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PART 1 - GENERAL

1.1 Location of Work

- .1 Latchford Dam is located in Latchford Ontario. The town of Latchford is 25 km south of New Liskeard and 132 km north of North Bay on Highway 11.
- .2 Latchford Dam is about 100 years old and is scheduled to be replaced about three years hence. In the interim, the continued use of the existing stoplog lifting machine is required.
- .3 The stoplog lifting machine is a special purpose gantry crane used solely to place and remove stoplogs from the sluices. The machine is rail-mounted to ensure correct positioning over the sluice. Before handling stoplogs, the operators tie-down the machine to anchors on the dam deck to prevent its overturning. Stiff arms, called rams, driven by a rack-and-pinion gearing, lift and lower stoplogs. Trolley-mounted electric chain hoists on cantilever beams transfer stoplogs between the sluice opening on deck and a storage area on deck immediately downstream of the sluice opening.
- .4 A recent inspection of the stoplog lifting machine revealed three structural defects, the correction of which forms the Work of this contract:
  - .1 Secure anchor points are required on the stoplog lifting machine for personnel fall-arrest harnesses.
  - .2 Two machine anchor points on the dam deck are damaged.
  - .3 Cast iron cross-members in the undercarriage of the stoplog lifting machine are cracked.

1.2 Reference Directions

- .1 "Left" and "right" ends of the dam are taken when facing downstream.

1.3 Access to Work

- .1 The dam is accessible off Highway 11. A limited amount of parking is available on the left abutment.
- .2 The deck is surrounded by a chain link fence. Gates at both abutments give access to the deck.
- .3 Advise Departmental Representative at least 7 days in advance of work at the dam site to allow for access arrangements.

1.4 Taxes

- .1 Pay all taxes properly levied by law (including Federal, Provincial and municipal).

### 1.5 Fees, Permits, and Certificates

- .1 Pay all fees and obtain all permits. Provide authorities with plans and information for acceptance certificates. Provide inspection certificates as evidence that work conforms to requirements of Authority having jurisdiction.

### 1.6 Construction Progress Schedule

- .1 On award of contract submit bar chart construction schedule for work, indicating anticipated progress stages within time of completion. When the Departmental Representative has reviewed schedule, take necessary measures to complete work within scheduled time. Do not change schedule without notifying Departmental Representative.
- .2 Give the Departmental Representative 48 hours notice for work to be carried out during "off hours" (before 7 AM or after 7 PM).

### 1.7 Submittal Procedures

- .1 Submit to Departmental Representative all submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with work affected by submittals until review is complete.
- .3 Shop Drawings:
  - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Ontario.
  - .2 The review of shop drawings by Public Works and Government Services Canada (PWGSC) is for sole purpose of ascertaining conformance with general concept. This review shall not mean that PWGSC approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same.
  - .3 Do not start fabrication or order materials until shop drawings have been accepted by the Departmental Representative.
- .4 Product Data: - Submit copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.

### 1.8 Fire Safety Requirements

- .1 Fires or rubbish burns on site are not permitted.

- .2 Hot work is not permitted on site.
- .3 Comply with Human Resources and Skills Development Canada (HRSDC), Fire Commissioner of Canada Standards:
  - .1 FC 301, Standard for Construction Operations, [June 1982] - Standards
  - .2 FC 374, Fire Protection Standard for General Storage (Indoor and Outdoor), [September 1994] - Standards.
- .4 Retain all fire safety documents and standards on site.

#### 1.9 Hazardous Materials

- .1 "Hazardous Material" :- product, substance or organism used for the purposes for which it was originally intended, and that has a negative effect on the environment or on the health of people, animals, or plants when released into the environment.
- .2 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials.
- .3 Hazardous materials discovery :
  - .1 Stop work immediately when material resembling a hazardous material or a Designated Substance is encountered during Work.
  - .2 Take preventative measure and promptly notify Departmental Representative.
  - .3 Do not proceed until written instructions have been received from Departmental Representative.

