# A-2
# SPECIFICATIONS (GENERAL)

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# A-2 SPECIFICATIONS (GENERAL)

## A2-1 INSTRUCTIONS TO BIDDERS

1.1 Unless otherwise instructed by the Owner's Representative, candidates for award shall submit the following :

1.1.1 An outline of the procedures, which they propose to use in carrying out, this work, including a schedule of the tentative dates of completion of the various phases of the work.

1.1.2 A list of the major items of equipment they propose to use on the work, the tentative dates when this equipment will be placed on the work and its present location and ownership.

1.1.3 An outline of the construction force planned, including classifications and tentative numbers of personnel. This shall also include the names of personnel whom the bidder proposes to assign to the supervision of the work to be performed, such as superintendents and supervision personnel, a brief résumé of their experience and qualifications and the scope of their authority.

1.1.4 A list of subcontractors (if any) which the bidder proposes to employ on this work including a brief résumé of their experience and qualifications in related work.

1.1.5 A preliminary schedule showing all major activities and contract milestone dates.

1.2 Bidders may be requested to submit:

1.2.1 Documentary evidence which clearly establishes familiarity and experience with work of a similar nature.

1.2.2 Without in any way limiting the Owner's prerogatives under the General Conditions, when bidders are required to supply proof that they have sufficient experience for the successful completion of the work, the Owner reserves the right to reject tenders received from bidders who do not furnish such proof in a form and from sources satisfactory to the Owner, within 72 hours of the request being made.

1.3 Request for information:

1.3.1 Any party contemplating the submission of a tender, if in doubt as to the true meaning of any part of the drawings, specifications or any other contract documents, may submit to the officer of the Owner requesting tenders, a written request for clarification.

1.3.2 Provided such a request is received at least 3 working days before the closing date for tenders, it will be considered by the Owner and, if interpretation should be considered necessary, the Owner will issue an addendum or addenda to the contract documents for delivery to each party who has taken out contract documents.

1.4 Error, omission or misstatement:

1.4.1 Bidders shall immediately notify the Owner of any error, omission or misstatement in the said specifications and drawings, which they could claim, had influenced them erroneously in determining the tender amount.

1.4.2 If a bidder does not notify the Owner of any error, omission or misstatement, the same shall not invalidate the contract, or release the Contractor from the execution and completion of the whole or any part of the work to the satisfaction of the Owner's Representative and in accordance with the contract documents and for the total amount agreed upon and fixed thereto, or excuse the Contractor from any of the obligations or liabilities set forth in the contract documents, or entitle the Contractor to any damage or compensation other than specified in said contract documents, except for such extra work as may be required for the performance of which written orders must be given by the Owner's Representative.

1.5 Bidders shall not submit in their tender any qualifications, exceptions, exclusions or alternative conditions/specifications to those requested by the Owner. The Owner will not recognise these and will reserves the right to reject such tenders.

1.6 The purchaser's terms and conditions are the sole governing terms and conditions. Bidder's terms, if submitted, will be rejected.

## A2-2 CONTRACTOR'S WORK PROGRAM

2.1 Planning and Scheduling:

2.1.1 Unless specified otherwise in A-1 Specifications, the Contractor shall, with the participation and approval of the principal subcontractors and suppliers, as identified by the Contractor, submit a Construction Progress Schedule to the Owner's Representative for review within 7 working days after receipt of written notification of tender acceptance from the Owner.

2.1.2 The intention of the schedule is to promote good planning well in advance of the site work and to satisfy the Owner that the work is planned in a logical sequence within the time frame.

2.1.3 The Construction Progress Schedule shall be in sufficient detail to identify each activity of the work and to show its start and completion date as well as the interrelationship between activities.

2.1.4 This Construction Progress Schedule shall be consistent with the preliminary schedule submitted unless reasons acceptable to the Owner's Representative are given for deviating therefrom.

2.1.5 Review of the Contractor's Construction Progress Schedule by the Owner's Representative shall not relieve the Contractor of any of his duties and responsibilities under the terms of the contract.

2.1.6 Should the Contractor not provide a Construction Progress Schedule as specified, the Owner's Representative will withhold any or all payments for work performed until such schedule has been submitted and accepted.

2.2 Progress Statements:

2.2.1 Unless otherwise directed by the Owner's Representative, the Contractor shall update the Construction Progress Schedule on a weekly basis by reporting the status of all activities in progress and modifying the schedule to reflect the actual progress and sequence of construction.

2.2.2 The updated schedules shall describe the work procedures and resources for any activities, which are behind the Construction Progress Schedule, indicating how they will be accelerated so that the contract milestone dates and specified requirements, will be met. The descriptions, procedures and the allocation of resources shall constitute an integral part of the schedules.

2.2.3 The updated schedules shall be in the form accepted by the Owner's Representative and shall record the following items:

2.2.3.1 Those activities which have been worked on or completed during the week.

2.2.3.2 Estimated working days required, to complete activities already in progress.

2.2.3.3 Activities to be started or continued the following week.

2.2.3.4 Proposed revisions to activities not yet underway.

2.3 Progress Meetings:

2.3.1 Once every week or at such intervals as the Owner's Representative may determine, a site progress meeting shall be held to review progress and to consider matters arising from or having a bearing on the contract. The agenda for each meeting and the minutes arising therefrom will be prepared and issued by the Owner's Representative.

2.3.2 The Contractor's Superintendent or Senior Site Representative shall attend each meeting, together with such members of his staff and such responsible representatives from subcontractors and suppliers as may be considered necessary by the Owner's Representative to properly review all aspects of the work covered under the agenda.

## A2-3 SHIFT AND OVERTIME WORK REQUIREMENTS

3.1 The Contractor shall provide, at no additional cost to the Owner, both around-the-clock shift work including overtime work on week days, weekends and holidays as required by the Owner's Representative to maintain the accepted schedule.

3.2 The Contractor shall also provide any extra workers and equipment deemed necessary by the Owner's Representative whenever any item or phase of this contract falls behind the accepted scheduled completion date.

3.3 The Owner's Representative will notify the Contractor in writing of any such requirement.

## A2-4 PERMITS, REGULATIONS AND BY-LAWS

4.1 The Contractor shall obtain all the necessary permits for carrying out this work.

4.2 The Contractor shall comply with all Provincial, Federal and other laws and by-laws which apply to this work and shall be responsible for any violation of these laws and by-laws.

## A2-5 STANDARDS

5.1 Unless otherwise noted, all standards specified shall be the latest published editions at the time of tendering.

## A2-6 FIRE PROTECTION

6.1 Without limiting the requirement of the General Conditions, the Contractor shall have, at all times, adequate fire extinguishing equipment, available to extinguish any fire caused by his operations.

6.2 The Contractor shall have on duty at all times personnel trained or experienced in the use of this equipment.

6.3 The Contractor shall, at no additional cost to the Owner, take all necessary measures to prevent all fire hazards and shall vigorously comply with all By-laws, Ordinances, Rules and Regulations presently in force with regards to fire prevention together with all instructions and orders issued during the course of construction by the Owner or its representatives.

## A2-7 SAFETY REQUIREMENTS

7.1 Unless otherwise specified, the Contractor shall be deemed as the "Constructor" under the *Occupational Health and Safety Act* in the Province of Ontario, or as the "Maître d'oeuvre" under the *Act respecting Occupational Health and Safety* in the Province of Quebec and related regulations of the province where the work will be performed, for the designated "Workplace(s)".

7.1.1 Before accessing the workplace, the Contractor shall submit the Contractor's safety program and practices to the Owner for review. This program shall demonstrate the Contractor's understanding of the particular site hazards, Owner safety practices and lockout procedures.

7.1.2 The Contractor shall supply and install physical barriers or other means for delimiting the designated "Workplace(s)" under his control.

7.2 The Contractor shall be required to implement the Owner's "Workplace Log" "Workplace Permit(s)" process at the designated "Workplace(s)".

7.3 The Contractor shall comply with the Owner's "*SLSMC Corporate Safety Requirements for Contractors".*

7.4 Without in any way limiting the requirements of the material manufacturers and of the various codes and acts regulating working conditions, the Contractor shall furnish all the protection and security devices and also take all precautions necessary to ensure the safety of the Contractor's personnel, Owner personnel and the public.

7.5 The Contractor shall take all precautions necessary to ensure that no damage is done to Owner or to public or private property.

7.6 The Contractor shall comply with the provisions of the applicable Provincial Code and the *Canadian Labour Code* (Safety).

7.7 Safety requirements will be addressed at the periodic Progress Meetings.

7.8 The Contractor shall immediately notify the Owner's Representative of any on-site accidents, and shall subsequently submit a copy of the appropriate accident/investigation report of the *Workplace Safety and Insurance Board (WSIB)* in the province of Ontario and of the *Commission des normes, de l'équité de la santé et de la sécurité du travail* (CNESST) in the province of Quebec.

7.9 Where the Contractor is working on or in the vicinity of any operable Owner equipment, the Contractor shall provide and install lock-out devices, locks and tags on the disconnect switches, in order to prevent accidental operation of the equipment and shall comply with the Owner's Lock-out Procedures.

## A2-8 MARINE SECURITY (ACCESS)

8.1 Access Control on Owner's Locks

8.1.1 For the term of this Contract, the Contractor must comply with the requirements of this Section.

8.1.2 All of the Owner's locks are considered "Restricted Areas" in its Security Plan, in accordance with the *Marine Transportation Security Regulations*. Depending on the threat to the SLSMC facilities and the vessels that use them, the MARSEC ("Marine Security Control") level of security may vary between three (3) levels of security. Under normal circumstances, the SLSMC operates at MARSEC Level 1.

