

Publics Works and Government Services Canada

R.083173.001 – Damages to wharf (piles)

Matane, QC

Technical specifications for tender call



Approved by : 2017-04-10

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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 humans; or degrade environment aesthetically, culturally and/or historically.
- .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

1.2 Action and informational submittals

- .1 Submit required documents and samples in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Before commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by Departmental Representative.
- .3 Environmental protection plan must include comprehensive overview of known or potential environmental issues to be addressed during construction.
- .4 Address topics at level of detail commensurate with environmental issue and required construction tasks.
- .5 Include in environmental protection plan:
 - .1 Name of person responsible for ensuring adherence to environmental protection plan.
 - .2 Name and qualifications of person responsible for manifesting hazardous waste to be removed from site.
 - .3 Name and qualifications of person responsible for training site personnel.
 - .4 Description of environmental protection personnel training program.
 - .5 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 and methods for protection of features to be preserved within authorized work areas.
 - .6 Spill control plan to include procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
 - .7 Non-hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
 - .8 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, are contained on project site.

- .9 A plan for the prevention of water pollution, specifying the working methods and measures to prevent resuspension of sediments and the introduction of debris, materials and waste in the aquatic environment.
- .10 Contaminant prevention plan identifying potentially hazardous substances to be used on job site; intended actions to prevent introduction of such materials into air, water, or ground; and detailing provisions for compliance with federal, provincial, and municipal laws and regulations for storage and handling of these materials.

1.3 Fires

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

1.4 Waste management

- .1 All materials to be evacuated from the site become the property of the Contractor.
- .2 It is prohibited to bury waste materials on site.
- .3 Materials from the excavation and demolition of the wharf will be sorted and classified to manage their subsequent use or disposal in accordance with applicable standards.
- .4 Provide off-site and predetermined safe areas with facilities for storing and sorting waste, excavated material and dry materials that are to be reused or transported off-site.
- .5 Reuse materials excavated or demolished on site in new works as much as possible. Obtain authorization from the Departmental Representative prior to the incorporation of material from the demolition.
- .6 Metal parts (bolts, steel plates, steel parts, etc.) must be recycled.
- .7 Proceed to progressive evacuation from work site to permitted sites of materials from demolition and excavation not reused.
- .8 Materials from demolition that will not be re-used in the new structure should preferably be recycled and otherwise disposed of at sites authorized by the Department of Sustainable Development, Environment and the Climate Change Act (MDDELCC). On request, the MDDELCC can provide information on sites in operation. This includes dry materials, any scrap or debris from demolition and construction.
- .9 Contaminated and excavated soils should be properly managed so as not to contaminate clean soil.
- .10 Contaminated water from excavated material must be analyzed prior to disposal.
- .11 Take all precautions (ditch, gutters, etc.) to prevent runoff from contaminated materials placed in the temporary storage site.
- .12 Provide Departmental Representative with copies of permits obtained from owners or managers of disposal and disposal sites for materials from demolition prior to demolition.

1.5 Work executed close to water sources

- .1 No construction material shall be discharged into watercourses.
- .2 Do not extract borrowed materials from watercourse bed and bank.
- .3 Flashing underwater or outside water unless prohibited by Ministerial Representative.

- .4 No cleaning of equipment is permitted in water.
- .5 No person shall excavate or take materials in an aquatic environment except in the excavation area.
- .6 Do not discharge dry materials, scrap or debris into watercourses, storm sewers or sanitary sewers.
- .7 Maintain and clean vehicles and equipment, fuel tanks and storage of petroleum products or other hazardous materials at a minimum distance of 30 meters from shore.
- .8 In the event that certain hazardous equipment or products must remain within 30 meters of the water body, the Contractor shall submit to the Departmental Representative a contingency plan to be approved by the Department prior to commencement of work. The plan should detail, but not be limited to:
 - .1 Designated place (s) within the limits of the site to carry out the operations involved;
 - .2 Hazardous materials to be stored (eg diesel, used oil, etc.);
 - .3 Containment methods used to avoid contamination during maintenance, during machinery operation (in case of leakage) and during refueling of equipment;
 - .4 Emergency equipment for spills in vicinity of refueling area and near service area.
- .9 In the event that soil contamination in the affected areas results from activities related to the Project, remediate the site to its intended uses and dispose of the contaminated soil in a site authorized for this purpose by the MDDELCC.
- .10 Comply with conditions prescribed by Transport Canada's Navigable Waters Protection Division.