#### 1.10 Temporary Utilities

- .1 Electrical:
  - .1 Existing services required for work may be used by the Contractor without charge. Maximum power supply of 120 V, single phase, 60 Hz is available in the storage shed on the left abutment and inside the stoplog lifting machine (when machine is plugged into the 600V supply on deck).
  - .2 Ensure capacity is adequate prior to imposing additional loads. Connect and disconnect at Contractor's own expense and responsibility. Connect to existing power supply in accordance with Canadian Electrical Code.
  - .3 Provide additional electrical generators if required.
- .2 Sanitary:- There are no existing sanitary facilities available on site. Provide sanitary facilities for work force in accordance with governing regulations and ordinances.

### 1.11 Construction Facilities

#### .1 Site Storage:

- .1 Provide and maintain, in clean and orderly condition, lockable weatherproof storage for tools, equipment and materials.
- .2 Do not unreasonably encumber premises with products.

#### .2 Signage:

- .1 Provide common-use signs related to traffic control, information, instruction, use of equipment, public safety devices, etcetera, in both official languages or by the use of commonly understood graphic symbols and to approval of the Departmental Representative. Graphic symbols:- to CAN/CSA-Z321.
- .2 Maintain approved safety signs and notices in good condition for duration of project, and dispose of off site on completion of project or earlier if directed by Departmental Representative.
- .3 No advertising will be permitted on this project.

- .3 Parking:- The Latchford Dam has no parking lot. Conform to Municipal by-laws for on-street parking.

### 1.12 Temporary Barriers and Enclosures

- .1 Ensure chain link fence gates at dam abutments are locked at the end of each work day.
- .2 Protect Work against damage until take-over.

### 1.13 Quality of Work

- .1 Carry out work using qualified licenced workers or apprentices in accordance with Provincial Act respecting manpower vocational training and qualification.
- .2 Permit employees registered in Provincial apprenticeship program to perform specific tasks only if under direct supervision of qualified licensed workers.
- .3 Determine permitted activities and tasks by apprentices, based on level of training attended and demonstration of ability to perform specific duties.
- .4 Ensure quality of work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed.

- .5 Do not employ anyone unskilled in their required duties. Departmental Representative reserves right to require dismissal from site, workers deemed incompetent or careless.
- .6 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Departmental Representative.
- .7 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable.
- .8 Departmental Representative's use of third-party inspection or testing agencies does not relax Contractor's responsibility to perform Work.

#### 1.14 Preliminary Examination

- .1 Examine site and conditions likely to affect work and be familiar and conversant with existing conditions. Be aware of all difficulties involved and the logistics of delivering and operating plant and of delivering, handling, and storing materials on site.
- .2 Submit photographs of surrounding properties, objects and structures liable to be damaged.

#### 1.15 Execution

- .1 Patch and make good all surfaces cut, damaged or disturbed, to Departmental Representative's approval.
- .2 Unless otherwise specified, materials for removal become the Contractor's property and shall be taken from site.

#### 1.16 Closeout Submittals

- .1 As work progresses, maintain accurate records to show deviations from contract drawings. Just prior to Departmental Representative's inspection for issuance of final certificate of completion, supply to the Departmental Representative one (1) set of white prints with all deviations neatly inked in.
- .2 Guarantees and Warranties: Before completion of work, collect all manufacturer's warranties and deposit with Departmental Representative.

#### 1.17 Cost Breakdown

- .1 Before submitting first progress claim, submit breakdown of Contract Amount in detail as directed by Departmental Representative and aggregating the Contract Amount. After approval by Departmental Representative cost breakdown will be used as the basis of progress payments.

