

General Instructions

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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 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.
- .2 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

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- 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.
- .3 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.
5. Contractor's Use of Site .1 Co-operate with users of existing facilities. The areas required for storage and equipment and materials will be subject to the approval of the Harbour Authority.
- .2 Should interference's occur, take directions from Departmental representative.
- .3 Do not unreasonably encumber site with materials or equipment.
- .4 Move stored products or equipment which interfere with operations of Departmental representative, Harbour Authority or other Contractors.
- .5 Obtain and pay for use of additional storage or work areas needed for operations.
- .6 Comply with all regulations and authorities having jurisdiction over the work, whether on land or on water.
- .7 Ensure no damage occurs to existing structures as a result of operations. Any

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- said damage will be repaired at Contractor's expense.
- .8 Provide temporary barriers and warning signs in location 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 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

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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 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" marked "A" and any

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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 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

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the entire completion of the work and will not avail himself of any errors or omissions.

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 "C".
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.
 - .2 Provide "as built" cross sections of any excavation, dredging or fill work.
14. Payment
 - .1 Payment for all work under this contract to be according to the "Articles of Agreement".

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- .2 No separate payment will be made for work specified under General Conditions, Supplementary Conditions or any sections of Specification under Division 01. The cost of this work is to be considered as overhead and to be included in the unit prices of the Contract. [Exceptions are Departmental representative's Site Office and Mobilization/Demobilization if shown separately in Unit Price Table.]
- .3 Dimensional changes as directed by the Departmental representative to suit existing conditions, but not resulting in additional work or materials, will not be considered as extra to the Contract.
15. Site Examination
- .1 All parties tendering must 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 Departmental representative 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. Maintenance of Shipping
- .1 Liaise with the local port officials to co-ordinate activities such that any interference is minimized.
17. Co-operation & Assistance to Departmental Representative
- .1 Co-operate with Departmental representative on inspection of work.
- .2 Provide assistance when requested.

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- .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. See General Conditions "C".
20. Workers Compensation .1 Contractor and all subcontractors 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 or a substantial completion payment (interim), 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.
21. Laws, Standards Taxes and Fees .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

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- most restrictive will govern, but in no instance will the standards established by the drawings and this Specification, which exceed such requirements, be reduced.
22. Protection and
Repair .1 Repair any damage resulting from operations under this contract.
23. Location of
Equipment and
Fixtures .1 Location of equipment, fixtures or any appurtenances indicated are to be considered approximate.
24. Inspection and
Testing .1 The Departmental representative may employ an Inspector and/or Testing Company to ensure work conforms with contract.
25. Disposal of
Debris .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. 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.
26. Existing Soils
Conditions .1 Any information pertaining to soils and all boreholes logs are furnished by the Departmental representative as a matter of general information only and borehole 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
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- 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 TP968-1984 and be equipped with radar reflectors.
- .2 The Contractor shall co-ordinate 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.

PROJECT PARTICULARS

1. Description
of Work

- .1 The work under this contract involves the demolition of the existing timber pilework finger wharf and construction of a new marginal wharf and a new finger wharf, both of pilework construction, as well as the installation of a floating dock system at Blandford, Lunenburg County N.S.
- .2 The work includes but is not limited to:
 - .1 The complete demolition and removal of the existing pilework finger wharf including excavation and stabilization of the armourstone slope as required for construction of the new structures;
 - .2 Extension of the existing marginal wharf of steel pipe pile construction, complete with fibre reinforced concrete jackets and reinforced concrete deck;
 - .3 Construction of a new finger wharf of timber pile construction including steel pipe batter piles, complete with fibre reinforced concrete jackets, reinforced concrete deck, timber fender piles, wales and bracing; and
 - .3 Construction and installation of new floating wharfs including concrete filled, steel pipe guide piles, aluminum gangway and all miscellaneous hardware and connection components.
- .3 The work is to be completed by October 30th, 2015.

