keep Record of Assurance Logbook updated from project to project. Upon request, submit logbook to Departmental Representative for review.
- .8 Abide by requirements and recommendations of the Federal Department of Environment and the Department of Fisheries and Oceans - Habitat Protection and Sustainable Development Branch in cleaning and washdown of equipment.

1.14 AIR QUALITY

- .1 Keep airborne dust and dirt resulting from the work on site to an absolute minimum.
- .2 Apply dust control measures to roads, parking lots and work areas.
- .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 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.

END OF SECTION

1.1 RELATED REQUIREMENTS

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

1.2 APPOINTMENTS AND PAYMENTS

- .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 Tests specified to be carried out by Contractor under the supervision of Departmental Representative.
 - .4 Tests requested by Departmental Representative to confirm material specifications when the applicable manufacturer's documentation or test results are unavailable.
 - .5 Additional tests specified in paragraph 2.2.
- .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.

1.3 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.
- .2 Notify Departmental Representative sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling of tests.
- .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.

END OF SECTION

1.1 SECTION INCLUDES

- .1 Office and sheds.
- .2 Sanitary facilities.

1.2 RELATED SECTIONS

- .1 Section 01 56 00 - Temporary Barriers and Enclosures.

1.3 ACCESS

- .1 Provide and maintain adequate access to project site.
- .2 If authorized to use existing roads for access to project site, maintain such roads for duration of contract and make good damage resulting from Contractor's use of roads.

1.4 SITE STORAGE

- .1 Do not unreasonably encumber premises with products.

1.5 SITE UTILITIES

- .1 Provide sanitary facilities, fresh water and electricity, in accordance with governing regulations and ordinances. Contractor will make his own arrangements for utilities and they will be provided at Contractor's expense.

1.6 REMOVAL OF TEMPORARY FACILITIES

- .1 Remove temporary facilities from site when directed by Departmental Representative.

END OF SECTION

1.1 SECTION INCLUDES

- .1 Barriers.
- .2 Traffic controls.
- .3 Fire routes.

1.2 RELATED SECTION

- .1 Section 01 52 00 - Construction Facilities.

1.3 INSTALLATION AND REMOVAL

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

1.4 PUBLIC TRAFFIC FLOW

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

1.5 FIRE ROUTES

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

1.6 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

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

END OF SECTION

1.1 GENERAL

- .1 Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
- .2 Store volatile wastes in covered metal containers, and remove from premises daily.
- .3 Prevent accumulation of wastes which create hazardous conditions.
- .4 Provide adequate ventilation during use of volatile or noxious substances.

1.2 MATERIALS

- .1 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

1.3 CLEANING DURING CONSTRUCTION

- .1 Maintain project grounds, and public properties free from accumulation of waste materials and rubbish.
- .2 Provide on site garbage containers for collection of waste materials and rubbish.
- .3 Remove waste materials and rubbish from the site or building each day.

1.4 FINAL CLEANING

- .1 In preparation for substantial completion, conduct inspection of sight-exposed interior and exterior surface. Remove debris and surplus material from site.
- .2 Broom clean paved surfaces, rake clean other surfaces of ground.

END OF SECTION

1.1 DEFINITIONS

- .1 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.

1.2 WASTE MANAGEMENT

- .1 Incorporate environmental and sustainable practices in managing waste resulting from work.
- .2 Divert as much waste as possible from landfill.
- .3 Coordinate work of sub-trades and subcontractors to ensure all possible waste reduction and recycling opportunities are taken.
- .4 During demolition and removal work separate materials and equipment at source. Carefully dismantle, label and stockpile alike items for the following purposes:
 - .1 Reinstallation into the work where indicated.
 - .2 Salvaging reusable items (not needed in project or by Departmental Representative) for sale by Contractor to other parties.
 - .3 Sending as many items as possible to locally available recycling facility.
 - .4 Segregating remaining waste and debris into various individual waste categories for disposal in a "non-mixed state" as recommended by waste processing/landfill sites.
- .5 Isolate product packaging and delivery containers from general waste stream. Send to recycling facility or return to supplier or manufacturer.
- .6 Recycle leftovers and remnants of new materials whenever possible.
- .7 Establish methods whereby hazardous and toxic materials and their containers used in the work are properly handled and stored on site.