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PART 2 - PRODUCTS

2.1 Acceptance of Materials

- .1 Materials shall be new and work shall conform to the minimum applicable standards of the "References" indicated in the specification sections, and all applicable Provincial and Municipal codes. In the case of conflict or discrepancy the most stringent requirement shall apply.
- .2 Reference is made to CGSB, CSA, ASTM and other national and international standards. These standards when quoted form an integral part of and are to be considered as if reproduced within Specification. The latest edition is applicable unless a dated edition is specified.
- .3 Where materials are specified to CSA, CGSB, ASTM, or similar standards, submit a written request to Departmental Representative for approval of selected relevant items. Include test data bearing a recent date of test, manufacturer's details and other documents to prove that proposed product meets the specified standard.
- .4 Do not use materials or products in Work until written approval has been received from Departmental Representative.
- .5 Pay cost of additional work and modifications to design due to use of alternatives.

2.2 Common Product Requirements

- .1 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions.
- .3 Store packaged or bundled products in original and un-damaged condition with manufacturer's seal and labels intact. Do not remove packaging or bundling until required in work.
- .4 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.
- .5 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products, but obtain written instructions directly from manufacturers.

- .6 Deliver cementitious materials in clearly marked, sealed, bags and store in dry, heated, enclosure maintained between 2 and 40 degrees C.

### PART 3 - EXECUTION

#### 3.1 Work Lay-Out

- .1 Undertake all layout and dimensional-control work. Check reference plan dimensions against field measurements.
  - .1 Notify Departmental Representative immediately of all discrepancies between field measurements and dimensions shown on plans or reference drawings.

#### 3.2 Explosives

- .1 Do not use explosives.

#### 3.3 Cleaning

- .1 Clean up as work progresses. At the end of each work period or more often if ordered by the Departmental Representative remove debris from site, neatly stack material for use, and clean up generally. Clean dirt or mud tracked onto paved or surfaced roadways.
- .2 Upon completion remove scaffolding, temporary protection and surplus materials. Make good defects noted at this stage.
- .3 Clean areas under contract to a condition equal to what previously existed and to approval of Departmental Representative.

#### 3.4 Rectification

- .1 Protect finished work until take over.
- .2 Protect surroundings from damage during Work. Be responsible for all damage incurred to surroundings as a result of Work to the satisfaction of Departmental Representative.
- .3 Except as approved by Departmental Representative, repair restore, or replace to Departmental Representative's approval any and all utilities, structures, machinery, equipment, etc. damaged due to Work.
- .4 Repaired, replaced, or refinished items to be at least equal to those that existed immediately before damage occurred.

END OF SECTION

PHOTOGRAPH ANNEX TO SECTION 01 00 10



Figure 1 - Stoplog lifter looking upstream. "A" denotes approximate location of new personnel anchorages. "B" denotes approximate locations of beams on undercarriage which require end support brackets. "C" denotes devices on stoplog lifter that engage with deck anchors.



Figure 2 - Damaged deck anchor. Photo shows only one of the two damaged anchors. It is given for information only and may not be entirely representative of the other damaged anchor.





Figure 3 - Damaged deck anchor, top view. Photo shows only one of the two damaged anchors. It is given for information only and may not be entirely representative of the other damaged anchor.