8.1.3 In this context and in order to comply with the *Marine Transportation Security Regulations*, the Contractor shall meet at all times the security requirements described in A-1 Specifications.

8.1.3.1 Failure to comply with this Section by any personnel of the Contractor or subcontractor may result in expulsion of the individual(s).

8.1.3.2 At any time, a Owner's or Transport Canada representative may ask for supporting identification in order to reconcile security passes, assign keys or access cards to the assigned recipient.

8.2 In this context and in order to comply with the *Marine Transportation Security Regulations*, the Contractor shall meet the additional security requirements described in A-1 Specifications.

8.3 The Contractor is responsible for ensuring that all Contractor and subcontractor personnel are reliable and trustworthy individuals.

8.4 The Contractor is responsible for ensuring that all personnel wear their security pass at all times while on the Owner's property.

8.5 The Owner reserves the right to remove security passes, access cards, keys, parking passes, etc. from the Contractor who does not comply with the Owner's security requirements.

## A2-9 NON-INTERFERENCE WITH NAVIGATION DURING THE NAVIGATION SEASON

9.1 It is a prime consideration of the contract that none of the work carried out as part of this contract shall in any way interfere with, delay, or interrupt navigation.

9.2 The Contractor shall prevent any material and equipment from his operations from encroaching on the navigation channel during the navigation season other than that actually required for work in or over the channel and then only as directed by the Owner's Representative.

9.3 The Contractor shall recover with all possible speed and at no additional cost to the Owner any material and equipment which falls or becomes lost in the channel.

9.4 The Owner will not be responsible for any injury to the Contractor's personnel or for any damage to the Contractor's plant, equipment and material caused by or as a result of shipping operations in the channel.

9.5 In all matters connected with the arranging and carrying out of the work, the Contractor shall be governed by all established Seaway Regulations relating to the safety of Navigation as contained in the *Seaway Handbook of The St. Lawrence Seaway Management Corporation*, and such supplementary circulars as may be issued.

9.6 The Contractor shall ensure that the equipment and materials used for the work do not interfere in any way with Navigation Traffic.

9.7 Should any material of any nature become deposited in the part of the Navigation Channel which is being used for Navigation, the Contractor shall immediately notify the Owner's Representative and the Owner's Operations Control Centre and shall take immediate steps, as directed by the Owner's Representative, to remove the material at no additional cost to the Owner.

## A2-10 ENVIRONMENTAL PROTECTION

10.1 For the duration of the contract, the Contractor, and any person under his authority, shall take all necessary measures for the protection of the environment, and shall observe the Subsections herein.

10.2 Environmental Regulatory Requirements

10.2.1 The Contractor shall comply with all federal, provincial and municipal environmental protection laws and regulations, these include but are not limited to those listed in the A-2 Specifications (General).

10.2.2 The Contractor shall conform to all acts, regulations, codes and guidelines which may replace those listed in this specification; all acts, regulations, codes and guidelines referenced in these A-2 Specifications (General) shall mean as same may be amended, supplemented or replaced from time to time.

10.2.3 The Contractor shall comply to all federal environmental laws, regulations and applicable codes and guidelines, in particular, but not limited to the following :

10.2.3.1 *Canadian Environmental Protection Act, 1999* (CEPA) (S.C. 1999 c. 33);

10.2.3.2 *Canada Occupational Health and Safety Regulations* (SOR/86-304);

10.2.3.3 *Canada Labour Code* (R.S.C., 1985, c. L-2);

10.2.3.4 *Canadian Sediment Quality Guidelines for the Protection of Aquatic Life (*Canadian Council of Ministers of the Environment (CCME, 2001);

10.2.3.5 *Canadian Soil Quality Guidelines* (CCME, 2006);

10.2.3.6 *Canadian Water Quality Guidelines* (CCME 2008);

10.2.3.7 *Canadian Water Quality Guidelines for the Protection of Aquatic Life* (CCME 1999);

10.2.3.8 *Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products (*CCME, PN 1326);

10.2.3.9 *Federal Halocarbon Regulations, 2003* (SOR/2003-289);

10.2.3.10 *Fisheries Act* (R.S.C. 1985, c. F-14);

10.2.3.11 *Hazardous Products Act* (R.S.C., 1985, C. H-3);

10.2.3.12 *Installation Code for Oil-Burning Equipment, CSA Standard B139.*1.0-15 (CSA, 2016);

10.2.3.13 *Migratory Birds Convention Act, 1994* (S.C. 1994, c. 22);

10.2.3.14 *National Fire Code of Canada 2015* (National Research Council Canada, 2015);

10.2.3.15 *PCB Regulations* (SOR/2008-273);

10.2.3.16 *Species at Risk Act* (S.C. 2002, c. 29);

10.2.3.17 *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations* (SOR/2008-197);

10.2.3.18 *Transportation of Dangerous Goods Act, 1992* (S.C. 1992, c. 34).

10.2.4 When working in Quebec, the Contractor shall comply to all Quebec provincial and municipal environmental laws, regulations, codes and guidelines, in particular, but not limited to the following :

10.2.4.1 *Act Respecting the Conservation and Development of Wildlife* (R.S.Q., c. C-61.1);

10.2.4.2 *Act Respecting Threatened Or Vulnerable Species* (R.S.Q., c. E-12.01);

10.2.4.3 *Environment Quality Act* (R.S.Q., c. Q-2);

10.2.4.4 *Municipal Code of Quebec (C-27.1)*

10.2.4.5 *Regulation Respecting the Landfilling and Incineration of Residual Materials* (c. Q-2, r. 19);

10.2.4.6 *Hazardous Products Information Regulation* (R.S.Q. c. S-2.1, r. 8.1);

10.2.4.7 *Petroleum Product Act* (R.S.Q., c.P-30.01);

10.2.4.8 *Regulation Respecting Halocarbons* (chapter Q-2, r. 29);

10.2.4.9 *Regulation Respecting Hazardous Materials* (chapter Q-2, r. 32);

10.2.4.10 *Intervention Guide - Soil Protection and Contaminated Sites Rehabilitation Appendix 1 and 2* (Minister of Sustainable Development, Environment and the Fight Against Climate Change (MSDEFACC), 2016);

10.2.4.11 *Transportation of Dangerous Substances Regulations* (R.S.Q. c. C-24.2, r 43);

10.2.4.12 *Tree Protection Act* (c. P-37);

10.2.5 When working in Ontario, the Contractor shall comply to all Ontario provincial and municipal environmental laws, regulations, codes and guidelines, in particular, but not limited to the following :

10.2.5.1 *Air Pollution - Local Air Quality* (O. Reg. 419/05);

10.2.5.2 *Dangerous Goods Transportation Act (*R.S.O. 1990, c. D.1);

10.2.5.3 *Designated Substance Regulation* (O. Reg. 490/09);

10.2.5.4 *Endangered Species Act* (S.O. 2007 C. 6);

10.2.5.5 *Environmental Protection Act (EPA)* (R.S.O. 1990, c. E.19);

10.2.5.6 *Ontario Technical Standards & Safety Act (TSSA), 2000* (S.O. 2000, ,chapter 16);

10.2.5.7 *Ontario Water Resources Act* (R.S.O. 1990, c.O.40);

10.2.5.8 *Ozone Depleting Substance regulations, 1998* (SOR/99-7);

10.2.5.9 *Regulation 347 General – Waste Management* (R.R.O. 1990, as amended);

10.2.5.10 *Regulation 675 Classification and Exemptions of Spills and Reporting of Discharges* (R.R.O., 1998);

10.2.5.11 *Soil, Groundwater and Sediment Standards for use* (Under Part XV.1 of the EPA, 2009);

10.2.5.12 *Technical Standards & Safety Authority (TSSA) Environmental Management Protocol for Fuel Handling Sites in Ontario (TSSA, 2012).*

10.2.6 The Contractor shall obtain all federal, provincial and municipal authorizations which may be required in relation with his work, including any Authorization or Declaration of Compliance in Quebec and any Environmental Compliance Approval (ECA) or Environmental Activity Sector Registration (EASR) in Ontario, and conform to all the conditions thereof.

10.2.7 The requirements contained in Subsections A2-10.3 to A2-10.21 of the present A-2 Specifications (General) apply in addition to, and shall not limit or applicable requirements pursuant to federal, provincial and municipal environmental laws and regulations and applicable codes and guidelines described herein. In case of inconsistency the most stringent requirements shall apply.

10.3 Air Pollution Prevention

10.3.1 The Contractor shall, use the recognised industrial control methods to avoid or stop the production of dust and smoke as well as any air pollution at the project site.

10.3.2 The Contractor shall equip construction equipment and machinery with standard exhaust emission control devices that meet or exceed all applicable emission regulatory requirements.

10.3.3 The Contractor shall ensure that construction vehicles are operated only when necessary and vehicles' engines are shut off rather than idled for extended period of time.

10.3.4 The Contractor shall ensure that exhaust equipment (e.g. pollution control devices) are inspected regularly.

10.3.5 The Contractor shall prevent sandblasting and other extraneous materials from contaminating air and waterways beyond application area by providing temporary enclosures.

