

STATEMENT OF REQUIREMENTS

Repair work on the Île Brion lighthouse (lead paint)

1101 - Brion Island

Real Estate, Environment, Health and Safety
Quebec City Office

Canada 

June 2021

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1. INTRODUCTION

1.1. SETTING THE CONTEXT

The Department of Fisheries and Oceans owns the lighthouse located on Brion Island in the Gulf of St. Lawrence, sixteen kilometers north of Grosse-Île.

In order to address the potential release of lead into the environment, DFO wishes to proceed with the scraping, cleaning and exterior painting of the Brion Island Lighthouse. The objective of the scraping and cleaning work is not to strip the entire building, but rather to remove paint that may contain lead in order to avoid future emissions and to make minor surface repairs where necessary. Subsequent application of paint that meets current environmental standards should seal the remaining paint. During the work, all precautions will have to be taken to avoid that chips, paint residues or other contaminants end up in the environment (air, water, soil) and to avoid disturbing migratory birds potentially present near the site.

In order to proceed with the rehabilitation of the lighthouse, DFO wishes to receive from your firm a complete proposal for the work mentioned in this statement

1.2 LOCALISATION DES TRAVAUX

Brion Island is an island of 6.5 km² located in Quebec, in the Gulf of St. Lawrence, sixteen kilometers north of Grosse-Île. It is part of the northernmost region of the Magdalen Islands, as are the Bird Rocks. Permits may be required to access the site.

SITE DESCRIPTION

BRION ISLAND

The Île Brion lighthouse, located near the western end of the island of the same name, was erected in 1904 and 1905

The Île Brion lighthouse plays a key role in maritime navigation by facilitating the navigation of fishing boats, ships and maritime traffic. The Île Brion lighthouse is an octagonal wooden tower with flared cornices and distinctive frontals. With a height of 14.9 meters, the Île Brion lighthouse is built of wood

Once frequented by various lighthouse keepers and their families, it has been uninhabited since the 1940s

Brion Island is now an ecological reserve of 650 hectares protected since 1984 by the Quebec government.

The lighthouse is located outside the reserve in a part of the island accessible to all



Figure 1: Photo of the Brion Island lighthouse



Figure 2: Lighthouse and Brion Island site



Figure 6: Photo of the location of the Brion Island lighthouse

1.3 SITE VISIT

In order to submit a fee proposal, the bidder is not required to conduct a site visit due to the complexity of accessing the sites.

2. MANDATE

2.1. DESCRIPTION

DFO's mandate for your firm includes, but is not limited to, the following activities:

- Exterior paint scraping, including debris removal
- Painting of the exterior structure (sealing the remaining contamination)
- Optional: Replacement of the 5 shrouds. See Appendix A for details
- Optional: Painting of the interior of the lighthouse

Planning of the work

Health and safety plan.

The Contractor shall submit a health and safety plan specific to work related to the possible presence of lead prior to the commencement of work. The health and safety section of this document describes the health and safety requirements for the mandate.

The contractor shall also submit to the Department's representative a health and safety plan in relation to COVID-19

Permits

If applicable, the contractor will have to obtain the necessary permits for the execution of the work and possess an RBQ license.

Choice of colors

The colors used will be to allow for the refurbishment of the lighthouses using colors that are as close as possible to the colors currently present on the various parts of the lighthouse. As a guide, examples of paint marks and numbers already used for painting other Fisheries and Oceans owned lighthouses are provided in the descriptions that follow. The colors are to be used on the following parts:

- ☐White: Example of color: white "Peau de Tambour" no 6210-11 (Sico).
- ☐Red: Example of color: "Vermilion" no 2002-10 (Benjamin Moore).

All surfaces shall be painted with an exterior alkyd primer specifically designed to optimize adhesion of wood coatings, followed by an exterior paint for wood surfaces, soft gloss (Sico or Benjamin Moore or equivalent in type and quality). The Contractor shall submit a list of the products he plans to use for approval by the Department Representative prior to the start of the work

Realization of the painting works

Scraping and cleaning of surfaces

Scrape and clean surfaces with a scraper or other technique that minimizes the risk of contaminating the environment. The use of water pressure jets should be avoided, as they involve the management of contaminated water. The objective is not to strip the buildings, but to scrape off mainly peeling paint and any paint that can be removed and to clean the surfaces so that the new paint adheres well. Wait until the material is very dry before painting. Check moisture content to ensure it does not exceed 12%; or two days (48 hours) of drying time is required

Buildings will need to be wrapped with a tarp (or other material to contain the work area) during cleanup, which should also cover the floor, to prevent the dispersion of dust and paint residue and the collection of paint chip residue caused by scraping and cleaning surfaces. The site is known to be windy; consider this in planning. Unless completely protected from rain, outdoor work should be done outside of rainy days to avoid potentially contaminated water management.