PART 1 - GENERAL

1.1 Regulatory Requirements

- .1 An investigation into the presence of designated substances at the Latchford Dam was performed in order to meet the requirements of Section 30 of the Ontario Occupational Health and Safety Act (OSHA), the revised statutes of Ontario, 1990, Chapter 0.1. The Canada Labour Code also stipulates under Part II Section 124, that every employer shall ensure that the health and safety of work of every person employed by the employer is protected. By having a Designated Substances Report ("DSR") for the Latchford Dam, the Departmental Representative will be able to inform his or her employees and contractors of any designated substances that may be present and disturbed throughout the Work. The informed Departmental Representative will then be able to impose appropriate health and safety precautions for all applicable personnel as required. The Guide to Green Government sets out the policy requirements for the federal government to meet or exceed federal environmental statutes and regulations, and the emulation of best practices from the public and private sector. Within the Guide to Green Government, pollution prevention efforts are required in federal projects. Pollution prevention is defined as the use of processes, practices, materials, products, or energy that avoids or minimizes the creation of pollutants and waste, and reduces overall risk to human health and environment.
- .2 As of July 1, 2010, the 11 designated substances are:
  - .1 Acrylonitrile - O. Reg. 835 "Designated Substance - Acrylonitrile," as amended by O. Reg. 490/09.
  - .2 Arsenic - O. Reg. 836 "Designate Substance - Arsentic," as amended by O. Reg. 490/09.
  - .3 Asbestos
    - .1 O. Reg. 837 "The Regulation Respecting Asbestos," as amended by O. Reg. 490/09.
    - .2 O. Reg. 347 "General - Waste Management," as amended by O. Reg. 337/09.
    - .3 O. Reg. 278/05 "Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations," as amended by O. Reg. 493/09.
    - .4 PWGSC Departmental Policy DP 057 - "Asbestos Management."
  - .4 Benzene - O. Reg. 839 "Designated Substance - Benzene," as amended by O. Reg. 490/09.
  - .5 Coke oven emissions - O. Reg. 840 "Designated Substance - Coke Oven Emissions," as amended by O. Reg. 490/09.
  - .6 Ethylene oxide - O. Reg. 841 "Designated Substance - Ethylene Oxide," as amended by O. Reg. 490/09.

- .7 Isocyanates - O. Reg. 842 "Designated Substance - Isocyanates," as amended by O. Reg. 490/09.
- .8 Lead
  - .1 O. Reg. 843 "Designated Substance - Lead," as amended by O. Reg. 490/09.
  - .2 O. Reg. 347 "General - Waste Management," as amended by O. Reg. 337/09.
  - .3 Hazardous Products Act's "Surface Coating Material Regulations" SOR/2005-109.
- .9 Mercury
  - .1 O. Reg. 844 "Designated Substance - Mercury," as amended by O. Reg. 490/09.
  - .2 O. Reg. 347 "General - Waste Management," as amended by O. Reg. 337/09.
- .10 Silica - O. Reg. 845 "Designated Substance - Silica," as amended by O. Reg. 490/09.
- .11 Vinyl Chloride - O. Reg. 846 "Designated Substance - Vinyl Chloride," as amended by O. Reg. 490/09.
- .3 All contractors requesting tenders from subcontractors shall furnish this report to subcontractors.

## 1.2 Validity Date

- .1 The work area is located at Latchford Dam. The scope of the work proposed at the dam is understood to consist of installing some steel fabrications on the stoplog lifting machine and to install new deck anchors in the concrete piers.
- .2 No sampling was taken for this project. The DSR is based on the information from the known history of the dam.
- .3 Silica is known to be present in the concrete.
- .4 It is possible that other Designated Substances are present in non-visible areas. These are not expected to be disturbed in the course of Work.
- .5 Before starting work, confirm with the Departmental Representative that no additional designated substances have been brought into the project area.
- .6 Should any designated substance be encountered in the course of the project, stop work, take preventative measures, and notify the Departmental Representative immediately. Do not proceed until written instructions have been received from the Departmental Representative.

## PART 2 - PRODUCTS

### 2.1 Survey Results

- .1 Arcylonitrile:- Not identified.
- .2 Arsenic:- Not identified.
- .3 Asbestos:- Not identified.
- .4 Benzene:- Not identified.
- .5 Coke Oven Emissions:- Not identified.
- .6 Ethylene Oxide:- Not identified.
- .7 Isocyanates:- Not identified.
- .8 Lead:- Not identified.
- .9 Mercury:- Not identified.
- .10 Silica:- Identified. Free crystalline silica is present in concrete.
- .11 Vinyl Chloride Monomer:- Not identified.
- .12 Polychlorinated biphenyls (PCBs):- Not identified.
- .13 Halocarbons:- Not identified.

