
PART 1 - GENERAL

1. Documents Required .1 Maintain at job site, one copy each of the 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 Not Used
3. Work Schedule and Completion Dates
 - .1 Prepare and submit to the Departmental Representative with five (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 of submissions, review and return of all drawings, etc.; the dates of Substantial Completion; and intended man hours of labour and equipment for each major items 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 Dates of the Construction Schedule at all times. If, for any reason the Construction Schedule is not followed, immediately notify the Departmental Representative of the changes 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.
- .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* 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 said damage will be repaired at Contractor's expense.

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- .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 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 batter boards 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.

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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 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 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 as stated in the contract.

12. Cutting, Fitting and Patching

- .1 Execute cutting (including excavation), fitting and patching required to make work fit properly.
- .2 Make cuts with clean, true, smooth edges. Make patches inconspicuous in final assembly.
- .3 Where new work connects with existing and where existing work is altered, cut, patch and make good to match existing work.
- .4 Obtain Departmental Representative's approval before cutting, boring or sleeving, or excavating adjacent to load-bearing members.

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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".
 - .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 prices of the Contract.
 - .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 should 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
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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 coordinate activities such that any interference is minimized.
17. Cooperation & Assistance to Departmental Representative .1 Co-operate with Departmental Representative on inspection of work.
.2 Provide assistance when requested.
.3 Provide small motor boat with operator and sounding chain for Departmental Representative's use when requested.
18. Datum .1 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".

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20. Workers
Compensation .1 Contractor and all sub-contractors must be registered under the Workers Compensation Act and provide evidence of good standing.
- .2 The Contractor will present to the Departmental Representative a current 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 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.

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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. This includes costs of disposing of contaminated materials such as creosote treated timber. Disposal is the responsibility of the Contractor.
 - .2 Material from the work will not be permitted to go adrift or otherwise become a menace to navigation.
26. Existing Soils
Conditions
- .1 Not Used
27. Relics And
Antiquities
- .1 Protect relics, antiquities, items of historical or scientific interest such as cornerstones and contents, commemorative plaques, inscribed tablets, and similar objects found during course of work.
 - .2 Give immediate notice to Departmental Representative and await written instructions before proceeding with work in this area.
 - .3 Relics, antiquities and items of historical or scientific interest remain her Majesty's property.
28. Temporary
Navigational Buoys
- Not Used

PROJECT PARTICULARS

The work covered under this project consists of the furnishing of all plant, labour, equipment, hardware and materials, complete and in strict accordance with specifications and accompanying drawings and subject to all terms and conditions of contract. Bidders are advised that opportunities and requirements may arise that may warrant changes to the work that are in keeping with this general scope of work. Such changes will be made through the change order processes as outlined in the contract documents.

1. Description
of Work

- .1 The work under this contract will generally consist of but will not necessarily be limited to the following:
 - .1 Mobilization, construction staging area preparation, temporary cofferdams, water control, Site safety, environmental protection, disposal of all excavated and demolished materials off site, demobilization, clean-up, making good any damage to surrounding areas affected by the construction.
 - .2 Removal and salvage of the existing grating. Grating to be reinstated once concrete restoration is completed, as indicated on the drawings. Removal to be carried out in stages as noted.
 - .3 Demolition and removal of the existing reinforced concrete fishway baffles, beams, and baffle footings, as indicated on the drawings; Demolition and removals to be carried out in stages as noted.
 - .4 Demolition and removal of existing portion of the fishway exit walls (Cell 18), as indicated on the drawings; Trash rack to be reinstated upon reconstruction.

- .5 Demolition and removal of the existing attraction water pipeline and concrete cradles, and openings to be filled with concrete, as indicated on the drawings.
- .6 Construction of new reinforced concrete fishway weirs, baffle / weir footings, and fishway entrance walls (Cell 18), as indicated on the drawings.
- .7 Repair to the existing reinforced concrete fishway guide walls, as indicated on the drawings. Guide walls to extend vertically as indicated on the drawings.
- .8 Fabrication and installation of new galvanized steel vertical slot baffles, as indicated on the drawings.
- .9 Repair to the existing reinforced concrete diversion / training walls, as indicated on the drawings.
- .10 Removal and disposal of grating in Cell/pool #1 floor and openings to be filled with concrete, as indicated on the drawings.
- .11 Installation of galvanized steel HSS beam, bearing plate, nut washer and non-shrink grout at each baffle location, as indicated on the drawings.
- .12 Reinstallation / Reinstatement of grating as indicated on the drawings complete with new hot dip galvanized fastenings / clips.
- .13 Due to in-water working restrictions, the work shall commence at Contract Award and shall be completed by March 31, 2017.
- .2 The work includes but is not limited to:
 - .1 Carrying out a preconstruction site survey:
 - .1 Examine all drawings and check dimensions and elevations against site conditions and report any discrepancies to the *Departmental*

Representative before proceeding with the work. The survey shall also include details of the as-found concrete elements which will then form the "original" condition for the purposes of determining quantities for payment.