10.3.6 The Contractor shall forbid the burning of debris, materials or waste.

10.4 Dust Control

10.4.1 The Contractor shall use provincially approved dust suppression (e.g. water or other non-chloride based materials) on exposed dry material or work areas as necessary.

10.4.2 The Contractor shall phase construction, where possible, to limit the amount of time soils are exposed.

10.4.3 The Contractor shall avoid earth moving works during excessively windy weather.

10.4.4 The Contractor shall work stock piles (e.g. loaded / unloaded) from the downwind side to minimize wind erosion.

10.4.5 The Contractor shall stabilize stockpiles and other disturbed areas, as necessary, (e.g. tarped, mulched, graded, re-vegetated or watered to create a hard surface crust) to reduce / prevent erosion and escape of fugitive dust.

10.4.6 The Contractor shall use dust curtains on loaded trucks and shall transport all granular and fine materials in closed trucks or vehicles equipped with covering tarpaulins.

10.4.7 The Contractor shall prohibit blasting of bedrock, concrete batch mixing or rock crushing on the site unless it is planned by the project and that mitigations are provided.

10.4.8 All workers shall use personal protective equipment in accordance with the *Occupation Health and Safety Regulations* (SOR/86-304).

10.5 Noise Control

10.5.1 The Contractor shall minimize the noise levels from construction activities by using proper muffling devices, by properly timing and locating these activities in order to reduce or minimize the effect of noise on nearby residents, recreationists and wildlife.

10.5.2 The Contractor shall respect the local by-laws on noise restriction.

10.5.3 If no noise by-law exists at the project location, noise generation resulting from construction of the works shall be performed in accordance with current provincial regulations and / or guideline:

10.5.3.1 *Ontario Ministry of Labour Construction Regulations*.

10.5.3.2 *Municipal Code of Quebec (C-27.1)* and the *MSDEFACC Instruction Note on Noise 98-01*.

10.6 Erosion and Soil Protection

10.6.1 The Contractor shall provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to sediment and erosion control plan, specific to site, that complies with requirements of authorities having jurisdiction, whichever is more stringent.

10.6.2 The Contractor shall follow best management practices guidelines for silt fence construction.

10.6.3 All erosion and sediment control materials supplied by the Contractor to be of such condition and quality as to provide reliable performance.

10.6.4 The Contractor shall inspect daily, repair, and maintain erosion and sedimentation control measures during construction. If any erosion and sediment control materials fail, they are to be replaced by the Contractor at no additional cost to the Owner, and to the satisfaction of the Owner's Representative.

10.6.5 The Contractor shall fix immediately any erosion control measures that are not functioning properly, until the problem has been rectified and shall inform the Owner's Representative.

10.6.6 The Contractor shall store, provide and use on-site, an adequate supply of erosion control devices (e.g. geotextiles) in order to control erosion and respond to unexpected events.

10.6.7 The Contractor shall restore eroded soil resources through addition of clean soil into the eroded areas.

10.6.8 The Contractor shall avoid using heavy machinery on saturated ground.

10.6.9 The Contractor shall use equipment of low-bearing weight and low psi tires wherever possible.

10.6.10 The Contractor shall keep all heavy equipment and materials within identified work areas.

10.6.11 The Contractor shall divert construction runoff through stable vegetated areas or into properly designed and constructed sediment traps or drainage collection systems (e.g. filtration areas, temporary sediment pond, etc.) to ensure that exposed soils are not eroded. Filtration areas or sediment ponds shall be located at a minimum of 30 m from the high water mark or as indicated by the Owner's Representative.

10.6.12 The Contractor shall phase construction to minimize the time that soil is exposed. To this effect, the Contractor shall minimize the clearing, excavating, grading, grubbing and stockpiling duration to the greatest extent possible through appropriate phasing of construction.

10.6.13 The Contractor shall, to the extent possible, schedule excavation or any activities that involve soil movement during periods of low precipitation.

10.6.14 The Contractor shall undertake restoration (e.g. discing or other soil loosening methods) as required.

10.6.15 The Contractor shall provide and install 1 m high silt fence barriers in all areas where, due to construction activities silt or debris may enter the water. This includes, but is not limited to, a silt barrier installed around staging and work areas.

10.6.16 The Contractor shall place stockpiles in suitable designated areas away from drainage channels, river or other watercourses (e.g. outside the floodplain or drainage structures) and properly constructed silt fence barriers should be installed around the stockpiles to limit the erosion.

10.6.17 The Contractor shall grade disturbed slopes or stockpiles to a stable angle to eliminate potential slumping.

10.6.18 When applicable, the Contractor shall plant vegetation, using quick growing grasses or other native vegetation species, on all disturbed areas after construction to protect against erosion. If re-vegetation is not possible due to the time of year, other stabilization methods (e.g. tarp, stabilization) shall be provided until re-vegetation can be completed.

10.7 Ground Water Protection

10.7.1 The Contractor shall not use local groundwater for the construction activities.

10.7.2 The Contractor shall not drill groundwater well without the Owner's Representative approval.

10.8 Vegetation Clearing

10.8.1 All clearing shall concur with the federal *Migratory Birds Convention Act*, 1994. (Refer to Subsection A2-10.11 *Migratory Bird Protection* of A-2 Specifications (General).

10.8.2 The Contractor shall minimize the size of the cleared, scoured, stripped and disturbed areas of the project site.

10.8.3 The Contractor shall flag, fence or use other control devices along the clearing area limits to prevent disturbances beyond project site boundaries.

10.8.4 The Contractor shall ensure that the workforce remains within the designated work area at all times to prevent disruption to adjacent vegetation.

10.8.5 The Contractor shall not push-up materials disturbed from clearing and grubbing activities against remaining vegetation stands in order to protect vegetation communities beyond the boundaries of the project site.

10.8.6 The Contractor shall push cut bushes and trees into previously cleared areas to prevent damage remaining vegetation.

10.8.7 The Contractor shall remove trees from the work areas in accordance with the agreement with the Owner's Representative.

10.9 Terrestrial Habitat Protection

10.9.1 The Contractor shall use construction methods as to minimise negative environmental impacts on natural habitat.

10.9.2 The Contractor shall arrive on site with clean equipment, vehicles free of leaks of potentially contaminating materials.

10.9.3 The Contractor shall take all necessary measures to prevent machinery from circulating outside of rights of way assigned by the Owner's Representative.

10.9.4 The Contractor shall instruct all staff and site visitors to remain within pre-determined work areas.

10.9.5 The Contractor shall protect trees and plants on site and adjacent properties and allow trees to overhang where possible to minimize habitat available to exotic and invasive species.

10.9.6 The Contractor shall perform grubbing only where absolutely required.

10.9.7 The Contractor shall place a barrier around residual trees which may be affected by the construction work. The barrier shall be located 1 m beyond the tree drip line. The Contractor shall maintain the barrier in good condition throughout the duration of the work and remove it upon completion of the construction work.

10.9.8 The Contractor shall prune and trim appropriately any residual trees that were damaged:

10.9.8.1 Cut back cleanly at the break or within 10 mm of their base, if a substantial portion of the branch is damaged any broken branches of 25 mm or greater in diameter.

10.9.8.2 Cut back cleanly to the soil surface within 5 calendar days of exposure any exposed roots of 25 mm or larger.

10.9.8.3 Trim damaged bark up to uninjured bark, without causing further injury, within 5 calendar days of damage.

10.9.9 The Contractor shall keep material and stockpiles away from residual trees in the work area to prevent damage to root due to soil compaction.

10.9.10 The Contractor shall proceed without delay, as the work progresses, with the restoration of the disturbed areas.

10.9.11 The Contractor shall rehabilitate disturbed areas with native vegetation species, following construction activities, to provide habitat similar to the former one.

10.9.12 The Contractor shall not import growing medium that may contain seedling or vegetation of invasive species.

10.10 Wildlife Protection

10.10.1 The Contractor shall perform daily visual monitoring of work area and equipment for presence of wildlife prior to start work.

10.10.2 The Contractor shall enforce speed limit on the construction site to minimize the potential for road-kills.

10.10.3 The Contractor shall monitor site cleanliness to avoid attraction of wildlife.

10.10.4 The Contractor shall refrain from using herbicides, insecticides and pesticides.

10.10.5 The Contractor shall use standard care protocols for wildlife removal. If species are observed they shall either be guided off of the work area or collected by a designated employee who has been provided with protocols for the safe handling and transport of wildlife, transported to the nearest available location off-site, and released.

10.10.6 The Contractor shall inform the Owner's Representative if significant quantities of a species are found dead.

10.10.7 The Contractor shall not kill, harm, harass, capture or take an individual or destroy the residence of a wildlife species, especially the ones protected under the federal *Species at Risk Act* (S.C. 2002, c. 29).

10.10.8 The Contractor shall promptly inform the Owner's Representative if a species at risk is found alive or dead.

10.10.9 If the contract work is scheduled during amphibian and reptile breeding season (Quebec - April 31 to July 31; Ontario - March 31 to July 31), the Contractor shall install silt fencing along the shores of any natural water feature adjacent to the project site to prevent amphibians and reptiles to access the construction site.

10.11 Migratory Bird Protection

10.11.1 The Contractor shall not destroy any active nests (nests with eggs or young birds) of bird species protected under the federal *Migratory Birds Convention Act,* 1994 (S.C. 1994, c. 22).