PROJECT MEASUREMENT

Project Particulars And Measurement

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|----|----------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | <u>General</u> | .1 | This section details the measurement method to be used for payment purposes. Incidental items covered in the various sections of the Specification are to be allowed for in the pricing of each pay item. |
| | | .2 | Items designated for payment by the lump sum basis are to be submitted in the tender documents as a accumulated total for all items. 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

Division 01

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

Division 03

Concrete: Cast-in-place reinforced concrete for deck, guard, pile caps and beams will be measured for payment by the cubic metre place measure based on neat drawing dimensions.

Division 06

Dimension Timber: Treated dimension timber will be measured for payment by the cubic metre. Dimension timber to include timber wales and bracing. 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

Sitework, Demolition, and Removals: Sitework, demolition, and removals will be measured for

payment as a lump sum.

Supply and Installation of Timber Bearing Piles: Supply and installation of timber bearing piles will be measured for payment on a per each basis.

Supply and Installation of Timber Fender Piles: Supply and installation of timber fender piles will be measured for payment on a per each basis.

Supply and Installation Steel Pipe Bearing Piles: Supply and Installation of steel pipe bearing piles, complete with fibre reinforced concrete jackets, will be measured for payment on a per each basis.

Supply and Installation Steel Pipe Batter Piles: Supply and Installation of steel pipe batter piles, complete with fibre reinforced concrete jackets, will be measured for payment on a per each basis.

Supply and Installation Steel Pipe Batter Piles: Supply and Installation of steel pipe batter piles, complete with fibre reinforced concrete jackets, will be measured for payment on a per each basis.

Supply and Installation Steel Pipe Float Guide Piles: Supply and Installation of steel pipe float guide piles, complete with concrete fill, will be measured for payment on a per each basis.

Division 35

Mooring Cleats: Installation of mooring cleats complete with new bolts and hardware will be measured for payment by the per each basis.

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

Aluminum Gangway: Supply and installation of the aluminum gangway including checker plate connections, fastenening and hardware, will be measured for payment by per each basis.

Floating Wharfs: Supply and installation of the floating wharfs, including timber, floatation billets, cleats, connections(checker and slider plates, steel brackets, chain, shackles, rubber fender units, fastener hardware) will be measured for payment on a per each basis.

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1. General
 - .1 Submit to Departmental representative, for review, shop drawings, product data, samples and other information specified.
 - .2 Until submission is reviewed, work involving relevant product may not proceed.
2. Shop Drawings
 - .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. 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.
4. Samples
 - .1 Submit samples in sizes and quantities specified.
 - .2 Construct field samples and mock-ups at locations acceptable to Departmental representative.
 - .3 Accepted samples will become standards of workmanship and material against which, installed work will be checked on project.
5. Miscellaneous Data
 - .1 Provide certificates, methodologies, designs and test results as required.
6. Coordination of Submissions
 - .1 Review shop drawings, product data, samples and miscellaneous data prior to submission.

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- .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 opaque diazo 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:
 - .1 Date
 - .2 Project title and number.
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Submissions / Shop Drawings

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- .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 Subcontractor
 - .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 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 co-ordination 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.

PART 1 - GENERAL

- 1.1 Related Work
- .1 Section 01 36 20: Special Procedures on Fire Safety Requirements.
 - .2 Section 01 36 40: Special Procedures on Lockout Requirements.
- 1.2 Submittals
- .1 Submit to Departmental representative copies of the following documents, including updates issued:
 - .1 Site Specific Health and Safety Plan.
 - .2 Building Permit, compliance certificates and other permits obtained
 - .3 Reports or directions issued by Federal inspectors, Provincial inspectors or other Authority having jurisdiction.
 - .4 Formal Safety Inspection Reports
 - .5 Accident or Incident Reports
 - .6 MSDS data sheets.
 - .7 Name of person(s) designated to perform full time health and safety site supervision.
 - .2 Medical Surveillance: Where prescribed by federal or provincial legislation and regulations, and upon request by Departmental representative, obtain and submit certification of medical surveillance for site personnel prior to commencement of work.
 - .3 Submit other data, information and documentation upon request as stipulated elsewhere in this section.
 - .4 Submit above documents in accordance with the submittal - general requirements specified in Section 01 33 00.
- 1.3 Compliance Requirements
- .1 Comply with the Occupational Health and Safety Act for the Province of Nova Scotia,

and the Regulations made pursuant to the Act.