- .2 The preconstruction survey shall be considered incidental to the Contract.
- .2 Preparing a site specific Health and Safety Plan to address all risks on the site including but not limited to: Demolition and removal; overhead lifting; rock fall protection; fall protection; working in and around water, etc.
- .3 Contractors are advised that this project is being carried out in an area where fish habitat may be affected. The Contractor will perform the work to conform with all rules and regulations governing fish habitat and in accordance with authorization for work or under takings affecting fish habitat. Contractors must adhere to all environmental aspects and regulations described in the contract documentation.
- .4 Installation of all required in-stream, temporary water control / cofferdams / diversion structures at the upstream end of the fishway and at the downstream outlet end of the fishway as required to control water and to allow work to proceed unimpeded.
- .5 Dewatering of the work area as required.
- .6 Removal and salvage of the existing grating and provision of secure storage until time of grating reinstatement. Removal of the grating shall be carried

- out in incremental stages as described below.
- .7 Removal and disposal off site of the existing reinforced concrete fishway baffles, beams, and baffle footings, as indicated on the drawings.
 - .1 Demolition shall be carried out in incremental stages only sufficiently to allow uninterrupted progress for the reconstruction of the demolished portions of the fishway. It is not permitted to advance the demolition work beyond reasonable limits without the agreement of the *Departmental Representative*. It is critical that the work be completed and that the Contractor be fully demobilized with all temporary works removed, including in-stream cofferdams. Additionally, the fishway shall be cleaned of all debris and construction materials and be fully operational and satisfactory for the fish run by March 31, 2017.
 - .2 Do not allow materials to fall into the stream. Promptly remove material which does enter stream.
 - .8 Removal and disposal off site of the existing portion of the fishway exit walls (Cell #18), as indicated on the drawings. Trash rack to be removed and reinstalled with stainless steel adhesive concrete anchors upon completion of Cell #18.
 - .9 Removal and disposal off site of the existing attraction water pipeline and concrete cradles. Openings to be filled with concrete, in accordance with drawings.
 - .10 Removal and disposal off site of grating located in Cell #1 floor. Openings to be

- filled with concrete, as indicated on the drawings.
- .11 Removal of all waste, rubbish, debris, boulders, demolished materials, construction materials, etc. from the site and disposal off the site in an environmentally acceptable manner.
 - .12 Excavation and reinstatement of backfill material as required.
 - .13 Construction of new cast-in-place concrete fishway weirs, baffle / weir footings, and fishway exit walls (Cell #18), in accordance with drawings.
 - .14 Complete repairs / resurfacing of concrete fishway guide walls in accordance with drawings.
 - .15 Fabrication and installation of new galvanized steel vertical slot baffles, in accordance with the drawings.
 - .16 Complete repairs / resurfacing of concrete diversion / training walls in accordance with drawings.
 - .17 Supply and installation of steel HSS beams at each baffle location in accordance with the drawings.
 - .18 Reinstall trash rack and guide.
 - .19 Install new hot dip galvanized grating and reinstall existing salvaged grating in accordance with the drawings.
 - .20 Clean and reinstall the site and impacted areas to approval of *Departmental Representative*.

PROJECT MEASUREMENT

- 1. General .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. Measurement

For Payment

Lump Sum

This item shall include but not necessarily be limited to; mobilization, construction staging area preparation, temporary cofferdams, water control, Site safety, environmental protection, demolition of existing fishway baffles, baffle footings, beams, rock removal for new baffle footing slabs, demolition and chipping deteriorated concrete in fishway walls and diversion walls, removal and disposal of attraction water pipeline and cradles etc., in stages, concrete infill of Pool #1, disposal of all excavated and demolished materials off site, demobilization, clean-up, making good any damage to surrounding areas affected by the construction activities. Payment for the Lump Sum Item shall be based on the actual percent complete of the project at the time of submitting each monthly progress payment request.