### 2.2 Recommendations

- .1 Silica
  - .1 Silica occurs as crystalline material in cement. Crystalline silica is regulated under "Designated Substance - Silica" O.Reg 845 (as amended by O.Reg 490/09) of the Occupational Health and Safety Act as a Designated Substance.
  - .2 Silica dust can be generated through such processes as blasting, grinding, crushing, and sandblasting silica-containing material. Since silica is presumed present in concrete and masonry within the project area, appropriate respiratory protection and ventilation must be donned during the demolition and modifications of these structures.
  - .3 The Occupational Health and Safety Branch of the Ontario Ministry of Labour has published the document entitled "Guideline: Silica on Construction Projects". This document classifies the disturbance of materials containing silica as Type 1, Type 2 or Type 3 work, and assigns different levels of respiratory protection and work procedures for each classification. These work procedures should be followed

when performing work involving the disturbance of silica-containing materials.

- .2 Contractor's duties:- The Contractor must review the designated substance report and take the necessary precautions to protect the health and safety of the workers and the environment. As per Section 30(4) of the Ontario Occupational Health and Safety Act, the Departmental Representative shall ensure that the Contractor and Sub-Contractor (if any) have received a copy of the Designated Substance Report (DSR) prior to entering a binding contract for the supply of work on the project. As per Section 27(2) (a, b, and c) of the Ontario Occupational Health and Safety Act, whilst onsite, the Contractor's site supervisor shall exercise every reasonable precaution for the protection of workers. If you have any questions about the designated substance report, please contact the Departmental Representative.

### PART 3 - EXECUTION

#### 3.1 Not Used

- .1 Not Used.

END OF SECTION

## PART 1 - GENERAL

### 1.1 References

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS).
- .3 Province of Ontario
  - .1 Occupational Health and Safety Act, R.S.O. [1990 Updated 2005], as amended, O. Reg. 213/91 as amended by O. Reg. 631/94, O. Reg. 143/99, O.Reg. 571/99, O. Reg. 145/00, O. Reg. 527/00, R.R.O. 1990, Reg. 834, O. Reg. 838/90 (Asbestos - Construction) as amended by O. Reg. 510/92, O. Reg. 845/90 (Silica) as amended by O. Reg. 521/92 and O. Reg. 391/00.
  - .2 Workplace Safety and Insurance Act, 1997.
  - .3 Municipal statutes and authorities.
  - .4 Regulations for Construction Projects 213/91 as amended by Regulation 145/00.
  - .5 WHMIS Regulation - O. Reg. 860.
- .4 CSA International:
  - .1 CSA-S350-M1980 Code of Practice for Safety in Demolition of Structures.
- .5 National Building Code (NBC):
  - .1 Part 8 Safety Measures at Construction and Demolition Sites.
- .6 Fire Commissioner of Canada (FCC):
  - .1 FC-301 Standard for Construction Operations

### 1.2 Submittals

- .1 Submit 1 electronic PDF copy and 2 hard copies of a Site-Specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
  - .1 Results of site specific safety hazard assessment.
  - .2 Results of safety and health risk or hazard analysis for site tasks.
  - .3 Proof that personnel and sub-contractors have successfully completed safety-related training commensurate with identified hazards.

- .4 Proof that personnel and sub-contractors have access to up-to-date personal protective equipment commensurate with identified hazards.
- .5 Names of person and alternate designated as Health and Safety Officer for the Work.
- .6 Fire Safety Plan in accordance with NBC, subsection 8.2.2 and 8.2.3.
- .7 Contractor's and Sub-contractors' Safety Communication Plan.
- .8 Contingency and Emergency Response Plan addressing standard operating procedures specific to the project site to be implemented during emergency situations.
- .2 Submit Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative whenever these inspections occur.
- .3 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .4 Submit copies of incident and accident reports.
- .5 Submit WHMIS MSDS - Material Safety Data Sheets for all products used in the Work.
- .6 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 10 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 5 days after receipt of comments from Departmental Representative.
- .7 Departmental Representative's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .8 Submit WSIB - Workplace Safety and Insurance Board, Experience Rating Report for Province of Ontario.
- .9 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Departmental Representative.
- .10 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

### 1.3 Filing of Notice

- .1 File Notice of Project with Provincial authorities prior to beginning of Work.