The contractor shall comply with the requirements of the *Environment Quality Act*, among others, for the temporary storage and disposal, in an authorized site, of waste and paint residues and chips (lead paint). A chemical analysis of the residues by an accredited laboratory shall be carried out by the contractor to determine the best way to dispose of them. The results of the analysis shall be provided to the Project Manager as soon as possible.

Repair of damaged wood elements

After scraping and before preparing the surface for painting, repair any damaged wood or structure. Inform the Department's representative of the work to be done (area affected, location, estimated number of hours). The representative will assess the situation and confirm that the work can be done. Do not initiate the work until you have obtained the agreement of the DFO project manager.

Painting of wooden surfaces

Apply paint as soon as possible after surface cleaning, before the surface deteriorates. Allow for one coat of primer and two coats of finish. Painting shall be done with rollers and/or brushes. Also, the contractor shall comply with the manufacturer's instructions for the application of products (drying time, temperature, humidity, etc.). 14.9 m high

Mercury

The Brion Island lighthouse is likely to contain mercury due to the rotating mechanism of the glass prism on the top level of the Brion Island lighthouse. And the decontamination of the lighthouse has not been completed. Personal protective equipment (PPE) is required during construction work, work producing dust, work on the bath, etc.). The contractor must include PPE in his contract

Other special precautions

Work should not be carried out during periods when weather conditions are inadequate and may affect the quality of the work or increase the risk of environmental contamination (e.g., strong winds, cold temperatures). If necessary, dampen the walls before scraping them to reduce the production of paint dust.

As this site is located near a protected ecological reserve, several mitigation measures will have to be implemented to protect the environment (see Environment section)

Inspection of the work

Throughout the project, daily reports of the work, with photos, must be submitted to the department representative. Adequate means of communication shall be provided to transmit these reports on a daily basis. The site of the work will have to be given in good condition and the satisfaction of the representative of the ministry at the end of the work. An inspection of the site and the work carried out could be done by a DFO representative. If necessary, corrective measures must be taken to the satisfaction of the departmental representative.

End of the work

A short report of the work shall be provided, including a list of products used (name of products, quantity used, types and uses, product no., color no., confirmation that the product is environmentally compliant, disposal slips for materials and hazardous materials, etc.), a list of minor repairs that have been made and some before/after photos.

Health and safety

The Contractor shall be responsible for its personnel and subcontractors involved in the project. The successful Contractor shall perform its work in accordance with all applicable federal, provincial or municipal laws, regulations, codes, guides and standards

Safety measures will be required to protect the public, such as signs, tape or fencing, to delineate the area being worked on.

In addition, by accepting this contract, the Contractor agrees to assume all responsibilities normally vested in the prime contractor under the *Occupational Health and Safety Act* and to act as site supervisor. Prior to commencing work, the Contractor shall, among other things:

- Regardless of the number of workers assigned to the work site, submit a safe work plan to the departmental representative before the work begins (health and safety plan specific to the work to be done);
- Ensure that workers have received the necessary training and information to perform the work safely and that all required tools and protective equipment are available, compliant with standards, laws and regulations and used;
- Comply at all times with the provisions of the *Occupational Health and Safety Act* and the Safety Code for Construction Work;
- Advise its workers that they have the right to refuse any work that involves a health or safety hazard;
- Delineate and barricade your work area and control access

In the event of an unforeseen incident, the Contractor shall take all necessary measures, including stopping the work, to protect the health and safety of workers and the public and the environment and shall contact the Departmental Representative without delay.

As previously mentioned, prior to commencing field work, the contractor will be required to provide their site and work specific health and safety plan, as well as their COVID-19 OHS plan. The health and safety plan shall a) identify the health and safety hazards applicable to this application (e.g. working at heights, scraping lead paint) and the means that will be implemented to safely address these hazards. In addition, a list of required emergency numbers and an evacuation plan to the nearest health center must be submitted. The contractor shall comply with all applicable laws and regulations.