Division 03

Concrete: Fishway Weirs / Baffles - Pay Item No. 1 (including all associated weirs, baffle footings): As specified including all plant material, labour and equipment will be measured in cubic metres (m³) of concrete supplied and placed in the work with measurements made only to the design elevations and dimensions shown on the drawings. Included, but incidental to this unit price, is all transportation, placement, finishing, waterstops, reinforcing steel, dowels, anchors, grout, bonding agent, formwork, cold weather protection, curing and all related accessories and required rock removal for the widened baffle footings. There shall be no measurement for demolition of concrete, removals, rock removal and disposal

which shall be included in the Lump Sum Item. Payment for "Fishway Weirs/ Baffles" shall be at the Unit Price Bid for Pay Item No. 1.

Concrete: Fishway Exit Walls - Pay Item No. 2: As specified including all plant material, labour and equipment will be measured in cubic metres (m³) of concrete supplied and placed in the work with measurements made only to the design elevations and dimensions shown on the drawings. Included but incidental to this unit price is all transportation, placement, finishing, waterstops, reinforcing steel, dowels, anchors, grout, bonding agent, formwork, cold weather protection, curing and all related accessories. There shall be no measurement for demolition of concrete, removals, and disposal which shall be included in the Lump Sum Item. Payment for "Fishway Entrance Walls" shall be at the Unit Price Bid for Pay Item No. 2.

Concrete: Fishway Guide Wall Repairs - Pay Item No. 3: shall be measured in cubic metres (m³) of concrete supplied and placed in the work with measurements made only to the design elevations and dimensions shown on the drawings. Included all plant, material, labour and equipment. Placement, finishing, cold weather protection, curing, waterstops, reinforcing steel, dowels, anchors, grout, bonding agent, formwork, and all related accessories shall be considered incidental. There shall be no measurement for demolition of concrete, removals and disposal which shall be included in the Lump Sum Item. Payment for "Fishway Guide Wall Repairs" shall be at the Unit Price Bid for Pay Item No. 3.

Concrete: Diversion / Training Wall Repairs - Pay Item No. 4: shall be measured in cubic metres (m³) of concrete supplied and placed in

the work with measurements made only to the design elevations and dimensions shown on the drawings. Included all plant, material, labour and equipment. Placement, finishing, cold weather protection, curing, waterstops, reinforcing steel, dowels, anchors, grout, bonding agent, formwork, and all related accessories shall be considered incidental. There shall be no measurement for demolition of concrete, removals and disposal which shall be included in the Lump Sum Item. Payment for "Diversion / Training Wall Repairs" shall be at the Unit Price Bid for Pay Item No. 4.

Division 05

HSS Crossbeams - Pay Item No. 5: shall be measured by the linear metre (m) of installed HSS beam as shown on the drawings. This item includes all plant, material, labour and equipment, all costs associated with installation, including fabrication and fastenings, anchorages, plates and hot dip galvanizing of all fabricated steel elements. Payment for "HSS Crossbeams" shall be at the Unit Price bid for Pay Item No. 5.

Steel Vertical Slot Baffles - Pay Item No. 6: shall be measured by the unit of fabricated and installed steel vertical slot baffles as shown on the drawings. This item includes all plant, material, labour and equipment, all costs associated with installation, including fabrication and fastenings, stainless steel anchorages, nitrile rubber gaskets, plates and hot dip galvanizing of all fabricated steel elements. Payment for "Steel Vertical Slot Baffles" shall be at the Unit Price bid for Pay Item No. 6.

Grating - Remove and Reinstall - Pay Item No. 7.1: shall be measured by the square metre (m²) of grating removed, securely stored and reinstated. This item includes all plant, material, labour and equipment, all costs associated with installation of the fishway grating, including support angles, fabrication and fastenings / hold down clips, anchorages, plates and hot dip galvanizing of all fabricated steel elements Payment for "Grating" shall be at the Unit Price bid for Pay Item No. 7.1.

Grating - Supply and Install New - Pay Item No. 7.2: shall be measured by the square metre (m²) of grating satisfactorily installed in the work. This item includes all plant, material, labour and equipment, all costs associated with supply and installation of the fishway grating, including support angles, fabrication and fastenings / hold down clips, anchorages, plates and hot dip galvanizing of all fabricated steel elements Payment for "New Grating" shall be at the Unit Price bid for Pay Item No. 7.2.