- .2 Comply with Canada Labor Code Part II, and the Canada Occupational Safety and Health Regulations made under Part II of the Canada Labor Code.
- .3 Observe and enforce construction safety measures required by:
 - .1 1995 National Building Code of Canada, Part 8;
 - .2 Provincial Worker's Compensation Board;
 - .3 Municipal statutes and ordinances.
- .4 In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, Departmental representative will advise on the course of action to be followed.
- .5 A copy of the Canada Labor Code Part II may be obtained by contacting:

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)

- .6 Maintain Workers Compensation Coverage for duration of Contract. Submit Letter of Good Standing to Departmental representative upon request.

1.4 Responsibility

- .1 Be responsible for safety of persons and property on work site and for protection of building employees and general public circulating adjacent to work operations to extent that they may be affected by conduct of Work.

1.5 Site Control
and Access

- .2 Enforce compliance by workers and other persons granted access to work site with safety requirements of Contract Documents, applicable federal, provincial, and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.
- .1 Control work site and entry points. Grant and allow entry to only workers and other persons so authorized. Immediately stop non-authorized persons from circulating within construction areas and remove from site.
- .2 Implement procedures for granting permission to enter onto work site to all persons who require access. Procedures to include the provision of a site safety orientation session.
- .3 Delineate and isolate construction areas from other areas of site by use of appropriate means. Erect barricades, fences, hoarding and temporary lighting as required.
- .4 Erect signage at entry points and at other strategic locations around site, clearly identifying construction area(s) as being "off-limits" to non-authorized persons. Signage must be professionally made in both official languages or by use of well understood graphic symbols.
- .5 Secure site at night time [or provide security guard] as deemed necessary to protect site against entry.
- .6 Ensure persons granted access are fitted and wear appropriate personal protective equipment (PPE). Be responsible for the provision of such PPE to persons who require access to conduct work or perform inspections.

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- 1.6 Protection
- .1 Provide temporary facilities for protection and safe passage of building occupants, public pedestrians and vehicular traffic around and adjacent to work site.
 - .2 Provide safety barricades, lights and signage on work site as required to provide a safe working environment for workers.
 - .3 Carry out work placing emphasis on health and safety of public, building employees, site personnel and protection of the environment.
 - .4 Should unforeseen or peculiar safety related hazard or condition become evident during performance of work, immediately take measures to rectify the situation and prevent damage or harm. Advise Departmental representative verbally and in writing.
- 1.7 Filing of Notice
- .1 File Notice of Project and other Notices with Provincial authorities prior to commencement of Work.
 - .2 Upon request, Departmental representative will provide name and mailing address of provincial department to whom the Notice of Project must be sent.
- 1.8 Permits
- .1 Obtain building permit related to project prior to commencement of Work.
 - .2 Obtain permits, licenses and compliance certificates, at appropriate times and frequency as stipulated by authorities having jurisdiction.
 - .3 Where particular permit or compliance certificate cannot be obtained at the required stage of work, notify Departmental representative in writing and obtain Departmental representative's approval to

proceed prior to carrying out that portion of work.

- .4 Post all permits on site. Submit copies to Departmental representative.

1.9 Hazard
Assessments

- .1 Implement and carry out a health and safety hazard assessment program as part of the work. Program to include:

- .1 Initial hazard assessment carried out immediately upon notification of contract award and prior to commencement of work.