### 1.4 Safety Assessment

- .1 Perform site specific safety hazard assessment related to project.

### 1.5 Meetings

- .1 Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work.

### 1.6 Regulatory Requirements

- .1 Do Work in accordance with all standards and regulations to ensure safe operations.
- .2 Comply with Acts and Regulations of the Province of Ontario.
- .3 Comply with specified standards and regulations to ensure safe operations at site.
  - .1 In event of conflict between any provisions of specified standards and regulations, the most stringent provision governs.

### 1.7 Project/Site Conditions

- .1 Work at site will involve contact with:
  - .1 Working at heights.
  - .2 Working over water.
  - .3 Hand and power tools.
  - .4 Concrete drilling and concrete dust (including silicates).
  - .5 Fresh cementitious grout.
  - .6 Earth, leaves, grass, and mould.

### 1.8 General Requirements

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

### 1.9 Responsibility

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by



conduct of Work.

- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

#### 1.10 Compliance Requirements

- .1 Comply with Ontario Health and Safety Act, R.S.O.
- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

#### 1.11 Unforeseen Hazards

- .1 When unforeseen or peculiar safety-related factor, 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.

#### 1.12 Health & Safety Co-ordinator

- .1 Employ and assign to Work, one competent and authorized worker who, in addition to whatever other duties they have, acts as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:
  - .1 Have site-related working experience specific to activities associated with Work.
  - .2 Have working knowledge of occupational safety and health regulations.
  - .3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.
  - .4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.
  - .5 Be on site during execution of Work.

#### 1.13 Posting of Documents

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with Departmental Representative.

1.14 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 may stop Work if non-compliance of health and safety regulations is not corrected.

1.15 Explosives

- .1 Do not use explosives.

1.16 Powder-actuated Devices

- .1 Do not use powder actuated devices.

1.17 Work Stoppage

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

PART 2 - PRODUCTS

2.1 Not Used

- .1 Not used.

PART 3 - EXECUTION

3.1 Not Used

- .1 Not used.

END OF SECTION

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PART 1 - GENERAL

1.1 Definitions

- .1 "Environmental Pollution and Damage":- presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade environment aesthetically, culturally and/or historically.
- .2 "Environmental Protection":- prevention/control of pollution and habitat or environment disruption during construction.
- .3 "Deleterious Substance":- is defined in the Fisheries Act.
- .4 "Hazardous Materials":- product, substance, or organism used for its original purpose; and is either dangerous goods or material that will cause adverse impact to environment or adversely affect health of persons, animals, or plant life when released into the environment.

1.2 Submittals

- .1 Before starting construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by Departmental Representative.
  - .1 Environmental Protection Plan is to present comprehensive overview of known or potential environmental issues which must be addressed during construction.
  - .2 Address topics at level of detail commensurate with environmental issue and required construction task[s].
  - .3 Include in Environmental protection plan:
    - .1 Name[s] of person[s] responsible for ensuring adherence to Environmental Protection Plan.
    - .2 Name[s] and qualifications of person[s] responsible for manifesting hazardous waste to be removed from site.
    - .3 Name[s] and qualifications of person[s] responsible for training site personnel.
    - .4 Descriptions of environmental protection personnel training program.
    - .5 Drawings showing locations of proposed temporary material storage areas, structures, sanitary facilities, and stockpiles including methods to control runoff and to contain materials on site.