1.3 DISPOSAL REQUIREMENTS

- .1 Disposal of volatile materials, mineral spirits, oil, paint, and other hazardous materials into waterways, storm, or sanitary sewers is prohibited. Dispose in accordance with applicable federal and provincial laws and regulations.
- .2 Dispose of waste only at approved waste processing facilities or landfill sites approved by authority having jurisdiction.
- .3 Contact the authority having jurisdiction prior to commencement of work, to determine what, if any, demolition and construction waste materials have been banned from disposal in landfills and at transfer stations. Take appropriate action to isolate such banned

materials at site of work and dispose in strict accordance with provincial and municipal regulations.

- .4 Transport and dispose of waste intended for waste processing plant or landfill facility in separated condition and to Operator's rules and recommendations in support of their effort to recycle, reduce and divert certain waste stream from general landfill.
- .5 Collect, bundle and transport salvaged materials to be recycled in separated categories and condition as directed by recycling facility. Ship materials only to approved recycling facilities.
- .6 Sale of salvaged items by Contractor to other parties not permitted on site.

END OF SECTION

1.1 SECTION INCLUDES

- .1 Administrative procedures preceding inspection and acceptance of Work by Departmental Representative.

1.2 RELATED SECTIONS

- .1 Section 01 78 00 - Closeout Submittals.

1.3 INSPECTION AND DECLARATION

- .1 Contractor's Inspection: Coordinate and perform, in concert with subcontractors, an inspection and check of all Work. Identify and correct deficiencies, defects, repairs and perform outstanding items as required to complete work in conformance with Contract Documents.
 - .1 Notify Departmental Representative in writing when deficiencies from Contractor's inspection have been rectified and that Work is deemed to be complete and ready for Departmental Representative's inspection of the completed work.
- .2 Departmental Representative's Inspection: Accompany Departmental Representative during all interim and final inspections of the Work.
 - .1 Address defects, faults and outstanding items of work identified by such inspections.
 - .2 Advise Departmental Representative when all deficiencies identified have been rectified.
- .3 Note that Departmental Representative will not issue a Certificate of Substantial Performance of the work until such time that Contractor performs following work and turns over the specified documents:
 - .1 Project record as-built documents;
 - .2 Final Operations and Maintenance manuals;
 - .3 Maintenance materials, parts and tools;
 - .4 Compliance certificates from applicable authorities;
 - .5 Reports resulting from designated tests;
 - .6 Demonstration and training complete with user manuals;
 - .7 Manufacturer's Guarantee certificates.
 - .8 Testing, adjusting and balancing of equipment and systems complete with submission of test reports.
 - .9 Commissioning of equipment and systems specified.
- .4 Correct all discrepancies before Departmental Representative will issue the Certificate of Completion.

END OF SECTION

1.1 SECTION INCLUDES

- .1 Project Record Documents.
- .2 Operations and Maintenance data.

1.2 PROJECT RECORD DOCUMENTS

- .1 Departmental Representative will provide 2 white print sets of contract drawings and 2 copies of Specifications Manual specifically for "as-built" purposes.
- .2 Maintain at site one set of the contract drawings and specifications to record actual as-built site conditions.
- .3 Maintain up-to-date, real time as-built drawings and specifications in good condition and make available for inspection by the Departmental Representative upon request.
- .4 As-Built Drawings:
 - .1 Record changes in red ink on the prints. Mark only on one set of prints and at completion of work, neatly transfer notations to second set (also by use of red ink).
 - .2 Submit both sets to Departmental Representative prior to application for Certificate of Substantial Performance.
 - .3 Stamp all drawings with "As-Built Drawings". Label and place Contractor's signature and date.
 - .4 Show all modifications, substitutions and deviations from what is shown on the contract drawings or in specifications.
 - .5 Record following information:
 - .1 Horizontal and vertical location of exterior underground utilities and appurtenances referenced to permanent surface improvements.
 - .2 Horizontal and vertical location of various elements in relation to Geodetic Datum;
 - .3 Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of structure;
 - .4 Field changes of dimension and detail;
 - .5 Location of all capped or terminated services and utilities.
 - .6 Chases for mechanical, electrical and other services;
 - .7 Ceiling and floor elevations;
 - .8 Reflected ceiling plan condition showing finished layout of all ceiling-mounted services and devices;
 - .9 Electrical service installation locations; all to be dimensioned and referenced to building columns or load bearing walls;
 - .10 Any details produced in the course of the contract by the Departmental Representative to supplement or to change existing design drawings;
 - .11 All change orders issued over the course of the contract must be documented on the finished as-built documents, accurately and consistently depicting the changed condition as it applies to all affected drawing details.