- .2 Ongoing hazard assessments performed during the progress of work identifying new or potential health risks and safety hazards not previously known. As a minimum, hazard assessments shall be carried out when:

- .1 New subtrade work, new subcontractor(s) or new workers arrive at the site to commence another portion of the work.

- .2 The scope of work has been changed by Change Order.

- .3 Potential hazard or weakness in current health and safety practices are identified by Departmental representative or by an authorized safety representative.

- .3 Hazard assessments to be project and site specific, based on review of contract documents, site and weather conditions.

- .4 Each hazard assessment to be made in writing. Keep copies of all assessments on site for duration of work. Upon request, make available to Departmental representative for inspection.

1.10 Project/Site
Conditions

- .1 The following are known hazardous substances, contaminated materials or contaminated conditions at site which shall be considered as health or environmental hazards and be properly managed should they be encountered as part of the work:
 - .1 Treated timber components
 - .2 Waste materials and debris situated within the existing structure designated for removal.
- .2 The following are known or potential project related safety hazards at site:
 - .1 Deteriorated condition of existing structures.
 - .2 Deteriorated electrical components.
 - .3 Tides and currents.
 - .4 Fishing operations including vessel and vehicle traffic.
- .3 Obtain from Departmental representative, copy of MSDS Data sheets of existing hazardous materials stored on site or being used by Facility and Tenant personnel in the course of their operations.
- .4 Above lists shall not be construed as being complete and inclusive of safety and health hazards encountered as a result of Contractor's operations during the course of work. Include above items into the hazard assessment program specified herein.

1.11 Safety Meetings

- .1 Prior to commencement of work attend health and safety meeting conducted by Departmental representative. Have Contractor's Site Superintendent in attendance. Departmental representative will advise of time and location.
- .2 Provide site safety orientation session to all workers and other authorized persons

prior to granting them access to work site. Brief persons on site conditions and on the minimum site safety rules in force at site.

- .3 Conduct site specific occupational health and safety meetings during the entire work as follows:

- .1 Formal meetings on a minimum monthly basis
- .2 Informal tool box meetings on a regular basis from a predetermined schedule.

- .4 Keep workers informed of anticipated hazards, on safety practices and procedures to be followed and of other pertinent safety information related to:

- .1 Progress of Work;
- .2 New sub-trades arriving on site and;
- .3 Changes in site and project conditions.

- .5 Record and post minutes of meetings. Make copies available to Departmental representative upon request.

1.12 Health and Safety Plan

- .1 Develop written site-specific Project Health and Safety Plan, based on hazard assessments, prior to commencement of work. Submit plan to Departmental representative within 7 calendar days of Contract Award date.

- .2 Health and Safety Plan shall contain the following three (3) parts:

- .1 Part 1: List of individual health risks and safety hazards identified by hazard assessment(s).
- .2 Part 2: List of specific measures to control or mitigate each hazard and risk identified in part one of Plan. Describe the controls, personal protective equipment and safe work

practices to be implemented and followed when performing work related to each identified hazard or risk.

.3 Part 3: Emergency Measures and Communications Procedures as follows:

.1 Emergency Measures: on-site operating procedures, evacuation measures and emergency response to be implemented in the occurrence of an accident or incident. Procedures to be specific and relevant to identified hazards. Measures to complement and be integrated with the Facility and Emergency Response Plans in place at site. Obtain information on existing emergency and evacuation plans from Departmental representative and incorporate appropriate data.

.2 Communication Procedures:

.1 list of names and telephone numbers of designated official(s), to be contacted should an incident or emergency situation occur, including the following:

.1 General Contractor and all Subcontractors.

.2 Federal and Provincial Departments and local emergency resources organizations, as applicable to the hazards identified and type of accident or incident which might occur, in accordance with applicable laws and regulations.

.3 Officials from PWGSC, Facility Management and

Tenant Departments, where work is carried out. Departmental representative will provide list of names to be included.