Miscellaneous Metals: No separate measurement for payment shall be made for all other metal fabrications not noted above, including but not necessarily limited to removal / salvage and reinstallation of trash rack guides, sill plates, base plates, bolts, and anchor bolts. Include all costs to fabricate, supply, and install all miscellaneous metals specified above and indicated on the drawings in the Lump Sum Pay item.

Division 31

Sitework, Demolition, and Removals:
Demolition and Removal: As specified including all materials, labour and equipment and

disposal off site shall be included in the Lump Sum Pay item.

Excavation and Backfilling: Trench
Excavating/Backfilling: There shall be No measurement for payment to be made under this section. Include costs in the Lump Sum Pay Item.

Division 35

Dewatering: No separate measurement for payment shall be made for items under this section. Include all costs for dewatering in the Lump Sum Pay Item.

PART 1 - GENERAL

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| 1. <u>General</u> | .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. <u>Shop Drawings</u> | .1 Drawings to be originals prepared by contractor, subcontractor, supplier or distributor, which illustrate appropriate portion of work, showing fabrication, layout, setting or erection details as specified in appropriate sections. |
| | .2 Identify details by reference to sheet and detail numbers shown on Contract Drawings. |
| | .3 Maximum sheet size 860mm X 1120 mm. |
| 3. <u>Product Data</u> | .1 Certain specification sections specify that manufacturer's standard schematic drawings, catalogue sheets, diagrams schedules, performance chart, illustrations and other standard descriptive data will be accepted in lieu of shop drawings. |
| 4. <u>Samples</u> | .1 Submit samples in sizes and quantities specified. |
| | .2 Construct field samples and mock-ups at locations acceptable to Departmental Representative. |
| | .3 Accepted samples will become standards of workmanship and material against which, installed work will be checked on project. |
| 5. <u>Miscellaneous Data</u> | .1 Provide certificates, methodologies, design and test results as required. |

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6. Coordination
of Submissions
- .1 Review shop drawings, product data, samples and miscellaneous data prior to submissions.
 - .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 the 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 the 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 7 days before dates reviewed submissions will be needed.
 - .2 Not Used
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- .3 Accompany submissions with transmittal letter, in duplicate, containing:
 - .1 Date.
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each shop drawing, product data and sample 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 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Separate details 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, initialed 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 the general concept.

PART 1 - GENERAL

- 1.1 Section
Includes
 - .1 Fire Safety Requirements
 - .2 Hot Work Permit
 - .3 Existing Fire Protection and Alarm Systems
- 1.2 Related Work
 - .1 Section 01 35 29: Health and Safety
 - .2 Section 01 35 25: Special Procedures on Lockout Requirements
- 1.3 References
 - .1 FCC No. 301-June 1982 Standard for Construction Operations.
 - .2 FCC No. 302-June 1982 Standard for Welding and Cutting.
- 1.4 Definitions
 - .1 Hot Work defined as:
 - .1 Welding work
 - .2 Cutting of materials by use of torch or other open flame devices
 - .3 Grinding with equipment which produces sparks.
- 1.5 Submittals
 - .1 Submit copy of Hot Work Procedures, to Departmental Representative for review, within [14] calendar days after contract award.
 - .2 Include sample of Hot Work Permit.
 - .3 Submit above documents in accordance with the submittal general requirements specified in Section 01 33 00.

1.6 Fire Safety &

Hot Work Requirement

- .1 Implement and follow fire safety measures during Work. Comply with following:
 - .1 National Fire Code, 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.

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 29. Carry out 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 carry out hot work.
 - .3 Provision of a designated person (s) to carry out 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 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 and;
 - .4 Returned to Contractor's Site Superintendent for safe keeping.

1.10 Fire Protection_
And Alarm Systems

- .1 Not Used

1.11 Documents on Site

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

PART 1 - GENERAL

- 1.1 Related Work .1 Section 01 35 24: Special Procedures on Fire Safety Requirements.
- 1.2 Definitions .1 COSH: Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code.
- .2 Competent Person: means a person who is:
- .1 Qualified by virtue of personal knowledge, training and experience to perform assigned work in a manner that will ensure the health and safety of persons in the workplace, and;
- .2 Knowledgeable about the provisions of occupational health and safety statutes and regulations that apply to the Work and;
- .3 Knowledge of potential or actual danger to health or safety is associated with the Work.
- .3 Medical Aid Injury: any minor injury for which medical treatment was provided and the cost of which is covered by Workers' Compensation Board of the province in which the injury was incurred.
- .4 PPE: personal protective equipment
- .5 Work Site: where used in this section shall mean areas, located at the premises where Work is undertaken, used by Contractor to perform all of the activities associated with the performance of the Work.
- 1.3 Submittals .1 Make submittals in accordance with Section 01 33 00.