1.6 Pollution prevention

- .1 The materials used must be inert and free from contamination.
- .2 Prevent fine materials and other materials from contaminating sediments, soil, air and water.
- .3 Cover dry materials and wastes to prevent wind from raising dust or debris. If necessary, water the dry materials with water if they do not show visual or olfactory evidence of contamination.
- .4 Ensure control of gases released by equipment and facilities in accordance with local authority requirements.
- .5 Operate vehicles and machinery in good working order and free from leakage.
- .6 Do not allow unnecessary running of machinery and truck engines
- .7 Any equipment (excavator, crane, etc.) shall be inspected by a qualified mechanic prior to commencement of work to ensure that there is no breakage which may result in loss of hydrocarbons or any Other contaminant, and that the mufflers are in good condition. Repair non-conformities as soon as possible. Submit an inspection certificate to the Departmental Representative.
- .8 Where applicable, take note of the site emergency plan.

- .9 Prior to commencement of work, provide an environmental spill contingency plan, including list and contact information for intervenors and authorities to be contacted and measures to be taken in the event of a spill.
- .10 Maintain on site and know how to use emergency equipment in case of accidental spill.
- .11 An emergency kit shall be maintained at all times adjacent to machinery handling areas and in the planned fueling area. The kit must contain sufficient absorbent material to recover petroleum products from the site.
- .12 In the event of a spill of oil or other hazardous materials, immediately recover and dispose of hydrocarbons and any contaminants accidentally released into the environment and contaminated soils in accordance with applicable legislation.
- .13 In the event of a spill of oil or other hazardous materials, notify the Departmental Representative and the appropriate authorities according to the contingency plan. Immediately report the situation to the Environment Canada Emergency Department (1-866-283-2333), Urgence Environnement du Québec (1-866-694-5454).
- .14 Hazardous products, waste oils and other contaminated wastes should be managed in accordance with applicable regulations. This includes on-site storage, transportation and disposal.
- .15 Volatile materials such as mineral spirits and oil or paint thinners should not be discharged into streams, storm sewers or sanitary sewers.
- .16 Any hazardous waste (solvent, paint, etc.) generated on site should be sent for disposal at a site authorized by MDDELCC.
- .17 The storage and transportation of hazardous waste should be in accordance with current regulations so as not to contaminate the environment.
- .18 Provide Departmental Representative with copies of permits and permits obtained from owners or managers of hazardous waste sites prior to release from site.
- .19 Storage tanks for petroleum products shall conform to the laws and regulations in force, depending on their use.
- .20 Constant monitoring of fuel, oil, other petroleum products or contaminants, including transfer, to prevent spillage and prompt response where appropriate.
- .21 Keep equipment in perfect working order. Check for leaks of contaminants on the equipment daily, which should be repaired immediately, if necessary.

1.7 Material transportation

- .1 Haulage of materials on public roads to the work site is authorised between 6 am and 6 pm, Monday to Friday unless otherwise indicated by authority having jurisdiction. Haulage prohibited on Saturdays, Sundays and statutory holidays.
- .2 Ensure that trucks are in good operating condition. Any truck or other mode of transportation generating abnormal noise levels, according to Departmental Representative, shall cease the transportation of materials or be repaired or modified and made acceptable.

- .3 Contractor to use adequate signage and cooperate with the municipality, the Departmental Representative and other concerned authorities to minimise transportation impact on the residents' normal lives in the vicinity of the work site and haul roads.
- .4 Use tarpaulin to cover granular materials during transport.
- .5 Maintain at all times used traffic lanes in good condition and take appropriate measures so that they can be used and crossed without problems by other users.
- .6 As a result of the work, restore the lanes to a state at least equal to their initial condition and as soon as possible.

1.8 Aquatic environment protection inside work zone

- .1 Area of work should be well defined.
 - .1 Stop activities when weather conditions are unfavorable.
 - .2 Avoid dispersal or suspension of sediments from the work area.
- .2 It is prohibited to store debris from demolition in the aquatic environment and on the banks and on the structure of the wharf.
- .3 Release of demolition materials (concrete, aggregates, steel, paving, etc.) into the aquatic environment is prohibited. It will be necessary to recover all debris released, regardless of their size and nature, as soon as possible.
- .4 Hazardous waste, if applicable, shall be removed from other non-hazardous waste materials.
- .5 The Contractor shall have an accident response kit on site to be able to contain a spill. The kit must contain the necessary equipment in sufficient quantity to contain the leak and recover all contaminants.
- .6 Employees should be trained to be in a position to respond to spills, based on the emergency plan at the work site.
- .7 In the event of an aquatic spill, the contaminated water will be confined and recovered by a specialized firm and routed to a treatment center approved by the Ministry of Sustainable Development, Environment and Climate Change (MDDELCC).
- .8 In case of a spill, intervene immediately to contain leakage and contain hazardous materials. The area affected by the spill should be cleaned.
- .9 In the event of a spill, contaminated soils shall be placed in piles on waterproof fabrics and shall be covered with waterproof fabrics or sealed containers. Contaminated soils should be managed in accordance with current standards based on soil test results.
- .10 Turn off machinery motors when not in use.
- .11 Machinery must be in good working order. A preliminary inspection of the machinery must be carried out prior to the mobilization on the site.
- .12 Use tarpaulins on trucks when transporting equipment.
- .13 Notify residents who may be affected by night work by specifying the duration and nature of the work.