.2 Procedures implemented at site to communicate and share information between workers, subcontractors, and General Contractor on work activities, and in particular those which might endanger workers and Facility employees.

.3 List of critical construction activities to be communicated with the Facility Manager and designated tenant representative(s) which could affect facility and tenant operations, or pose a risk to the health and safety of their employees and to the general public. Develop list in consultation with the Departmental representative.

.3 Prepare Health and Safety Plan in a three column format, addressing the three parts specified above, as follows:

Column 1	Column 2	Column 3
Identified Hazard	Control Measures Implemented	Emergency Measures & Communications Procedures

.4 Develop Health and Safety Plan in collaboration with all subcontractors. Address all work and activities of subcontractors as they arrive on site.

Immediately update Plan and submit to Departmental representative.

- .5 Implement, maintain and enforce compliance with requirements of the Health and Safety Plan until final completion of work and demobilization from site.
- .6 As work progresses, review and update Plan addressing additional health risks and safety hazards identified by ongoing hazard assessments.
- .7 Submit revised versions of Plan to Departmental representative.
- .8 Post a typed written copy, including all updates, of the Health and Safety Plan in a common visible location at work site.
- .9 Submission of the Health and Safety Plan, and updates, to the Departmental representative is for review and information purposes only. It's submission shall not be construed to imply approval by Departmental representative or be interpreted as a warranty of being complete, accurate and legislative compliant and shall not relieve Contractor of his legal obligations for the provision Health and Safety on the construction project.

1.13 Safety
Supervision and
Inspections

- .1 Designate competent person or persons to be present on site at all times during work, responsible for supervising health and safety and conducting safety inspections of work site.
- .2 Assign responsibility, obligation and authority to such designated person(s) to stop and start work as deemed necessary for reasons of health and safety.

- .3 Provide names of designated individuals to Departmental representative.
 - .4 Cooperate with Health and Safety Site Coordinator responsible for the entire site or facility, should one be designated by Departmental representative.
 - .5 Conduct regularly scheduled safety inspections of work site as follows:
 - .1 Informal Inspections: carry out on a minimum biweekly basis. Note deficiencies and remedial action taken in a log book or diary.
 - .2 Formal Inspections: carry out on a minimum monthly basis. Use standardized safety checklist forms. Prepare written report for each formal inspection. Document deficiencies, remedial action needed and assign responsibility for rectification to appropriate subcontractor or worker.
 - .6 Distribute monthly reports to subcontractors for their pursuance. Follow-up and ensure appropriate action and corrective measures are taken.
 - .7 Maintain safety inspection documentation on site. Submit copies of formal inspection reports to Departmental representative.
 - .8 All persons in Contractor's employ responsible for health and safety requirements specified in the Contract Documents to be competent in Occupational Health and Construction Safety as defined in the Provincial Occupational Health And Safety Act.
- 1.14 Training
- .1 Ensure that workers, subcontractors and other authorized persons granted access to site

are trained and have been fully instructed, by a competent instructor, on:

- .1 Safe operation of tools and equipment.
- .2 Proper wearing and use of personal protective equipment (PPE) as applicable to the purpose and activities to be conducted on site.
- .3 Safe work practices and procedures to be followed during the performance of their given work tasks or function on site.
- .4 Site Conditions and minimum site safety rules provided through site orientation sessions.

- .2 Make training records readily available for review by Departmental representative upon request.

1.15 Minimum
Site Safety Rules

- .1 Notwithstanding the requirement to abide by federal and provincial health and safety regulations, the following safety rules shall be considered minimum requirements at the work site and obeyed by all persons granted access:

- .1 Wear personal protective equipment (PPE) appropriate to function and task on site; the minimum requirements being hard hat, safety footwear and eye protection.
- .2 Immediately report unsafe activities, conditions, near-miss accidents, injuries and damages.
- .3 Maintain site in tidy condition.
- .4 Obey warning signs and safety tags.
- .5 Brief workers on site safety rules, and on the disciplinary measures to be taken for violation or non compliance of such rules. Post such information on site.