10.11.2 The Contractor shall perform all vegetation clearing work outside the nesting season for migratory birds (Quebec - April 31 to August 31; Ontario - March 31 to July 31).

10.11.3 If clearing work must be conducted within breeding bird habitat, the Contractor shall retain a qualified avian biologist to perform a nest survey within 2 working days prior to commencement of the clearing works to identify and locate active nests of species covered by the *Migratory Birds Convention Act*, 1994. A 100 m protective buffer shall be established around active nest of any species covered by the Act, located within a proposed work area, until such time as the nest is successful or abandoned.

10.12 Aquatic Species and Aquatic Habitats Protection

10.12.1 It is of prime importance that the waters in the St. Lawrence Seaway Canal and River are not polluted as a result of the Contractor's operations.

10.12.2 The Contractor shall co-operate with the Owner and other federal, provincial and municipal authorities to ensure that the St. Lawrence Seaway Canal and adjacent water features will not be contaminated in any way.

10.12.3 The Contractor shall take all the necessary mitigation measures to protect aquatic species, their habitats as well as the activities associated with their reproduction.

10.12.4 The Contractor shall advise his personnel of the presence of the canal, any sensitive areas and of mitigation measures planned to protect these areas.

10.12.5 The Contractor shall not introduce foreign equipment or vehicle in any man made or natural water features, including cofferdams and jetties without the prior approval of the Owner's Representative.

10.12.5.1 In the event where a cofferdam is built in a natural or man-made water feature, the soils and/or material used to build the cofferdam must meet the freshwater *Canadian Sediment Quality Guidelines for the Protection of Aquatic Life* (CCME, 2001) - Probable Effects Limits (PEL).

10.12.6 The Contractor shall take all the necessary precautions to prevent any substance susceptible to deteriorate the quality of water from being released into, or in the vicinity of, the aquatic environment.

10.12.7 The Contractor shall prohibit construction and demolition material to fall into any water features. To this effect, the Contractor shall but is not limited to:

10.12.7.1 Take measures to catch material and waste by installing nets, cantilevered submerged platforms or any other efficient systems.

10.12.7.2 Remove any debris introduced accidentally into the aquatic environment without delay, at no additional cost to the Owner, and to the satisfaction of the Owner's Representative.

10.12.8 The Contractor shall take all the measures required to avoid water features contamination by hazardous materials.

10.12.9 The Contractor shall not perform earthwork or excavation in the vicinity of water features during periods of heavy rain.

10.12.10 The Contractor shall perform activities involving the earthwork or disturbance of soil at least 15 m away from any natural water features.

10.12.11 The Contractor shall not borrow material from a natural water feature bed.

10.12.12 When pumping water, the Contractor shall avoid the suction of sediments and shall install at the outlet, a device capable of retaining fine particles and of only releasing clean water (25 mg/L of suspended solids) into a water body or stream.

10.12.13 The Contractor shall use a shrouded / screened pump intake to prevent entrainment of fish into the pump during dewatering period.

10.12.14 The Contractor shall require, through the Owner, the authorization for works or undertakings affecting fish habitat when dredging activities occur in the canal or when encroachment of a natural water feature happens. In such case, the Owner shall implement all compensation and mitigation measures as prescribed by the Federal Department of Fish and Ocean Canada (DFO). The Owner will ensure that DFO's recommendations are completed. The Contractor shall be responsible for compliance with all other requirements of the Federal Fisheries Act, at no additional cost to the Owner.

10.12.15 The Contractor shall require, through the Owner, a permit to take water for dewatering activities in Ontario if more than 50,000 L/day of water is taken from the environment as per the *Ontario Water Resources Act* (R.S.O. 1990, c.O.40), and in Quebec as may be required pursuant to the *Environment Quality Act* and its regulations.

10.13 In-Water Work Control

10.13.1 The Contractor shall use conventional or floating silt curtains downstream of the project site and maintain the silt curtains below the water line.

10.13.2 The Contractor shall store, provide and use on-site, an adequate supply of sediment control devices (e.g. in-water silt curtains and curtain's weight) in order to control sediment transport and respond to unexpected events.

10.13.3 The Contractor shall leave in place sediment control measures until all disturbed areas, within the project site, have been stabilized and any sediment in the water has settled.

10.13.4 The Contractor shall remove the floating silt curtain in a manner that will prevent suspension of sediment into the water and will leave the site in a condition at least equivalent to prior to the commencement of the work.

10.13.5 If a cofferdam or other retaining structure is used, the Contractor shall remove the cofferdam slowly from the canal or any natural water feature (e.g. creek, lake, river, wetland) to minimize disturbance and avoid a rapid downstream flush of sediment that may have accumulated along the upstream face of the retaining structure.

10.13.6 If a cofferdam or other retaining structure is used along a natural water feature, the Contractor shall prevent silt and sediment from entering the natural water feature (e.g. can pump silted water from the in-water work areas into a settling pond or filtered through vegetated areas or sediment traps prior to its release into the natural water feature).

10.13.7 The Contractor shall follow the *Canadian Water Quality Guidelines* (CCME, 2008) recommendations for suspended sediments and turbidity concentration specifications as water quality targets for the water that will be released in a natural water feature.

10.13.8 Upon decommissioning a cofferdam that is located along a natural water feature, the Contractor shall remove from the water feature bed and properly dispose or reuse elsewhere all sediment and cofferdam material.

10.14 Concrete and Cement Work Strategy

10.14.1 The Contractor shall not allow alkaline cement products to be deposited directly or indirectly into any natural water features.

10.14.2 The Contractor shall isolate, from water in the canal and any natural water features, all concrete materials that are cast in place, until they are fully cured.

10.14.3 The Contractor shall clean all concrete equipment at a designated location located more than 30 m from the sensitive areas and collect all alkali water or prohibit concrete truck rinsing at the project site.

10.14.4 The Contractor shall dispose of all alkali water in accordance with federal, provincial, and municipal authority requirements.

10.15 Hazardous Material and Waste Control

10.15.1 The Contractor shall forbid the release of any deleterious substances into the natural environment.

10.15.2 The Contractor shall take into account the particularity of the site and its fragility when selecting equipment, machinery and materials necessary for performing work.

10.15.3 The Contractor shall only use equipment or vehicles in good functional condition to avoid hazardous material leak. If any parts of the equipment or vehicle is planned to be submerged during the project, the device shall be clean and free of leaks.

10.15.4 The Contractor shall move equipment, machineries and vehicles away from the water line immediately once they are no longer required.

10.15.5 The Contractor shall perform cleaning, maintenance and fuelling of equipment and vehicles at a designated site, located more than 30 m from any sensitive areas (e.g. fish habitats, natural water features, wetlands) to avoid contamination of the natural environment.

10.15.5.1 All equipment and vehicle maintenance and fueling activities shall be conducted over impermeable material (e.g. secondary containment pad, drip tray with absorbent, etc.).

10.15.6 The Contractor shall provide drip trays under equipment, vehicles or machineries that have the potential to discharge hazardous material when stored or in used (e.g. pile drivers).

10.15.7 To the extent that is practicable, the Contractor shall avoid parking equipment or machinery, containing hazardous materials over grids or drains leading to water, for an extended period of time without proper secondary containment. If not practicable, the Contractor shall routinely inspect the condition of equipment or machinery to avoid spills.

10.15.8 The Contractor shall handle and store hazardous materials in accordance with applicable federal and provincial laws, regulations, codes, guidelines and best management practices.

10.15.8.1 The Contractor shall bring on the project site only minimal quantities of hazardous material required to perform work.

10.15.8.2 The Contractor shall inspect hazardous materials and waste containers and storage units for leaks or damage before usage.

10.15.8.3 Use a secondary containment under the hazardous materials containers before transferring or manipulating hazardous materials to avoid spillage, especially if handle near water, grids or drains.

10.15.8.4 The Contractor shall use drain cover spill protection, seal or other device as appropriate, over drains and manholes in the vicinity of work areas where hazardous materials are used.

10.15.8.5 The Contractor shall store hazardous materials at least 30 m from the water line of man-made and natural water features.

10.15.8.6 The Contractor shall store hazardous materials in locations that will prevent spillage onto the environment.

10.15.8.7 The Contractor shall ensure that hazardous materials and waste containers are not to be placed directly outside, on the ground, for an extended period of time but rather stored on a secondary containment (e.g. No jerry can containing fuel can be left on the ground overnight – They must be stored on a secondary containment pad, tray or the equivalent).

10.15.8.8 The Contractor shall store hazardous materials in secure storage area with secondary containment.

10.15.8.8.1 The secondary containment structural material should be impermeable and compatible with the hazardous materials stored on it.

10.15.8.8.2 Containment systems should be designed such that the horizontal trajectory of a potential leak from a container is confined within the impoundment surface.

10.15.8.8.3 The volume capacity of secondary containment for small containers shall be 110% of the volume of the largest container, when possible.

10.15.8.8.4 Accumulation in the containment shall be emptied and disposed appropriately.

10.15.8.8.5 All damaged secondary containments should be replaced, at no cost to the Owner.

10.15.8.9 The Contractor shall ensure that incompatible hazardous materials are stored in separate storage areas.

10.15.8.10 The Contractor shall secure hazardous materials or waste container that may tip or fall and consider wind effect.

10.15.8.11 The Contractor shall maintain clear egress from hazardous materials storage areas.

10.15.8.12 The Contractor shall ensure accessibility of the hazardous storage areas to the fire response personnel and/or fire department.