- .14 Any spills of hazardous materials to the site are reported to Environment Canada's Alert Network (1-866-283-2333), MDDELCC (1-866-694-5454), and the Canadian Coast Guard (1-800-363-4735).
- .15 As the work progresses, thoroughly clean the aquatic environment to recover all debris from the work.
- .16 Minimize direct interventions in the aquatic environment, beaches and shorelines.
- .17 Where work requires the immersion of machinery parts in water, the Contractor shall ensure that they are free of contamination and oil leakage.
- .18 The storage of land machinery shall be at all times above the high tide level and in accordance with the conditions listed in section 1.7.
- .19 Recover and dispose of residues from cleaning of equipment used for concrete.
- .20 Keep construction machinery and mufflers in perfect working order to minimize the effect of noise.

1.9 Concrete work

- .1 Carry concrete work to prevent concrete and particles from reaching the aquatic environment.
- .2 Ensure that cast concrete is protected from rain during concreting at all times.
- .3 Do not discharge directly or indirectly into the aquatic environment any waters that have been in contact with fresh or partially cured concrete or cement

1.10 Work surveillance

- .1 The application of the mitigation measures resulting from the Screening Report and referred to in this section will be monitored on a continuous basis by the Departmental Representative.
- .2 A monitoring sheet provided by the Department will be completed by the Departmental Representative of the environmental aspects of the site and delivered to the Minister's Representative and the Contractor on a weekly basis.

1.11 Notification

- .1 Departmental Representative will notify Contractor in writing of observed non-compliance 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 as approved 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.

1.12 Materials suited for recovery

- .1 The Contractor is exclusively responsible for the choice of materials suited for recovery. Certified laboratory analyzes should be provided to Departmental Representative.
- . 2 Dry materials from the demolition that can be recovered may be removed from the site under the condition that the Contractor:
 - .1 Signs a written statement that the operator of the site where the materials, that are recoverable in the Contractor's opinion, will be placed and by the owner of the site if different from the operator, will indemnify and hold harmless Canada from and against all claims, demands, losses, costs, damages, actions, suits or proceedings from anyone arising out, related from, or incidental to the disposal of these materials at this site by the Contractor, his employees, agents or sub-contractors, or to the subsequent use of these materials;
 - .2 Provides a document duly signed by the site operator and the owner of this site if the operator is not the owner, authorizing the Contractor to dispose of the demolition materials which are recoverable in the Contractor's opinion;
 - .3 Provides a document duly signed by the site operator and the owner of the if the operator is not the owner, indemnifying and holding harmless Canada from any claim that may result from the disposal of demolition materials believed to be recoverable by the Contractor, and from the subsequent use of these materials.

This document:

 - .1 shall be made in duplicate if the site operator is not the owner (one copy by the site operator and one copy by the site owner);
 - .2 shall indicate the land register number of the parcels that comprise the disposal site for recoverable materials, and the name of the owner of the parcels;
 - .3 include the following paragraph:

"..... (name of the Company operating the site, or as the case may be, the name of the owner of the site) agrees, at all times, to indemnify and save harmless, Canada from all and against all claims and demands, loss, costs, damages, actions, suits or other proceedings for the disposal by (Name of Contractor), his employees, agents or sub-contractors, on the parcel(s) bearing number(s) in the land register of, of excavation materials from (Name of the structure to be demolished) which may, in the opinion of (Name of the Contractor) be recovered, or the subsequent use of these materials "; and
- .4 Provides an official document issued by the MRC or the municipality where the site is located authorizing the operator of the site, and the site owner if the operator is not the owner, to use this site to dispose of demolition materials that could be recovered; and
- .5 Obtains prior written approval from the Departmental Representative.

Part 2 Products**2.1 Not used**

.1 Not used.