1.16 Accident
Reporting

- .1 Investigate and report incidents and accidents as outlined in Provincial

Occupational Safety and Health Act and Regulations.

- .2 Investigate and immediately report to Departmental representative incidents and accidents which results, [or has the potential of resulting] in:
 - .1 Injuries requiring medical aid,
 - .2 Property damage in excess of \$5000.00,
 - .3 Interruption to building operations with potential loss to owner or client in excess of \$5000.00,
 - .4 Required notification to Workers Compensation Board or other regulatory agencies as stipulated by applicable regulations.
- .3 The term "medical aid" as used in above clause shall have the same meaning as defined in the Canadian Dictionary of Safety Terms - 1987 issue, from the Canadian Society of Safety Departmental representatives (C.S.S.E) as follows:
 - .1 Medical Aid: 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.

1.17 Tools and
Equipment Safety

- .1 Implement and follow a scheduled tool and equipment inspection/maintenance program at work site. Regularly check tools, equipment and machinery for safe operation and perform maintenance at pre-established time and frequency intervals as recommended by manufacturer. Include subcontractors equipment as part of the inspection process.
- .2 Use standardized checklists to ensure established safety checks are stringently followed.

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| | .3 | Immediately tag and remove items found faulty or defective off site. |
| | .4 | Maintain written documentation on each inspection. Make available to Departmental representative upon request. |
| 1.18 <u>Hazardous Products</u> | .1 | Comply with requirements of Workplace Hazardous Materials Information System (WHMIS). |
| | .2 | Keep MSDS data sheets on site. Provide copies of all data sheets to Departmental representative upon receipt of materials on site. |
| | .3 | Post all MSDS data sheets on site, in a common area, visible to workers. |
| 1.19 <u>Blasting</u> | .1 | Do blasting operations in accordance with section , 31 11 00 - Sitework, demolition and removals and Appendix A - Environmental Protection Plan. |
| 1.20 <u>Powder Actuated Devices</u> | .1 | Use powder actuated fastening devices only after receipt of written permission from Departmental representative. |
| 1.21 <u>Confined Spaces</u> | .1 | Carry out work in confined spaces in compliance with:

.1 Provincial Occupational Safety and Health Regulations and;
.2 Part XI of the Regulations Respecting Occupational Safety and Health made under Part II of the Canada Labor Code. |
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- .2 Include hazard assessment of confined space(s) as part of the hazard assessment program.
 - .3 Provide and maintain all equipment as required for the safety and emergency evacuation of persons entering and/or perform work in confined space.
 - .4 Provide training to all persons entering and working in confined spaces.
 - .5 Safety for Inspectors:
 - .1 Upon Departmental representative's request, provide protective equipment and training to Departmental representative or to other person designated by Departmental representative for the purpose of entering the confined space(s) to conduct inspections.
 - .2 Training to be specialized instructions (beyond basic confined space entry training) to suit the specific nature and type of confined space conditions at site.
 - .3 Be responsible for the efficacy of the equipment and for the safety of such persons during their entry and occupancy in the confined space.
 - .6 Develop and use "Entry Permits" for each and every entry into the confined space in accordance with Section 11.3 of Part XI of the Regulations Respecting Occupational Safety and Health made under Part II of the Canada Labor Code. Keep all entry permits on site for duration of work. Make permits available for inspection when requested by Departmental representative.
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- 1.22 Posting of Documents
 - .1 Post documents indicated herein and as required by Authority having jurisdiction.

1.23 Records on
Site

- .1 Maintain on site copy of safety documentation as specified in this section and other safety related reports and documents issued to or received from authorities having jurisdiction.
- .2 Make available to Departmental representative, or authorized safety representative, for inspection upon request.

PART 2 - PRODUCTS

2.1 Not Used

- .1 Not Used.