- .5 As-built Specifications: legibly mark in red each item to record actual construction, including:
 - .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly items substituted from that specified.
 - .2 Changes made by Addenda and Change Orders.
 - .3 Mark up both copies of specifications; stamp "as-built", sign and date similarly to drawings as per above clause.
- .6 Maintain As-built documents current as the contract progresses. Departmental Representative will conduct reviews and inspections of the documents on a regular basis. Failure to maintain as-builts current and complete to satisfaction of the Departmental Representative shall be subject to financial penalties in the form of progress payment reductions and holdback assessments.

1.3 REVIEWED SHOP DRAWINGS

- .1 Provide a complete set of all shop drawings reviewed for project to incorporate into each copy of the Operations & Maintenance manuals.
- .2 Submit full sets at same time and as part of the contents of the Operation and Maintenance manuals specified.

1.4 UPDATING OF DIGITAL DRAWINGS

- .1 Be aware that beyond the requirement to provide "red marked" as-built paper documents, as specified in Clause 1.3 above, Contractor shall also provide the service of updating the digital drawings which were used to produce the contract drawings.
- .2 The Departmental Representative will provide one set of AutoCad Lite Release 2010 drawing files specifically for "as-built" purposes. The AutoCad drawing files shall be updated to record same as-built information as specified in above clauses for the provision of paper as-built drawing documentation.
- .3 All "As-Built" changes to the electronic files provided shall be done following the standards as specified in the Atlantic Region CADD Data Specification manual. A copy of this manual will be provided by the Departmental Representative upon request.
- .4 Make revisions to electronic files found to be in non-conformance with the CADD Data Specifications Manual as directed by Departmental Representative.
- .5 In regards to updating the digital files to reflect changes resulting from Change Orders, the change in cost of completing the As-Built documentation of changes is to be included in the amount for each Change Order issued. The amount included will constitute only the increase or decrease in CADD related costs resulting directly from the change. In determining the cost difference, full consideration will be given to the fact that other clauses of this section require As-Built CADD updates to the drawings irrespective of any Change Orders.

- .6 Deliver the digital information in same format and sequence as per contract drawings. Submit on CD diskettes.
- .7 Submit the digital as-built files at the same time as submission of the marked-up paper white prints. Supply of digital documents does not replace the requirement to provide marked-up white prints specified.
- .8 Also provide 1 set of reproducible velum plots of the updated electronic as-built CADD drawing files.

1.5 OPERATION AND MAINTENANCE MANUAL

- .1 Definition: an organized compilation of operating and maintenance data including detailed technical information, documents and records describing operation and maintenance of individual products or systems as specified in individual sections of the specifications.
- .2 Manual Language: final manuals to be in both English and French languages.
- .3 Number of copies required:
 - .1 Submit [2] interim copies of the manual for review and inspection by Departmental Representative. Make revisions and additions as directed and resubmit.
 - .2 Upon review and acceptance by Departmental Representative, submit 3 final copies. Interim copies are not to be considered as part of the final copies unless they have been fully revised and are identical to the final approved version.
- .4 Submission Date: submit complete operation and maintenance manual to Departmental Representative 3 weeks prior to application for Certificate of Substantial Performance of the work.
- .5 Binding:
 - .1 Assemble, coordinate, bind and index required data into Operation and Maintenance Manual.
 - .2 Use vinyl, hard covered, 3 "D" ring binders, loose leaf, sized for 215 x 280 mm paper, with spine pocket.
 - .3 Where multiple binders are needed, correlate data into related consistent groupings.
 - .4 Identify contents of each binder on spine.
 - .5 Organize and divide data following same numerical system as the section numbers of the Specification Manual.
 - .6 Dividers: separate each section by use of cardboard dividers and labels. Provide tabbed fly leaf for each individual product and system and give description of product or component.
 - .7 Type lists and notes. Do not hand write.
 - .8 Drawings, diagrams and manufacturers' literature must be legible. Provide with reinforced, punched binder tab. Bind in with text; fold larger drawings to size of text pages.