Part 3 Execution**3.1 Not used**

.1 Not used.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 ASTM International
 - .1 ASTM A36/A36M-14, Specification for Carbon Structural Steel.
 - .2 ASTM A307-14, Specification for Carbon Steel Bolts, Studs and Threaded Rod 60 000 psi Tensile Strength.
 - .3 ASTM F3125/F3125M-15 (Rev A), Specification for High Strength Structural Bolts, Steel and Alloy Steel, Heat Treated, 120 ksi (830 MPa) and 150 ksi (1040 MPa) Minimum Tensile Strength.
 - .4 ASTM A123/A123M, Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - .5 ASTM A563, Specification for Carbon and Alloy Steel Nuts.
- .2 CSA International
 - .1 G40.20/G40.21-13,
 - .2 CAN/CSA S16-14,
 - .3 CAN/CSA W48-14,
 - .4 CAN/CSA W59-13,
 - .5 CAN/CSA S136-12.
- .3 Underwater welding : ANSI/AWS D3.6.

1.2 PAYMENT

- .1 This item is measured as a global unit and includes, but is not limited to, buying, delivering, installing, underwater welding, various diving work and all related work required to install underwater steel profiles, as shown in the drawing.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit required documents and samples in accordance with Section 01 33 00 –Submittal Procedures.
- .2 Product Data: Submit manufacturer's instructions, printed product literature and data sheets for sections, plates, pipe, tubing, bolts, and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Shop drawings: Indicate materials, core thicknesses, finishes, connections, joints, method of anchorage, number of anchors, supports, reinforcement, details, and accessories. Welding symbols in accordance with CSA W59.
- .4 Welding Methods Documents to be approved and stamped by the Canadian Welding Bureau, or a certified welding engineer.

1.4 QUALITY CONTROL

- .1 Submit certified test reports showing compliance with specified performance characteristics and physical properties.

- .1 Test reports shall indicate chemical and physical steel properties used for the work as well as any other significant detail.
- .2 Submit test reports and certifications signed by a competent Canadian certified manufacturer's metallurgist.
- .3 Certificate: submit written documents certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.

Part 2 Products

2.1 MATERIALS AND PRODUCTS

- .1 Steel sections: to CSA G40.20/G40.21, Grade 350W.
- .2 Steel plates: to CSA G40.20/G40.21, Grade 300W.
- .3 Welding materials: to CSA W48 and CSA W59 and certified by the Canadian Welding Bureau. Conform to underwater welding requirements and AWS D 3.6.

2.2 WELDINGS

- .1 Welding out of water must be conform to CAN/CSA W59.
- .2 Under water weldings must be conform to ANSI/AWS D3.6. Weldings must be of type B
- .3 Before beginning welding works, Contractor shall receive Departmental Representative written authorisation. Contractor shall also complete hot work forms.

Part 3 Execution

3.1 GENERAL

- .1 Structural steel work: in accordance with CAN/CSA-S16 and CAN/CSA-S136.
- .2 Welding: in accordance with CSA W59 and AWS D 3.6.
- .3 Companies to be certified under Division 1 or 2.1 of CSA W47.1 for fusion welding of steel structures and/or CSA W55.3 for resistance welding of structural components.
- .4 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for metal fabrications installation in accordance with manufacturer's written instructions.
- .5 Visually inspect substrate in presence of Departmental Representative
- .6 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
- .7 Proceed with installation only after unacceptable conditions have been remedied.

- .8 Contractor shall validate on work site the definitive length of various steel shape. Length given on drawings are approximate.

3.2 CONNECTION TO EXISTING WORK

- .1 Verify dimensions and condition of existing work, report discrepancies and potential problem areas to Departmental Representative for direction before commencing fabrication.

3.3 ERECTION

- .1 Erect structural steel, as indicated and in accordance with CAN/CSA-S16 CAN/CSA-S136 and in accordance with erection drawings. Erect metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.
- .2 Do welding work in accordance with CSA W59 unless specified otherwise.
- .3 Clean surfaces from dust and debris to Departmental Representative's satisfaction.
- .4 Field cutting or altering structural members to approval of Departmental Representative.

3.4 WELDING QUALITY CONTROL AND INSPECTION

- .1 Give a written description of welding methods to Departmental Representative at least 1 week prior to work.
- .2 For under water weldings, weldings will be qualified by the Departmental Representative. Fees for those tests will be at the Contractor charge. Welders who will not meet the requirements will not be allowed to work.
- .3 If quality control detects a default to repair, the welding will have to be fixed and controlled again. The Contractor will have to modify his method to eliminate defaults. The repair and second inspection will be at the Contractor charge.
- .4 Report to Departmental Representative any default in the material or any problem of erection on work site. Corrections will be realized at the Departmental Representative satisfaction.

END OF SECTION