PART 3 - EXECUTION

3.1 Not Used

- .1 Not Used.

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PART 1 - GENERAL

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 Migratory Birds Convention Act, 1994, Environment Canada, amended 2010-12-10
- .7 Navigation Protection Act, 1985. Transport Canada, amended 2014-04-01
- .8 Nova Scotia - Environment Act
- .9 Species at Risk Act, 2002, amended 2013-03-08
- .10 The Federal Policy on Wetland Conservation, 1991, Environment Canada
- .11 Transportation of Dangerous Goods Act, 1992, Transport Canada, amended 2009-06-16
- .12 Workplace Hazardous Materials Information System, Health Canada.

1.2 Definitions

- .1 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.
- .2 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

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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.

- .3 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.
- .4 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.
- .5 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.
- .6 Navigable water: a canal and any other body of water created or altered as a result of the construction of any work.
- .7 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.
- .8 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

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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 excavated material.
- .3 Trucks transporting any wet 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.
- .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.

1.4 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

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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.

1.5 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.
- .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 clean-up in accordance with all regulations and procedures stipulated by authority having jurisdiction.

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- .7 Materials such as paint, primers, blasting abrasives, rust solvents, degreasers, grout, or other chemicals are not to enter the watercourse or soils.
 - .8 Develop a response plan that is to be implemented immediately in the event of a sediment release or spill of a deleterious substance.
- 1.6 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 storage.
 - .4 Store and handle flammable and combustible materials in accordance with National Fire Code.
- 1.7 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.
 - .2 Construction material and debris are not allowed to become waterborne.
 - .3 No person shall permit any tools, equipment, vehicles, temporary structures or parts thereof used or maintained for the purpose of building or placing a work in a navigable water to remain

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in such water after the completion of the project.

- .4 All work(s) and associated equipment shall be removed from the waterway at Contractor's expense in the event the operation of the work(s) is terminated.
- .5 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 section 31 11 00 Sitework Demolitions and Removals.
- .6 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.
- .7 Dispose of hazardous waste in accordance with applicable federal and provincial, regulations, codes, standards and guidelines.
- .8 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.

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1.8 Water Quality

- .1 Conduct any excavation work 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.
 - .3 Restrict the amount of material excavated to the work area.
- .2 Visual monitoring of the turbidity will be required in the vicinity of the project to ensure that the turbidity is limited. If excessive change occurs in the turbidity that differs from the existing conditions of the surrounding water body (i.e., distinct colour difference) as a result of the project activities, the work will stop and the Departmental Representative will be contacted to determine if additional mitigation measures are required.
- .3 Do not wash down equipment within a 30 metre buffer zone of a wetland, watercourse or other identified environmentally sensitive area.
- .4 Where required, install effective sediment control measures before starting work to prevent the entry or re-suspension of sediment in the water body. Inspect sediment control measures regularly to ensure they are functioning properly, and make all necessary repairs if any damage occurs. Upon completion of use, remove these control measures in a way that prevents the escape of settled sediment.

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- .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 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., construction, underwater cable installation).
 - d) Measures for containing and stabilizing waste material (e.g., excavated material, 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.

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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 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)

.5 Do not use timber and lumber treated with creosote, petroleum and pentachlorophenol for any part of the work.

1.9 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.

1.10 Bird and Bird Habitat

- .1 All work is to be conducted in accordance with the Migratory Birds Convention Act (MBCA). Become knowledgeable with the act in regards to the protection of migratory birds, their eggs, nests and their young encountered on site and in the vicinity. No migratory bird nests or eggs will moved or obstructed during the construction or operational phase of the project.
- .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 the Project Manager 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.

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- .7 Time work to protect birds, including their young and / or the organisms upon which they feed. Ensure loss or disturbance to terrestrial habitat is minimized and sensitive nesting habitats are avoided.
- 1.11 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.
- .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.