Environment

Since the site where the work is to be done is located near natural environments (near water and a protected ecological reserve), certain mitigation measures will have to be applied to the work:

- The Mitigation Monitoring Form (FSMA_Brion_Graveling.docx), attached to the bid documents, will need to be completed during the course of the work.
- Minimize the effects of noise disturbance (wildlife, migratory birds and tourists/hunters). Engines of non-operating machinery should be turned off rather than left idling. Close the side panels of generators;
- Any nests found on site shall be protected with a buffer zone based on a protective distance appropriate to the circumstances. The contractor shall notify the department representative if a nest is found in the work area.
- Avoidance measures are in place until the chicks have naturally and permanently left the nest area.
- Take all necessary measures in accordance with federal, provincial and municipal regulations in force on the territory covered by the work for the removal, recovery of materials for the removal of existing paint and the disposal of paint waste according to the results of the chemical analysis. These analyses shall be performed by an accredited laboratory at the contractor's expense.
- Apply paint that does not contain harmful contaminants such as lead.
- The work areas must be confined to prevent dust or paint residues (chips) from entering the environment (air, soil and water).
- The contractor shall ensure at all times that the machinery is in good working order and free of oil, grease and fuel leaks (including mufflers and other noise reduction systems). Regular inspections of the equipment shall be made (before and during the work);
- Check equipment daily for contaminant leaks, which should be repaired immediately or removed from the site;
- A Hazardous Materials Spill Contingency Plan shall be submitted at least 3 weeks prior to the start of work..

- In the event of a spill of hydrocarbons or other hazardous materials, immediately recover the hydrocarbons and any contaminants accidentally released into the environment as well as the contaminated soils and dispose of them in accordance with applicable legislation. Notify the departmental representative and the appropriate authorities according to the emergency plan. Immediately report the situation to Environment Canada (1-866-283-2333) and Urgence Environnement du Québec (1-866-694-5454).
 - Place excavated contaminated soils/materials between waterproof liners (below and above)
 - Sample soils according to the methods recommended in the CEHQ's Guide d'échantillonnage à des fins d'analyses environnementales, Cahier 5 : Échantillonnage des sols;
 - Submit samples for laboratory chemical analysis of C10 to C50 petroleum hydrocarbons, metals, polycyclic aromatic hydrocarbons (PAHs) and volatile organic compounds (VOCs);
 - Manage contaminated soils/materials in accordance with applicable regulations and dispose of them at an authorized site (Provide transfer slips to DFO representative).
 - Materials imported to the site for construction shall be free of contamination
 - Spill kits shall be available and easily accessible on the job site (e.g. near generators, storage areas for hazardous materials or machinery)
 - Hazardous materials will be stored in a shelter clearly marked "hazardous materials and other appropriate logos"

- Identify and use a temporary storage site on the job site for all potentially contaminating products. This site should be located in an area that minimizes the risk of soil and water contamination. Ideally, this site should be more than 30 meters from a watercourse, in a low slope area and without vegetation. Portable drums and other small containers of hazardous materials must be placed in a retention tank
- Management of residual hazardous materials (e.g. paint chips) must be done according to the regulations in force (storage, transportation and routing to an authorized site). Transport slips must be provided at the end of the work.
- All wastes shall be segregated, contained, recycled where possible, and transported in a timely and approved manner to the appropriate off-site disposal or recycling facility
- The site shall be restored to the satisfaction of the Department's representative upon completion of the work.

2.2. SCHEDULE

Following the award of the contract related to this SOR, DFO wishes to meet the following deadlines:

Activity	Deadline
Tender closing	July 20, 2021
Granting of the mandate	July 27, 2021
End of the work – at the latest	September 3, 2021

2.3. FEES

DFO wishes to obtain a price as specified in the Price Table, for the completion of the above mandate.

All prices quoted in the Fee Proposal are exclusive of applicable taxes. To the extent applicable, GST and QST will be incorporated into all invoices for services provided by the Service Provider.

2.4. CONDITIONS RELATIVES

The Service Provider undertakes not to disclose or make known, without due authorization from DFO, anything of which it may have become aware in the performance of the Contract

The Service Provider agrees to take the necessary steps to ensure that each of its employees assigned to the performance of the Contract certifies that any information obtained as a result of his or her assignment to the performance of the Contract will not be disclosed or made known to any other person and that he or she will not use such information for his or her personal benefit.

APPENDIX A

5 steel guy wires are anchored to ground anchors. These stays are anchored at the top of the lighthouse tower, below the flared cornice supporting the gallery, at 4 anchor points spaced at 90 degrees each

The shrouds of the lighthouse are in an advanced state of corrosion and include sections where the steel shows a significant loss of section. One of the 5 shrouds is no longer anchored to the ground and hangs in the void



Corroded guy rope



Severely corroded guy rope



Guy wire not anchored to the ground



Anchoring of the shrouds on the lighthouse and wooden facing of the lighthouse