- .2 Submit site-specific Health and Safety Plan prior to commencement of Work.
 - .1 Submit within 5 days of notification of Bid Acceptance.
 - .2 Departmental Representative will review Health and Safety Plan and provide comments.
 - .3 Revise the Plan as appropriate and resubmit within 5 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.

1.4 Compliance
Requirements

- .1 Comply with the Occupational Health and Safety Act for the Province of Nova Scotia, and the Regulations made pursuant to the Act.
- .2 Comply with Canada Labour Code Part II, and the Canada Occupational Safety and Health Regulations made under Part II of the Canada Labour Code.
- .3 Observe and enforce construction safety Requirements measures required by:
 - .1 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 Labour Code Part II may be obtained by contacting:
Canadian Government Publishing
Public Works & Government Services Canada
Ottawa, Ontario, KIA OS9
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.

-
- .7 Medical Surveillance: Where prescribed by legislation or regulation, obtain and maintain worker medical surveillance documentation.
- 1.5 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.
- .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.
- 1.6 Site Control and Access
- .1 Control work site and entry points. Grant and allow entry to only workers and other persons so authorized. Immediately stop non-authorized persons from circulating within construction areas and remove from site.
- .2 Implement procedures for granting permission to enter onto work site to all persons who require access. Procedures to include the provision of a site safety orientation session.
- .3 Delineate and isolate construction areas from other areas of site by use of appropriate means. Erect barricades, fences, hoarding and temporary lighting as required. See Section 01 50 00 for minimum type of barriers acceptable.
- .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.

1.7 Protection

- .1 Provide temporary facilities for protection and safe passage of 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.

1.8 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.

-
- 1.9 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.
- 1.10 Hazard Assessments
- .1 Perform site specific health and safety hazard assessment of the Work and its site.
 - .2 Carryout initial assessment prior to commencement of Work with further assessments as needed during progress of work, including when new trades and subcontractors arrive on site.
 - .3 Record results and address in Health and Safety Plan.
 - .4 Keep documentation on site for entire duration of the Work.
- 1.11 Project / Site Conditions
- .1 Following are potential health, environmental and safety hazards at the site for which Work may involve contact with:
-

- .1 Existing hazardous and controlled products stored on site:
 - .1 None known
- .2 Existing hazardous substances or contaminated materials:
 - .1 None known
- .3 Known latent site and environmental conditions:
 - .1 Refer to Environmental Documentation
- .4 Facility on-going operations:
 - .1 Contractor to perform Hazard Assessment to identify all hazards affecting their work.
- .2 Above items shall not be construed as being complete and inclusive of potential health and safety hazards encountered during Work.
- .3 Include above items in the hazard assessment of the Work.
- .4 MSDS Data sheets of pertinent hazardous and controlled products stored on site can be obtained from Departmental Representative.

1.12 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.

1.13 Health and
Safety Plan

- .1 Develop written site-specific Project Health and Safety Plan, based on hazard assessments, prior to commencement of work. Submit plan to Departmental Representative within seven (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 engineering 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 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, housed in building located in vicinity, 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 Representative (s) which could affect facility 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:

<u>Column 1</u>	<u>Column 2</u>	<u>Column 3</u>
Identified Hazard	Control Measures	Emergency Measures & Communications Implemented 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 on-going hazard assessments.
- .7 Submit revised versions of Plan to Departmental Representative.
- .8 Post a typed written copy, including all Safety Plan 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, 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.

1.14 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 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.
- .6 Cooperate with Facility's Occupational Health and Safety representative should one be designated by Departmental Representative.
- .7 Keep inspection reports and supervision related documentation on site.

1.15 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.

1.16 Minimum Site
Safety Rules

- .1 Notwithstanding the requirement to abide by federal and provincial health and safety regulations, the following safety rules shall be considered minimum requirements at the work site and obeyed by all persons granted access:
 - .1 Wear 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.
- .2 The following actions or conduct by Contractor, workers and sub-contractors will be considered as non conformance with the health and safety requirements of the contract for which a Non-Compliance Notification will be issued to the General Contractor by the Departmental Representative:

- .1 Failure to follow the minimum site safety rules specified above.
 - .2 Negligence resulting in serious injury or major property damage.
 - .3 Deliberate non-compliance with Federal and Provincial Acts and Regulations.
 - .4 Falsification of information in Workers Compensation Reports, safety reports and other health and safety related documents submitted to Departmental Representative or to Authority having jurisdiction.
 - .5 Possession of firearms on site.
 - .6 Possession of non-prescriptive illegal drugs or alcohol.
 - .7 Action, or lack thereof, resulting in the issuance of Warnings, Fines or Stop Work Orders from a Provincial Authority having jurisdiction.
 - .8 Violation of other specified health and safety rules and requirements as determined by Departmental Representative.
-
- .3 The final decision as to what constitutes a safety violation or non-compliance issue will be made by Departmental Representative.
 - .4 Brief workers on site safety rules, and on the disciplinary measures to be taken for violation or non compliance of such rules.
-
- 1.17 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.
- 1.18 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 Medical aid in above clause shall have the same meaning as the term "medical aid injury" as defined in the Canadian Dictionary of Safety Terms from the Canadian Society of Safety Engineers (C.S.S.E) as follows:
 - .1 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.
- 1.19 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 subcontractor's equipment as part of the inspection process.
- .2 Use standardized checklists to ensure established safety checks are stringently followed.
- .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.
- 1.20 Hazardous Products .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 Products common area, visible to workers.
- 1.21 Blasting .1 Blasting or other use of explosives is not permitted on site.
- 1.22 Powder Actuated Devices .1 Use power actuated fastening devices only after receipt of written permission from Departmental Representative.
- 1.23 Confined Spaces .1 Abide by occupational health and safety regulations regarding work in confined spaces.

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- .2 Obtain an Entry Permit in accordance with Part XI of the Canada Occupational Health and Safety Regulations for entry into an existing identified confined space located at the Facility or premises of Work.
 - .1 Obtain permit from Facility Manager
 - .2 Keep copy of permit issued.
 - 1.24 Posting of Documents
 - .1 Post documents indicated herein and as required by Authority having jurisdiction.
 - .2 Post other documents as specified herein, including:
 - .1 Site specific Health and Safety Plan
 - .2 WHMIS data sheets
 - 1.25 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 1 - GENERAL

1.1 References

- .1 WHMS: Workplace Hazardous Materials Information System, Health Canada.
- .2 Transportation of Dangerous Goods Act. Transport Canada, updated 2008-02-21.
- .3 MBCA: Migratory Birds Convention Act, Environment Canada, 1994.
- .4 Canadian Coast Guard Regulations, Department of Fisheries and Oceans Canada.
- .5 Canadian Shipping Act, Transport Canada, 2001.
- .6 AWWPA: American Wood Preserver Association
- .7 Fisheries Act
- .8 Canadian Environmental Protection Act (CEPA)

1.2 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.

1.3 Submittals

- .1 Submittals: in accordance with Submittal Procedures.
- .2 Prior to commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by Departmental Representative. Environmental Protection Plan is to present comprehensive overview of known or potential environmental issues which must be addressed during construction.
- .3 Address topics at level of detail commensurate with environmental issue and required construction tasks.
- .4 Environmental protection plan: include:
 - .1 Names of persons responsible for ensuring adherence to Environmental Protection Plan.
 - .2 Names and qualifications of persons responsible for manifesting hazardous waste to be removed from site.

.3 Names and qualifications of persons responsible for training site personnel.

.4 Descriptions of environmental protection personnel training program.

.5 Erosion and sediment control plan which identifies type and location of erosion and sediment controls to be provided including monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.

.6 Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on site.

.7 Spill Control Plan: including procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.

.8 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.

.9 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, do not become air borne and travel off project site.

.10 Contaminant prevention plan that: identifies potentially hazardous substances to be used on job site; identifies intended actions to prevent introduction of such materials into air, water, or ground; and details provisions for compliance with

Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.

.11 Wastewater management plan that identifies methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines.

1.4 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 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.

1.5 Disposal Of
Dredged Material

Not used

1.6 Concrete Placement

- .1 There will be no concrete production on site. Concrete is to be supplied to the site in a ready-mix form.