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- .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.
 - .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;

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- .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 Time work in water to protect fish, including their eggs, juveniles, spawning adults and / or the organisms upon which they feed. Ensure loss or disturbance to aquatic habitat is minimized and sensitive spawning habitats are avoided.

1.12 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 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 dust control during the entire course of the work.

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- 1.13 Fires
- 1.14 Archaeological
- .4 Do not use oil or any other petroleum products for dust control.
 - .1 Fires and burning of rubbish on site is not permitted.
 - .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 his / her immediate supervisor.
 - .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.
 - a) Nova Scotia - NS Department of Communities, Culture and Heritage, Special Places Program, telephone: (902) 424-6475

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 30: Health and Safety
- .2 Section 01 36 40: 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.

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- 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 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 30].
 - .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.
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.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.

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 30]. 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 30].
- .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 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 Shutoff, 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.
- .3 Costs incurred, from the fire department, building owner [and tenants], resulting from negligently setting off false alarms will be charged to the Contractor in the form of

financial progress payment reductions and
holdback assessments against the Contract.

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| 1.11 Documents
<u>on Site</u> | .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. |

PART 2 - PRODUCTS

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| 2.1 <u>Not Used</u> | .1 | Not Used. |
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PART 3 - EXECUTION

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| 3.1 <u>Not Used</u> | .1 | Not Used. |
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PART 1 - GENERAL

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| 1.1 Section
<u>Includes</u> | .1 Procedures to isolate and lockout electrical facility or other equipment from energy source. |
| 1.2 <u>Related Work</u> | .1 Section 01 35 30: Health and Safety

.2 Section 01 36 20: Fire Safety Requirements |
| 1.3 <u>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 Labor Code. |
| 1.4 <u>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, 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 30].
 - .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 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 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 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 30].

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.
- .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.
 - .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 Departmental representative or to authorized safety representative for inspection.

PART 2 - PRODUCTS

2.1 Not Used

- .1 Not Used.

PART 3 - EXECUTION

Testing Laboratory Services

Page 1

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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.
 - .2 Notify Departmental representative sufficiently in advance of operations to
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Testing Laboratory Services

Page 2

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.

Temporary Facilities

Page 1

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| 1. <u>Access</u> | .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> | .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 01005. |
| 3. Departmental
representative's
<u>Site Office</u> | .1 Provide temporary office for sole use of Departmental representative, 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 grade, complete with 4-50% opening windows and one lockable door. |

Temporary Facilities

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| | .3 | Arrange and pay for telephone and fax machine installation and service in Departmental representative's office for the Departmental representative's exclusive use. |
| | .4 | Washroom facilities not required in the office. Provide outside sanitary facilities to approval. |
| | .5 | Equip office with six chairs, flat 1200 mm x 2400 mm x 25 mm table with writing surface and 4 drawer lockable filing cabinet. |
| | .6 | Maintain in clean condition. |
| 4. | <u>Storage Sheds</u> | |
| | .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. | <u>Sanitary Facilities</u> | |
| | .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. | <u>Parking</u> | |
| | .1 | Contractor to make own arrangements to provide parking space for work force. |
| 7. | <u>Power</u> | |
| | .1 | Arrange, pay for and maintain temporary electrical power supply in accordance with governing regulations and ordinances. |
| | .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. |

Temporary Facilities

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| 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 Departmental representative. |
| | .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. Site Signs and
<u>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 Departmental representative. |
| | .3 | Signs and notices for safety or instruction to be in English and French languages, or commonly understood graphic symbols. |
| 12. Removal of
Temporary
<u>Facilities</u> | .1 | Remove temporary facilities from site when directed by Departmental representative. |
| | .2 | When project is closed down for a period of time, keep temporary facilities operational until no longer required by Departmental representative. |

Cleaning

Page 1

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| 1. <u>General</u> | .1 Conduct cleaning and disposal operations to comply with ordinances and anti-pollution 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> | .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> | .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. |