10.15.8.13 The Contractor shall prevent the release of toxic vapours, dusts, mists or gases into the environment.

10.15.8.14 The Contractor shall store hazardous materials in containers compatible with that material or waste.

10.15.8.15 The Contractor shall store hazardous materials in closed and sealed containers.

10.15.8.16 The Contractor shall label containers, bulk totes or drums of hazardous materials in accordance with *Workplace Hazardous Materials Information System* 2015 (WHMIS) and the *Hazardous Product Act, R.S.C*., 1985, c. H-3.

10.15.8.17 The Contractor shall maintain Safety Data Sheet (SDS) in proximity to where materials are being used to be readily available in case of a spill. The Contractor shall communicate this location to personnel who may have contact with hazardous materials.

10.15.8.18 The Contractor shall store hazardous materials according to the SDS recommendations.

10.15.8.19 The Contractor shall inspect any storage areas and containers regularly for any deficiencies, including corrosion, damage, leaking, puncture, wearing of joint, expired shelf-life or poor housekeeping. The Contractor shall correct all deficiencies in a timely fashion.

10.15.9 The Contractor shall store and handle flammable and combustible materials in accordance with *National Fire Code of Canada* (2015) requirements which include but are not limited to:

10.15.9.1 The Contractor shall maintain portable fire extinguisher close to combustible and flammable liquid storage areas and/or flammable cabinets.

10.15.9.2 The Contractor shall control all ignition sources in a manner that will not create a fire or explosion hazard.

10.15.9.3 The Contractor shall prohibit smoking in areas where flammable liquids are handled or stored.

10.15.9.4 The Contractor shall store combustible and flammable liquids material or waste in approved containers, appropriately labeled, located in safe, ventilated area, away from extreme temperatures or physical impacts.

10.15.9.5 The Contractor shall not store more than 500 L of combustible and flammable liquids in a flammable cabinet. Of this, not more than 100 L shall be of Class IA.

10.15.9.6 The Contractor shall dispense combustible or flammable liquids from containers having a capacity of more than 30 L by pumps or through self-closing valves.

10.15.10 The Contractor shall transport hazardous materials in accordance with the federal *Transportation of Dangerous Goods Act, 1992* the *Transportation of Dangerous Goods* (TDG) *Regulations*, and other applicable provincial regulations. Generally, the transport of regulated hazardous materials shall meet, but is not limited to the following requirements:

10.15.10.1 The shipment must be accompanied by a shipping document, which includes prescribed information, as per Part 3 of the *TDG Regulations*.

10.15.10.2 Containers and vehicles must display safety marks and placards with UN number, as per Parts 4 and 5 of the *TDG Regulations*.

10.15.10.3 The person involved in shipping must be *TDG* trained or under the direct supervision of a trained person. The trained person must have been issued a training certificate (valid for 3 years) by their employer and must have it in their possession when transporting dangerous goods (*TDGR* Part 6).

10.15.10.4 The dangerous goods must be transported in a prescribed means of containment. The means of containment used must be designed, closed, secured and maintained so that under normal conditions of transport there will be no accidental release of dangerous goods that could endanger public safety (*TDGR* Part 5).

10.15.10.5 The *TDG Regulations* contains several exemptions, which may exempt the transportation from some or all of the requirements. These exemptions cannot be used simultaneously.

10.15.11 The Contractor shall minimize generation of hazardous materials to maximum extent practicable.

10.15.12 The Contractor shall remove all hazardous materials off the Owner's property.

10.15.13 The Contractor shall dispose of hazardous materials according to the requirements of Section A2-28 *Disposal of Materials* and Section A2-10 *Environmental Protection* of the A-2 Specifications (General).

10.16 Petroleum Product Storage Tanks Control

10.16.1 The Contractor shall ensure that all above grade bulk fuel storage tanks have a secondary containment which can be an impervious berm and/or be a double wall tank and/or be an impermeable liner to contain spillage. The containment berm must be capable of holding a minimum of 110% of the maximum storage capacity.

10.16.2 The Contractor shall conform, any petroleum products or allied products storage tanks used at the project site, to the requirements of the *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations*, SOR/2008-197. For temporary above ground petroleum storage tanks stored on construction sites, registration with Environment Canada's database, is not required.

10.16.3 For the purposes of this contract, a tank is as defined under Regulations SOR/2008-197, namely:« a closed container with a capacity of more than 230 L that is designed to be installed at a fixed location. »

10.16.4 The Contractor shall conform, any petroleum products or allied products storage tanks used at the project site, to the following requirements:

10.16.4.1 The characteristics of any petroleum products or allied products storage tank shall include, but is not be limited to:

10.16.4.1.1 A double wall or self-contained tank.

10.16.4.1.2 Any double wall tank shall be equipped with a manometer indicating the interstitial vacuum.

10.16.4.1.3 An interstitial vacuum (negative pressure) which shall have a minimum of -15 inches of mercury (rounded to 500 hPa or 500 millibars).

10.16.4.1.4 A caption box at the tank point of supply.

10.16.4.1.5 A tank equipped with an atmospheric vent and an emergency vent. Vents for Class I liquids must be 3.5 m above ground level. Vents for Class II and III liquids must be at least 2 m above ground level.

10.16.4.1.6 An overfill protection device (e.g. a whistle at the base of the atmospheric).

10.16.4.1.7 Tank walls in good condition. No opening through the tank wall(s) under the level of the stored liquid.

10.16.4.1.8 A tank protected against corrosion.

10.16.4.1.9 A reservoir placed on an impervious surface, concrete slab or other.

10.16.4.1.10 A tank protected against impacts from vehicles and machinery.

10.16.5 The Contractor shall ensure that fuel dispensing nozzles and hoses are in good conditions and are secured in a manner to avoid spillage when put away. There must be a system is in place to collect any dripping that could be caused by fuelling activities. The system could be procedural (e.g. handling instructions for employees) or physical.(e.g. drip tray).

10.17 Designated Substance Control

10.17.1 The Contractor shall, prior to beginning work, confirm with the Owner's Representative the absence or presence and condition of designated substances or special handling materials subject to the *Canadian Labour Code* (R.S.C., 1985, c. L-2) that can be found at the project site.

10.17.2 The Owner's Representative shall provide to the Contractor the location and the physical state (friable or non–friable) of all designated substances that are suspected to be present at the project site.

10.17.3 The Contractor shall ensure that all workers, including subcontractors, are informed of any substances hazards. The Contractor must ensure that employees are trained and are following all designated substance control programs.

10.17.4 Every worker to work in compliance with the work practices and hygiene practices in accordance with every control program respecting a designated substance that applies to the workplace.

10.17.5 The workers are to stop work immediately when material resembling a designated substance is encountered during demolition work (e.g. spray or trowel-applied asbestos).

10.17.6 The Contractor shall advise the Owner's Representative if a material that may contain designated substances is discovered on the project site.

10.18 Invasive Species and Pest Control

10.18.1 No Contractor shall apply, use or store herbicides or pesticides on the Owner's property, without written permission of the Owner's Representative.

10.18.2 If permission is granted by the Owner's Representative, the Contractor shall ensure that all application of herbicides and pesticides are performed according to the federal *Pest Control Products Acts* (R.S. 2002, c. 28) and *Regulations* (SOR/2006-124), in Quebec the *Pesticides Act* (R.S.O c. P-9.3), in Ontario the *Pesticides Act* (R.S.O. 1990 c, P11) , which include but is not limited to:

10.18.2.1 The Contractor shall obtain a permit to apply control products.

10.18.2.2 The Contractor shall ensure that the control products are handled by a certified competent specialist.

10.18.2.3 The Contractor shall use control products, approved in the province of use, and always consider low-toxicity alternative for control.

10.18.2.4 The Contractor shall provide to the Owner's Representative a copy of the permit, a copy of the employees' certifications and the control products SDS before usage on the Owner's property.

10.18.3 The Owner could revoke permission of using control products for any environmental reasons.

10.19 Environmental Emergencies and Pollution Prevention

10.19.1 The Contractor shall outline and use standard construction site spill prevention and response procedures, notification and reporting protocols, with a list of emergency contacts to prevent / minimize adverse effects on environment due to accidental spills of hazardous material that can have adverse effect to the environment.

10.19.2 The Contractor shall have appropriate emergency spill response equipment available near hazardous materials storage area, work activities and equipment, machinery or vehicles that have the potential to release deleterious substances into the environment. The emergency kit shall include, but is not limited to:

10.19.2.1 Absorbent pads, confinement sausages, absorbent rolls, personal protective equipment as well as compatible bags or containers for collecting spilled material.

10.19.2.2 Any other items essential to address small scale incidental spills and ensure the collection, management and storage of contaminated liquid, material and/or soils.

10.19.3 The Contractor shall provide spill kits of sufficient size and content appropriate for the quantity and type of hazardous materials used, stored or present in equipment, machinery and vehicles.

10.19.4 The Contractor shall provide accessible spill kits that can be used at all times on the project site for rapid intervention in case of incidental spill. The Contractor shall communicate the spill kit locations to the personnel under his authority.

10.19.5 The Contractor shall undertake the following procedures in case of an incidental spill:

10.19.5.1 If safe to do so, immediately contain, limit spread and clean up in accordance with provincial regulatory requirements.

10.19.5.2 Request the services of a specialized cleaning provider, at no extra cost to the Owner, if the spill cannot be contained by on-site spill kit equipment.