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 31 11 00 - Demolition and Removals.
- .3 Do not dispose of hazardous waste, volatile materials (such as mineral spirits, paints, thinners etc...) and petroleum products into waterways, storm or sanitary sewers or in waste landfill sites.
- .4 Dispose of hazardous waste in accordance with applicable federal and provincial 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 any excavation or dredging work of a watercourse in such a manner to limit turbidity and reduce sediment suspension in the water to an absolute minimum at all times.
 - .1 Maintain appropriate production speed and momentum of the excavation equipment. Make adjustments as required and as approved by Departmental Representative.
 - .2 Strategically position excavator equipment and haul vehicles to avoid over the water swings of excavated material whenever possible.
- .2 Not Used
- .3 Visually monitor the water turbidity of the surrounding areas adjacent to the dredge area on a daily basis during the in-water work periods.
 - .1 Should excessive change occur in the turbidity of the water outside the work area, such as a distinct color difference; the work must stop and contact should be made with Mr. Craig Hominick; of the Department of Fisheries and Oceans - Fisheries Protection Program at [902-802-6134], to determine if additional mitigation measures are required.
- .4 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.
- .5 Do not wash down equipment within a 30 metre buffer zone of a wetland, watercourse or other identified environmentally sensitive area.

1.10 DRAINAGE

- .1 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
- .2 Do not pump water containing suspended materials into waterways, sewer or drainage systems.
- .3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with governing regulations and requirements.
- .4 Pumped water must meet applicable federal, provincial and municipal standards before it can be discharged to a surface water body. If regulatory guidelines exceedences are noted, the Departmental Representative has the right to issue stop pumping instructions to the Contractor. Contractor will not be compensated for any delays associated with retrofitting equipment to meet guidelines.

- .5 Provide control devices such as filter fabrics, sediment traps and settling ponds to control drainage and prevent erosion of adjacent lands. Maintain in good order for duration of work.

1.11 Blasting Not used

1.12 Socioeconomic Restrictions Not used

1.13 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 neighbouring vegetation until nesting is completed.
 - .2 Minimize work immediately adjacent to such areas until nesting is completed.
 - .3 Protect these areas by following recommendations of Canadian Wildlife Service.
- .7 Grubbing, tree cutting, or work outside the project boundaries will not be allowed without approval from departmental rep. due to the nesting of the following migratory birds:
 - .1 Olive Sided Flycatcher
 - .2 Canadian WarblerSee Departmental Representative for more information

1.14 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 other all 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 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.
- .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 wash down for each piece of equipment;
 - .4 Cleaning method and cleaning agent(s) used.
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- .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 Environment Canada and the Department of Fisheries and Oceans - Oceans and Habitat Branch in cleaning and wash down of equipment.
 - .9 Work cannot be performed on or after March 31, 2017 due to spawning of the following fish species:
 - .1 Atlantic Salmon
 - .2 Brook Trout
 - .3 Gasperau
 - .10 Fishway must be operational on March 31, 2017

1.15 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.

1.16 Fires

- .1 Fires and burning of rubbish on site is not permitted.

1.17 Archaeological

- .1 All construction personnel are responsible for reporting any unusual materials unearthed during construction to the construction supervisor. If the find is believed to be an archaeological resource, the construction supervisor will immediately stop work in the vicinity of the find and notify his/her immediate supervisor.
- .2 If an archaeological and/or historically significant item is discovered during excavation, work in the area will be stopped and Departmental representative will be contacted.

PART 1 - GENERAL

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| 1. <u>Access</u> | <ul style="list-style-type: none">.1 Provide and maintain adequate access to project site..2 If authorized to use existing roads or structures for access to project site, maintain such roads for duration of Contract and make good damage resulting from Contractor's use of roads..3 The Contractor is to maintain full access to the work site. Should a court injunction be required ordering a person or group to refrain from impeding access to the site, such as a demonstration, picketing or union action, then obtaining the injunction and any associated costs will be considered incidental to this Contract. Any delays associated with such activity will be considered incidental to this Contract. |
| 2. <u>Contractor's Site Office</u> | <ul style="list-style-type: none">.1 Establish on the site of the work and keep open at all times during the execution of the work an office where all letters, orders, notices and other communications may be received or acknowledged either by the Contractor or his authorized agent or representative. Provide a telephone in the office..2 Keep one up-to-date copy of contract documents, bulletins and other materials as specified under Section 01 10 10. |
| 3. <u>Departmental Representative's Site Office</u> | <p>Not Used</p> |
| 4. <u>Storage Sheds</u> | <ul style="list-style-type: none">.1 Provide adequate weather tight sheds with raised floors, for storage of materials, tools |

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- and equipment which are subject to damage by weather.
- .2 Contractor to make his own arrangements for on-site storage areas.
5. Sanitary Facilities
- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.
6. Parking
- .1 Contractor to make own arrangements to provide parking space for work force.
7. Power
- .1 Arrange, pay for and maintain temporary electrical power supply in accordance with governing regulations and ordinances.
8. Water Supply
- .1 Arrange, pay for and maintain temporary water supply in accordance with governing regulations and ordinances.
9. Barricades
- .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.
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| 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. |