- .6 Work area plan:- showing proposed activity in each portion of area and identifying areas of limited use or non-use. Plan to include measures for marking limits of use areas including methods for protection of features to be preserved within authorized work areas.
  - .1 Plan to include measures for marking the limits of the work area and for protection of elements inside the work area which require protection.
- .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, are contained on 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 Waste water management plan:- that identifies methods and procedures for management of waste waters directly derived from construction activities, such as drill casing flushing water, and water used in flushing of lines.

### 1.3 Fires

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

### 1.4 Waste Disposal

- .1 Do not bury rubbish and waste materials.
- .2 Separate and recycle all waste that can be recycled.
- .3 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.
- .4 Dispose of those materials not designated to be turned over to Departmental Representative off site and off adjacent and neighbouring property.

- .5 Disposal must comply with Regulations made under Ontario Environmental Protection Act, R.S.O. 1990, c. E.19. General - Waste Management (O. Reg. 347)

#### 1.5 Drainage and Turbidity Control

- .1 Develop and submit waste water management plan identifying type of control provided.
- .2 Ensure pumped water into waterways, sewer or drainage systems is free of suspended materials. Send all discharge to a settling pond or filtration area before release into waterway.
- .3 Provide a silt curtain where required to control turbidity at discharge into waterway. Anchor silt curtain along its length to form a continuous seal on the riverbed with adequate flotation at water surface to prevent overflows of turbid water.
- .4 Total suspended solids in water discharged to river: maximum 80 mg/L.
- .5 In the event of significant silting or turbidity caused by Work, install additional silt curtains.

#### 1.6 Work Adjacent to Waterways

- .1 Do not dump Deleterious Substance, waste material, or debris in waterways.
- .2 Ensure all temporary access structures such as scaffolding placed in waterway is free of earth material, lubricants, and other Deleterious Substance that could enter the waterway.

#### 1.7 Pollution Control

- .1 Maintain temporary erosion and pollution control features installed under this contract.
- .2 Control emissions from equipment and plant to local authorities' emission requirements.
- .3 Perform activities involving Deleterious Substance (such as refuelling, changing oil, etc.) at least 5 metres away from edge of waterway. Provide drip trays under equipment during these activities in order to prevent discharge of liquids into the ground.

#### 1.8 Dust Control

- .1 Control dust during activities such as drilling concrete by wetting-down drill or other means that will prevent dust from blowing around.
- .2 Cover or wet down dry materials and rubbish to prevent blowing dust and debris.

### 1.9 Hazardous Materials

- .1 Comply with the requirements of the Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling.
- .2 Hazardous material discovery:
  - .1 Stop work immediately when material resembling a hazardous material or a Designated Substance is encountered during Work.
  - .2 Take preventative measure and promptly notify Departmental Representative.
  - .3 Do not proceed until written instructions have been received from Departmental Representative.
- .3 Place hazardous materials in containers designated for this purpose.

### 1.10 Notification

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

## PART 2 - PRODUCTS

### 2.1 Not Used

- .1 Not Used.

## PART 3 - EXECUTION

### 3.1 Cleaning

- .1 Leave work area clean at end of each day.

- .2 Permit no amount of debris, trash, or garbage to accumulate.
- .3 Separate and recycle all materials that can be recycled.
- .4 Do not dump waste or volatile materials (such as mineral spirits, oil, or paint thinner) into waterway or sewers. Dispose of these by taking them to a special designated waste facility.
- .5 Ensure all emptied containers are sealed and stored safely for disposal away from children.
- .6 At completion of Work:
  - .1 Remove all scaffolding, temporary protection, and surplus materials, tools, plant.
  - .2 Remove all rubbish and debris and clean area to a condition at least equal to that previously existing and to approval of Departmental Representative.

### 3.2 Spills

- .1 Using appropriate safety precautions, collect liquid or solidify liquid with an inert, non-combustible, material and remove for disposal.
- .2 Report all spills immediately to the Departmental Representative and to the Ministry of the Environment Spills Action Centre (Telephone 1-800-268-6060).
- .3 Pay costs of cleaning up spills.

END OF SECTION