- .6 Manual Contents:
 - .1 Cover sheet containing:
 - .1 Date submitted.
 - .2 Project title, location and project number.
 - .3 Names and addresses of Contractor, and all Sub- contractors.
 - .2 Table of Contents: provide full table of contents in each binder(s), clearly indicate which contents are in each binder.
 - .3 List of maintenance materials.
 - .4 List of spare parts.
 - .5 List of special tools.
 - .6 Original or certified copy of warranties and product guarantees.
 - .7 Copy of approval documents and certificates issued by Inspection Authorities.
 - .8 Copy of reports and test results performed by Contractor as specified.
 - .9 Product Information (PI Data) on materials, equipment and systems as specified in various sections of the specifications. Data to include:
 - .1 List of equipment including manufacturer's name, supplier, local source of supplies and service depot(s). Provide full addresses and telephone numbers.
 - .2 Nameplate information including equipment number, make, size, capacity, model number and serial number.
 - .3 Parts list.
 - .4 Installation details.
 - .5 Operating instructions.
 - .6 Maintenance instructions for equipment.
 - .7 Maintenance instructions for finishes.
- .7 Shop drawings:
 - .1 Include complete set of reviewed shop drawings into each copy of the operations and maintenance manual.
 - .2 Fold and bind material professionally in a manner that corresponds with the specification section numbering system.
 - .3 When large quantity of data is submitted, place into separate binders of same size as O&M binders.
- .8 Equipment and Systems Data: the following list indicates the type of data and extent of information required to be included for each item of equipment and for each system:
 - .1 Description of unit or system, and component parts. Give function, normal operation characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
 - .2 Panel board circuit directories: provide electrical service characteristics, controls, and communications.
 - .3 Include installed colour coded wiring diagrams.
 - .4 Operating Procedures: include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
 - .5 Maintenance Requirements: include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

- .6 Servicing and lubrication schedule, and list of lubricants required.
 - .7 Manufacturer's printed operation and maintenance instructions.
 - .8 Sequence of operation by controls manufacturer.
 - .9 Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
 - .10 Provide installed control diagrams by controls manufacturer.
 - .11 Provide Contractor's coordination drawings, with installed colour coded piping diagrams.
 - .12 Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
 - .13 Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
 - .14 Include test and balancing reports.
 - .15 Additional requirements as specified in individual specification sections.
- .9 Materials and Finishes Maintenance Data:
- .1 Building Products, Applied Materials, and Finishes: include product data, with catalogue number, size, composition, and colour and texture designations. Provide information for re-ordering custom manufactured products.
 - .2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
 - .3 Moisture-protection and Weather-exposed Products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
 - .4 Additional Requirements: as specified in individual specifications sections.

1.6 SPARE PARTS, TOOLS AND MAINTENANCE MATERIALS

- .1 Provide spare parts, special tools and extra materials for maintenance purposes in quantities specified in individual specification sections.
- .2 Tag all items with associated function or equipment.
- .3 Provide items of same manufacture and quality as items in Work.
- .4 Deliver to site in well packaged condition. Store in location as directed by Departmental Representative.
- .5 Clearly mark as to contents indicating:
 - .1 Part number.
 - .2 Identification of equipment or system for which parts are applicable.
 - .3 Installation instructions or intended use as applicable.
 - .4 Name, address and telephone number of nearest supplier.
- .6 Prepare and submit complete inventory list of items supplied. Include list within Maintenance Manual.

END OF SECTION