PART 1 - GENERAL

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|---------------------------------------|---|
| 1. <u>General</u> | <ul style="list-style-type: none">.1 Use new material and equipment unless otherwise specified..2 Submit following information for any or all materials and products proposed for supply within seven (7) days of request by Departmental Representative:<ul style="list-style-type: none">.1 name and address of manufacturer.2 trade name, model and catalogue number.3 performance, descriptive and test data.4 manufacturer's installation or application instructions.5 evidence of arrangements to procure..3 Provide material and equipment of specified design and quality, performing to published ratings and for which replacement parts are readily available..4 Use products of one manufacturer for equipment or material of same type or classification unless otherwise specified. |
| 2. <u>Manufacturer's Instructions</u> | <ul style="list-style-type: none">.1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods..2 Notify Departmental Representative in writing of any conflict between these specifications and manufacturers' instructions. Departmental Representative will designate which document is to be followed. |
| 3. <u>Fastenings - General</u> | <ul style="list-style-type: none">.1 All fastenings are to be the sizes indicated on the contract plans and are to be hot dipped galvanized to ASTM 123 unless otherwise noted. |

MATERIALS AND EQUIPMENT

Page 2 of 3

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4. Delivery and Storage
- .1 Deliver, store and maintain packaged material and equipment with manufacturer's seal and labels intact.
 - .2 Prevent damage, adulteration and soiling of material and equipment during delivery, handling and storage. Immediately remove rejected material and equipment from site.
 - .3 Store material and equipment in accordance and Storage with supplier's instructions.
5. Conformance
- .1 When material or equipment is specified by standard or performance specifications, upon request of Departmental Representative, obtain from manufacturer an independent testing laboratory report, stating that material or equipment meets or exceeds specified requirements.
6. Substitution
- .1 Proposals for substitution may be submitted only after award of Contract. Such requests must include statements of respective costs of items originally specified and proposed substitutions.
 - .2 Proposals will be considered by Departmental Representative if:
 - .1 Products selected by tenderer from those specified, are not available, or
 - .2 Delivery date of products from those specified would unduly delay completion of Contract, or
 - .3 Alternative products to those specified, which are brought to attention of, and considered by Departmental Representative as equivalent to those specified and will result in a credit to Contract amount.
 - .3 Should proposed substitution be accepted either in part or in whole, assume full responsibility and costs when substitution
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MATERIALS AND EQUIPMENT

Page 3 of 3

affects other work on project. Pay for design or drawing changes required as result of substitution.

.4 Amounts of all credits arising from approval of substitutions will be determined by Departmental Representative and Contract price will be reduced accordingly. No substitutions will be permitted without prior written approval of Departmental Representative.

.5 Departmental Representative reserves the right for acceptance or rejection of substitution of materials.

1.7 Construction

Equipment and Plant

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

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

1.8 Damaged and

Rejected Materials

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

.2 Remove rejected materials from site.

PART 1 - GENERAL

1. Record
Drawings
 - .1 Maintain project record drawings and accurately record deviations from contract documents caused by site conditions and changes ordered by Departmental Representative.
 - .2 Mark changes in red.
 - .4 Record following information:
 - .1 Elevations of various elements in relation to Chart Datum.
 - .2 Field changes in dimensions and details.
 - .3 Changes made by Change Order.
 - .5 At completion of project and prior to final inspection, neatly transfer notations to second set and submit both sets to Departmental Representative.

PART 1 - GENERAL

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|---|---|
| 1. <u>General</u> | <ul style="list-style-type: none">.1 Conduct cleaning and disposal operations to comply with local ordinances and antipollution laws..2 Store volatile waste in covered metal containers, and remove from premises at end of each working day..3 Prevent accumulation of waste which creates hazardous conditions. |
| 2. Cleaning During
<u>Construction</u> | <ul style="list-style-type: none">.1 Maintain the work, at least on a daily basis free from accumulations of waste material and debris..2 Provide on-site containers for collection of waste materials, and debris..3 Remove waste materials, and debris from site..4 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces. |
| 3. <u>Final Cleaning</u> | <ul style="list-style-type: none">.1 In preparation for acceptance of the project on an interim or final certificate of completion perform final cleaning..2 Remove grease, dust, dirt, stains, and other foreign materials, from exterior finished surfaces. |