10.19.5.2.1 Further information on dangerous goods emergency cleanup and precautions including a list of companies performing clean-up work can be obtained from the Transport Canada 24 hour number: 1-888-CAN-UTEC (226-8832).

10.19.5.3 Document all actions taken and report spill immediately to: the Emergency Network of Environment Canada (**1-866-283-2333**) or to Environnement Quebec (**1-866-694-5454**) or to the MOECC Spill Action Centre (**1-800-268-6060**) in Ontario.

10.19.5.4 Report all spills or incidents immediately to the Owner's Representative and fill-out and submit the *EMM-3201-F3 Environmental Incident Report for Contractor t*o the Owner's Representative within 24 hours of the incident.

10.19.5.5 In Ontario, the *O. Reg 675/98 Classification and Exemptions of Spills and Reporting of Discharges* Class VI spill reporting exemption is valid ONLY for "Motor Vehicles" and if all the following conditions are met:

10.19.5.5.1 The spill does not enter and is not likely to enter any waters, directly or through drainage structures.

10.19.5.5.2 The spill does not cause and is not likely to cause any adverse effects, other than those that are readily remediated through clean-up and restoration of surfaces that are prepared for vehicular traffic or paved, gravelled, sodded, areas adjacent to those surfaces;

10.19.5.5.3 Arrangement for the clean-up and remediation are carried out immediately.

10.19.5.6 Clean-up effort shall be to the satisfaction of the Owner.

10.19.5.7 Contaminated material shall be disposed of as per Subsection A2-10.15 *Hazardous Material and Waste Control* of A-2 Specifications (General) (specifically Paragraphs A2-10.15.10 to A2-10.15.12).

10.19.5.8 If requested by the Owner's Representative, the Contractor shall provide sampling and/or laboratory testing results associated to the nature of the spill, at no additional cost to the Owner and within the time frame requested by the Owner. The laboratory used must be accredited by the *Ministry of the Environment, Conservation and Parks* (MOECP) or the *Ministry of Développement durable, environnement et lutte contre les changements climatiques* (MDDELCC).

10.20 Import and Export of Soils Control

10.20.1 The Contractor shall receive the Owner's Representative approval for any backfill material brought from an inside or outside sources on the Owner's properties in regard to its origin, composition and shall prove the absence of contaminants.

10.20.2 The Contractor shall demonstrate, to the satisfaction of the Owner's Representative, that the soils imported are exempt of contaminants, based on sufficient environmental assessment data.

10.20.3 The Contractor shall provide sampling and/or laboratory testing results of the imported soils, at no additional cost to the Owner. The laboratory used must be accredited by the *Ministry of the Environment, Conservation and Parks* (MOECP) or the *Ministry of Développement durable, environnement et lutte contre les changements climatiques* (MDDELCC).

10.20.3.1 The Contractor shall use the sampling requirements of *O. Reg. 511/09 Records of Site Condition* – Part XV.1 of EPA, Schedule E, Table 2 to set a minimum stockpile sampling frequency.

10.20.3.2 The Contractor shall use the sampling requirements of *O. Reg. 511/09 Records of Site Condition* – Part XV.1 of EPA, Schedule E, Table 3 to set a minimum confirmation sampling requirement for excavation.

10.20.4 The Contractor shall ensure that any soil imported on the Owner's properties is conformed to the most stringent of the following standards:

10.20.4.1 The *Canadian Soil Quality Guidelines* (CCME, 2006); or In Ontario, the *Soil, Groundwater and Sediment Standards for Use (*Part XV.1 of the EPA, 2009); or

10.20.4.2 In Quebec, Appendix 2 of the *Intervention Guide - Soil Protection and Contaminated Sites Rehabilitation* (MSDEFACC, 2016) for the various uses of the properties, and Appendix 1 of the *Guide* for the background concentrations of metals. The background concentrations of parameters other than metals shall be those of Criteria A (Agriculture) under Appendix 2 of the *Guide*; and unless otherwise specified, to any applicable legislations as amended.

10.20.5 Upon Owner's Representative written approval, the Contractor may use Category I Lands (Lands use for SLSMC operations) areas, located as agreed with the Owner's Representative, to deposit backfill materials. **Any backfilling on Category II (Surplus) or III (Required for Expansion) lands is forbidden without special written permission obtained in writing from Transport Canada.**

10.20.6 The Contractor shall remove, at no cost to the Owner, any soil or material that is deposited on the Owner's property, without Owner's Representative approval.

10.20.7 Notwithstanding anything containing in this Section, all backfill and soil relocation work shall conform to applicable federal and provincial laws and regulations.

10.21 Waste Disposal

10.21.1 The Contractor shall dispose of waste according to the requirements of Section A2-28 *Disposal of Materials* of A-2 Specifications (General).

## A2-11 LOADING RESTRICTIONS ON BRIDGES AND OTHER STRUCTURES

11.1 The Contractor shall not overload the existing bridges, service decks, coping, cable gallery roofs or other structures across/in across the canal beyond their allowable posted capacity.

11.2 Should bidders anticipate loads in excess of the posted capacity, they shall request information from the Owner's Representative as to which bridge they may use and the manner in which the bridge may be crossed.

11.3 The Contractor shall be entirely responsible for any damage incurred as a result of overloading structures or for any delays resulting from not being able to load certain areas of the work, and shall bear all costs incurred therefrom.

## A2-12 ACCESS ROADS

12.1 The Contractor shall maintain all access roads constructed for his use or used by his equipment during the progress of the work unless otherwise directed by the Owner's Representative.

12.2 During the progress of the work, the Contractor shall immediately remove any spillage of disposal materials being hauled from his operations, which are deposited on the surface or in the ditches of any Owner roads or any public thoroughfare being used by his equipment.

12.3 Unless otherwise directed by the Owner's Representative, the Contractor shall restore all access roads, detours, service, storage and work areas to their original condition upon completion of the use of these facilities.

## A2-13 FIELD MEASUREMENTS

13.1 The Contractor shall confirm all necessary dimensions by field inspection and field measurement with the Owner's Representative before proceeding with the work.

## A2-14 CONTRACTOR'S DRAWINGS

14.1 The following shall apply for the Contractor's Drawings at all times :

14.1.1 The Contractor shall prepare all necessary erection, assembly, working and shop drawings, bills of material and reinforcing steel schedules for all the work included in this contract from the exhibited drawings, specifications and site conditions. These drawings shall be called "**Contractor's Drawings**".

14.1.2 The Contractor's Drawings of temporary structures which will be removed at the end of the work, such as staging and scaffolding, and reinforcing steel schedules, may be done by hand even if computer assisted (CAD) drawings are specified for permanent structures.

14.1.3 The Contractor's Drawings shall show complete details of all components including dimensions, types and locations of all materials, welds and other connections and tolerances.

14.1.4 All Contractor's Drawings shall be drawn using the Owner's standard drawing frame and shall include the Owner contract number in the title block and, immediately above the title block, a reference bar scale conforming to the Owner's standards.

14.1.5 The Contractor shall submit the electronic files of the Contractor's Drawings, including design briefs and stress sheets, for review by the Owner's Representative before fabrication and according to the Contractor's Construction Progress Schedule, allowing 5 working days for the Owner's Representative to review them unless otherwise agreed upon by the Owner's Representative.

14.1.5.1 If revisions are required after a drawing has been submitted, the Contractor shall make any changes in such drawings or diagrams that may be required and resubmit the drawings to the Owner's Representative.

14.1.5.2 Fabrication shall not commence until drawings have been reviewed by the Owner's Representative and thereafter no change shall be made on any drawings without the prior review of the Owner's Representative.

14.1.5.3 Work carried out prior to drawing review shall be at the Contractor's risk, who shall at his own expense, make any corrections required by the Owner's Representative.

14.1.6 Review by the Owner's Representative of the Contractor's Drawings will not relieve the Contractor of any of his duties or responsibilities under the terms of the contract.

14.1.7 Electronic files of all reviewed drawings, design briefs and stress sheets when required shall be furnished to the Owner's Representative by the Contractor as soon as review has been obtained.

14.1.8 The Contractor shall keep one hard copy of all drawings and specifications on the jobsite, in good order, available to the Owner's Representative.

14.1.9 The Contractor shall correct all reviewed Contractor's Drawings, design briefs and stress sheets when required so that they show the final installation as per A-1 Specifications and shall provide the Owner's Representative with the following:

14.1.9.1 computer assisted (CAD) drawings are required for permanent structures according to A-1 Specifications, they shall be CADs prepared according to the Owner's CAD drafting standards which will be provided by the Owner's Representative to the Contractor on request.

## A2-15 HANDLING MATERIALS AND EQUIPMENT SUPPLIED BY THE OWNER

15.1 For any materials and equipment supplied by the Owner, the Contractor shall:

15.1.1 Withdraw, load and transport the material and equipment from the point of delivery indicated in the contractual documents to the work site.

15.1.2 Protect, re-handle, transport the material and equipment as required and replace any material and equipment lost, damaged or destroyed during the course of the work.

15.1.3 Upon completion of the work, load, transport to, unload and pile as directed at Owner's stores all remaining material and equipment supplied by the Owner and all materials judged reusable by the Owner's Representative.

15.1.4 The Contractor shall also account for all materials and equipment supplied by the Owner and used during the execution of the contract and for all unused materials and equipment returned to Owner stores.

15.1.5 All other material shall be disposed of by the Contractor as directed by the Owner's Representative.

## A2-16 INSPECTION AND TESTING

16.1 All materials incorporated in the work, and the manufacture and assembly, and field installations of all parts shall be subject to inspection, prior to acceptance, by inspectors appointed and paid by the Owner.

16.2 The Contractor, at the request of the Owner's Representative, shall at no additional cost to the Owner, prepare and furnish samples of all materials and properly machined or moulded test pieces to permit a thorough inspection thereof.

16.3 The Owner's Representative will, at his option, inspect all materials and equipment to be supplied during fabrication and before shipment and witness the shop tests after final assembly.

16.4 The Contractor shall provide and maintain, at no additional cost to the Owner, all necessary instruments, tools and facilities for the inspection and checking of weights, dimensions and quality of workmanship at the shop where the material is fabricated, and in the field where it is assembled. The Contractor shall also supply all labour and appliances that may be necessary for handling material while undergoing inspection.

16.5 The Contractor shall arrange for full access by Owner inspectors, at all times, to all sections of the work area and sections of shops/sites where parts are being fabricated by the Contractor or by a subcontractor. The Contractor shall also arrange for the same access to shops supplying material and purchased components which are to be incorporated in the work.

16.6 The Contractor shall notify the Owner's Representative one week in advance of the time when any part of the work is to be commenced.

16.7 The Contractor shall not lay out any material nor do any work before the Owner's Representative has been notified and arrangements have been made for any inspections deemed necessary by the Owner's Representative.

16.8 The Contractor shall notify the Owner's Representative 72 hours in advance when shop and field tests are to take place so that arrangements can be made to have the tests witnessed.

16.8.1 Tests shall include all routine, electrical and mechanical tests in accordance with the relevant standards.

16.9 The Contractor shall also notify the Owner's Representative 72 hours in advance of the time when the materials and work will be complete and ready for final inspection so the Owner's Representative can supervise the inspection.

16.10 After fabrication, the materials and equipment shall be tested by the Contractor in the plant to make sure that all the components function satisfactorily and that the complete assemblies comply with the minimum standards and essential requirements covering the materials and equipment included in this contract.

16.11 Each piece or container of material which has been inspected and accepted will, wherever practicable, be stamped or identified by an Owner's inspector with his private mark. Any piece not so identified may be rejected at any stage of the contract.

16.12 The Contractor shall replace or repair any rejected material or work at no additional cost to the Owner.

16.13 If the Owner's Representative waives his right of inspecting the materials and equipment or witnessing shop tests as herein provided, it shall in no way relieve the Contractor of full liability of the completed work or any part of it, nor shall it prejudice or affect the rights of the Owner as set forth under the contract.

## A2-17 INSPECTION BY THE CONTRACTOR

17.1 The Contractor shall ensure through adequate inspection that all component parts are manufactured and assembled in accordance with the shop drawings and with the specifications.

17.2 The Contractor shall submit to the Owner's Representative a report including any discrepancies.

17.3 Neither material nor parts shall be used or processed, and no finished work shall be presented for acceptance or shall leave the place of manufacture until inspected by the Contractor and, wherever practicable, marked with an approval stamp satisfactory to the Owner's Representative.

17.4 The Contractor shall keep proper and adequate inspection records, which shall be open to examination at all times by the Owner's Representative who may make copies thereof and take extracts therefrom.

## A2-18 ALTERATIONS AND REPLACEMENT

18.1 Should any part supplied by the Contractor fail when tested, the Contractor shall make alterations or replacement, as may be deemed necessary by the Owner's Representative at no additional cost to the Owner.

18.2 Except as directed by the Owner's Representative, no repairs to defective parts of any assembly will be permitted, and defective parts shall be replaced with new ones only.

## A2-19 SURVEY LINES, GRADES AND DATUMS

19.1 The datums to be used for this work shall be that established by the Owner according to the drawings.

19.2 The Owner's Representative will establish and clearly mark one or more reference base lines at the project and will establish reference bench marks from which the Contractor shall establish such other points, lines and elevations as may be required for the proper execution of this work.

## A2-20 RESTRICTED WORK AREAS

20.1 The Contractor shall note that the working area is restricted in size and that Owner's employees may also require access to the work areas during or immediately after the completion of each phase of the work.

# A-2 SPECIFICATIONS (GENERAL)

## A2-21 NIGHT WORK

21.1 The Contractor shall provide all lighting, supervision, barricades and other equipment required for night work that is performed, at no additional cost to the Owner.

21.2 Lighting for night work shall be installed in a manner, which will ensure that visibility is not restricted for vessel operators and vehicular traffic.

21.3 Prior to commencing night work, the Contractor shall give the Owner's Representative sufficient notice in writing to permit arrangements to be made for the necessary inspection staff.

## A2-22 ICE AND SNOW REMOVAL

22.1 The Contractor shall promptly remove ice and snow from the work site and the access routes as required to ensure uninterrupted progress of the work.

22.2 The Contractor is fully responsible for snow removal and ice control within and near the work area in order to proceed with his work without delays. This may include snow removal of the primary access to the Lock structure.

22.3 The Contractor shall take note that all accesses cleared by the Owner from snow will be cleared according to the prioritized schedule of the Owner, and not within a certain time frame following a snowfall.

22.4 The Owner will not accept extra cost for any kind of delay regarding the snow removal of the primary access to the Lock.

## A2-23 OFFICE, SERVICE AND STORAGE AREAS

23.1 The Contractor shall be entitled to the use of Owner land as required for parking, storage, service and office areas as directed by the Owner's Representative. The exact location will be designated by the Owner's Representative.

23.2 The Contractor's employees and visitors shall not park private automobiles on Owner property other than in the area designated for that purpose by the Owner's Representative.

## A2-24 ACCESS FACILITIES, TEMPORARY SHORING & FORMWORK

24.1 The Contractor shall provide access facilities for inspection, of adequate size and strength to safely accommodate the Contractor and Owner personnel.

24.2 The Contractor shall be solely responsible for the design, supply, construction and maintenance of all temporary hanging work platforms, shoring, scaffolding, formwork and falsework required in order to carry out the specified work in a safe and expeditious manner.

24.3 The Contractor shall satisfy the Owner's Representative that all of the requirements have been met according to all applicable federal and provincial legislation.

24.4 The Contractor shall ensure that all hanging work platforms and scaffolds, whether suspended from cranes or from fixed objects, shall meet the safety requirements of, and be approved by, the *Ministry of Labour* in the Province of Ontario, and the *Commission des normes, de l'équité, de la santé et la sécurité du travail* (CNESST) in the Province of Quebec, or any successor to such bodies.

## A2-25 PROTECTION OF EXISTING SERVICES

25.1 The Contractor shall contact all utility companies and the Owner prior to the commencement of work and have marked the location of all buried, embedded, aerial and surface services in the work area as defined for the Contractor in A-1 Specifications or by the Owner's Representative.

25.2 No work shall start until the Owner's Representative has given permission to commence. Permission of the Owner's Representative will not relieve the Contractor of any responsibilities hereunder.

25.3 The following shall apply for the Owner utilities and services :

25.3.1 The Contractor shall note the presence of existing Owner utilities and services, the location of which will be identified by the Owner on an appropriate form.

25.3.2 The Contractor shall accept, sign and retain on the contract site a copy of the form provided by the Owner; the Contractor shall clearly mark the locations and shall be solely responsible for maintaining the markings on these locations and utilities.

25.3.3 The Contractor shall inform all the Contractor's employees and all subcontractors of the presence of these utilities.

25.4 The Contractor shall submit in writing the procedures that will be used to ascertain that no electrical ducts, conduits or services will be accidentally damaged.

25.5 Some of the Owner and other utilities and services which are present in the work areas cannot be disrupted and shall be protected while the work is being done.

25.6 In all cases, the approval of the appropriate utility companies or of the Owner shall be obtained by the Contractor before any work is carried out adjacent to any utilities.

25.7 All existing works, property and facilities, such as roadways, curbs, fences, structures, gas pipes, water pipes, electrical ducts, power lines, drains, telephone lines, other facilities and equipment, in or adjacent to the work area shall be adequately protected by the Contractor from damage or loss of any kind and interruption of services at all times.

25.8 Any damage to existing works or loss resulting from the Contractor's operations or failure to provide and install adequate protection for these works shall be repaired or replaced by the Owner or the appropriate utility at the Contractor's expense, to the entire satisfaction of the Owner's Representative.

25.8.1 The Owner will replace, in its entirety, any of its utilities or sections of utilities damaged by the Contractor. For example, damaged duct or conduit will be replaced in its entirety; damaged cable will be replaced in its entirety between existing termination points.

## A2-26 PROTECTION OF NEW AND EXISTING EQUIPMENT

26.1 The Contractor shall take all necessary precautions to ensure that new and existing machinery, electrical and mechanical equipment, electrical panels, and moving parts, are fully protected and kept clean and free from environmental contamination, sand, dust, dirt, concrete and others from the operations under this contract throughout the course of the work.

26.2 The Contractor shall promptly clean or repair any damage to any such machinery or parts caused by the operations under this contract to the satisfaction of the Owner's Representative at no additional cost to the Owner.

26.3 The Contractor shall prepare all materials for shipment and storage in such a manner as to protect them from bad weather, damage or deterioration and shall be responsible for and make good any and all damage due to improper preparation and loading for shipment. Each package as well as each assembled piece shall have the net weight and a designation corresponding to the drawings and bills of materials plainly marked on it.

26.3.1 The Contractor shall make good any and all damage due to improper preparation, packaging, wrapping and loading and stowage for shipment.

## A2-27 ELECTRICAL POWER

27.1 The following shall apply at all times :

27.1.1 If requested by the Owner's Representative, the Contractor shall present to the Owner a plan of the intended set-up for the electrical distribution system.

27.1.2 All connections to power outlets and all materials for such connections shall be supplied, installed and subsequently removed by the Contractor at the completion of the work, all to the satisfaction of the Owner's Representative.

27.1.2.1 All work shall conform to the *Canadian Electrical Code* and be carried out by a licensed electrician.

27.1.2.2 The Contractor shall provide the electrician's license when requested by the Owner's Representative.

27.1.2.3 The Contractor shall protect all 115/220 V circuits by means of ground fault circuit interrupters installed at the receptacle, or on the circuit at the panel.

27.1.2.4 The Contractor shall ensure that all portable generators brought onto Owner property have their 115/220 V circuits protected by ground fault breakers or ground fault receptacles, installed at the portable generator and that required ESA or other inspections are done.

27.2 If and when electrical power is supplied by the Owner, according to the specifications, the following shall apply :

27.2.1 Any work not conforming to the *Canadian Electrical Code* could result in the severance of electrical power to the Contractor until such work has been upgraded to the Code requirements.

27.2.2 The Owner will interrupt the power if faults on the Contractor's system interfere with or ground the Owner's power system.

27.2.3 The Owner will from time to time, inspect all Contractor's electrical installations.

27.2.3.1 If said inspections reveal defects the Owner will notify the Contractor, in writing, of the defects and corrective action required.

27.2.3.2 Failure on the part of the Contractor to correct these defects will result in the severance of electrical power supplied by the Owner.

27.2.4 The Owner will not be responsible for any interruptions to the supply of electrical power. The Contractor shall therefore make arrangements for alternate additional power supply for supplementing Owner services as and when required, at no additional cost to the Owner.

## A2-28 DISPOSAL OF MATERIALS

28.1 The Contractor shall not use the waste disposal bins of the Owner, for the disposal of residual waste (domestic or hazardous) or of any material produced during work completed on the Owner's lands.

28.2 In the Province of Ontario, the following shall apply for the disposal of materials :

28.2.1 The Contractor shall abide by all applicable laws, including the *Environmental Protection Act* and *General Waste Management Regulation No. 347 amended by Regulation No. 558/00* of the Province of Ontario, and any successor laws and regulations, in the disposing off site of all waste materials resulting from the work.

28.2.1.1 The Owner is the GENERATOR of the hazardous and registerable waste material, and is responsible for paying all costs for obtaining, completing, and filing the *Generator Registration Report*.

28.2.1.2 The Contractor is responsible for the hiring of an approved provincial hazardous materials carrier who has a liability insurance policy of a minimum of $1 million coverage per incident to transport the waste materials to a provincially approved hazardous materials transfer site. The waste numbers which will be supplied by the Owner shall be entered on each manifest form for each waste transaction.

28.2.1.3 The Contractor shall file with the Owner copies of all documents, forms and manifests pertaining to the hazardous and registerable materials as they are generated.

28.3 In the Province of Quebec, the following shall apply for the disposal of materials:

28.3.1 The Contractor shall abide by all applicable laws, including the *Environment Quality Act* and the *Regulation Respecting Hazardous Materials c. Q-2, r.32* of the Province of Quebec, and any successor laws and regulations, in the disposing off site of all waste materials resulting from the work.

28.3.1.1 The Contractor is the GENERATOR/CONSIGNOR of the hazardous materials and is responsible for paying all costs for obtaining and completing each manifest in conjunction with the carrier and the consignee.

28.3.1.2 The Contractor is responsible for the hiring of a carrier who has a provincial permit to transport hazardous materials and has a liability insurance policy of a minimum of $1 million coverage per incident. The waste material is to be transported to a provincially approved hazardous materials transfer centre.

28.3.1.3 The Contractor shall file with the Owner copies of all documents, forms and manifests pertaining to the hazardous materials as they are generated.

28.4 The Contractor shall dispose of the existing materials specified as hazardous or registerable in A-1 Specifications in accordance with the applicable regulation, as prescribed above in Subsections A2-28.2 for the Province of Ontario, and A2-28.3 for the Province of Quebec, at no additional cost to the Owner.

28.5 In the event that existing materials to be disposed of are not specified as being hazardous or registerable in A-1 Specifications, and are eventually found to be hazardous or registerable, the Contractor shall dispose of these materials in accordance with the applicable regulation, as prescribed above in Subsections A2-28.2 for the Province of Ontario, and A2-28.3 for the Province of Quebec, and will be compensated for the justified additional disposal costs incurred according to the *General Conditions* of this Contract.

28.6 The following shall apply for the disposal of non-hazardous and non-registerable materials in both Provinces of Ontario and Quebec:

28.6.1 Unless otherwise prescribed in A-1 Specifications, all waste materials resulting from the work which have been classified as non-hazardous and non-registerable shall be removed by the Contractor from the Owner's property and disposed of at a disposal site set aside for that purpose.

28.6.2 The Contractor shall obtain and file with the Owner written permission from the owner of the property upon which the materials are placed and shall save the Owner harmless and indemnified from all claims that may arise from such disposal.

28.7 The following shall apply for the disposal of all hazardous, registerable and non-hazardous and non-registerable materials in both Provinces of Ontario and Quebec:

28.7.1 The waste materials shall be removed to the disposal site as expeditiously as possible in order to avoid interference with other operations.

28.7.2 As a result of the disposal of waste materials, the Contractor shall protect and indemnify the Owner, its representatives and Her Majesty in Right of Canada against all claims for damage including all costs of any nature whatsoever, including all judicial and extra judicial cost resulting from any legal action having been entered into.

**A2-29 PURCHASE ORDERS AND SHIPPING BILLS**

29.1 If requested by the Owner's Representative, 1 copy of all purchase orders for equipment, materials, and services which are to be used in carrying out this contract shall be furnished to the Owner's Representative by the Contractor.

29.2 All purchase orders shall specify that equipment, materials or services are subject to the Owner's inspection in accordance with the contract and shall state the Owner's contract number, as well as the applicable drawing and item numbers.

29.3 The Contractor shall note on the purchase orders for raw material, that the supplier shall supply the required copies of all Mill or Foundry Test Certificates, and that all materials and processes are subject to inspection at the plant or manufacture by the Contractor and by the Owner.

29.4 If requested by the Owner's Representative, 1 copy of all material and shipping bills shall be furnished to the Owner's Representative by the Contractor.

**A2-30 WEIGH SLIPS**

30.1 The Contractor shall supply one copy of each weigh slip to the Owner's Representative at the site as the materials measured for payment as per specified units are delivered and placed.

30.2 For weighing of materials, the Contractor shall use a device approved by Measurement Canada and certified for less than one year under the *Weights and Measures Act* by a service provider accredited and registered with Measurement Canada.

30.3 Each weigh slip supplied by the Contractor shall include the following:

30.3.1 the name of the Contractor,

30.3.2 the date and time of departure,

30.3.3 the name of the truck's owner,

30.3.4 the license number,

30.3.5 the origin of the materials,

30.3.6 the identification of the materials,

30.3.7 the destination of the materials,

30.3.8 the gross weight,

30.3.9 the tare weight of the truck,

30.3.10 the net weight,

30.3.11 the weigher's signature.

30.4 The Contractor shall arrange for the Owner's Representative to have access to the weigh scale as and when required.

30.5 The tare weight of each truck shall be the weight of the truck with the following:

30.5.1 The box empty and clean.

30.5.2 The gas tank half-full.

30.5.3 The spare tire attached.

30.5.4 The driver in the cab.

## A2-31 EQUIVALENTS

31.1 Trade names specified in the specifications and drawings are intended to show the quality and kind of goods, materials, and equipment required.

31.2 Goods, materials, and equipment at least equivalent thereto may be submitted for review.

31.3 Equipment and materials will be accepted as equivalents when it is proved that they are equivalent by means of trials, analyses, or written reports, as required by the Owner's Representative.

31.4 The decision of the Owner's Representative as to equivalence will be final.

31.5 The Contractor shall credit the Owner with all savings made, as determined by the Owner's Representative, by the substitution and use of lower priced materials or equipment than those specified.

31.6 Only substitutions which have been accepted in writing by the Owner's Representative shall be used.

## A2-32 REQUESTING OWNER SERVICES

32.1 During the course of the work, the Contractor may require the services of Owner's personnel.

32.2 Should this necessity arise, the Contractor shall notify the Owner's Representative at least 48 hours in advance of the time when these services are required.

32.3 If, in the opinion of the Owner's Representative, the Owner services would require more than 2 Owner's employees, the Owner's Representative will require at least 5 days advance notice of the time when these services are required.

## A2-33 COOPERATION WITH OTHERS

33.1 During the course of this contract, Owner personnel and equipment will be working in the area, and will require access through the work area.

33.2 The Contractor shall share and co-operate with Owner personnel in the use of haulage routes, access roads and work yards.

## A2-34 INDEMNIFICATION BY CONTRACTOR

34.1 The text of paragraph GIC 1 of the document titled "I" Insurance Conditions applies to this part.