Fisheries and Oceans Canada – Small Craft Harbours
Maritimes and Gulf Regions

Wharf Demolition and Removal at the Lorneville Small Craft Harbour, New Brunswick

MITIGATION MEASURES

GENERAL

- Ensure applicable permits, articles, notices and orders are maintained and posted on site in a conspicuous location in accordance with all applicable acts and regulations.
- Monitor and assess weather conditions on a daily basis to determine the potential risk of weather on the project. Avoid work during periods which Environment and Climate Change Canada has issued a wave, wind or rainfall warning for the work area.

SAFETY

- Contractor to develop and submit written **Health and Safety Plan** specific to the work to include:
    - a hazard assessment;
    - list of specific measures to control or mitigate each hazard and risk identified including the engineering controls, safe job procedures, and safe work practices and personal protective equipment (PPE) to be implemented and followed when performing work related to each identified hazard or risk; and
    - Emergency measures and communication plan and procedures.
- Implement, maintain, and enforce Plan for entire duration of project and until final demobilization from site.
- Employees will be trained in health and safety protocols (e.g., safe work practices, emergency response).
- Follow proper safety procedures for the duration of the project as per applicable municipal, provincial, and federal regulations.

TRANSPORTATION

- Maintain trucks clean and free of excessive mud, dirt, and other foreign matter.
- Secure contents against free board spillage when excavating, loading and hauling material. Do not overload trucks when hauling material and avoid potential release of contents, and of any foreign matter onto highways, roads and access routes used for the work. Immediately clean any ground spills and soils to extent as directed by authority having jurisdiction.
- All vessels, floating plant equipment, barges and scows used in the work must comply with all *Canada Shipping Act* requirements for inspection, which includes certification of the vessel and adequate training and appropriate certificate of competency for the operators and codes and standards of practice for shipping.

WORK SITE ACCESS

- It will be the Contractor's responsibility to gain access to all areas of the work site.
- Use public roadways and established access routes whenever possible and provide appropriate signage and traffic control personnel as required.
- Ensure that public and private road surfaces remain free from clay, mud, etc. throughout the hauling activities.
- All arrangements for space and access will be made by Contractor and submitted for review to the Departmental Representative. Coordinate use of premises with the Harbour Authority and Departmental Representative. Exercise care so as not to obstruct or damage public or private property in the area.
- Prior to commencement of work, submit a site plan for any new terrestrial access roads on the site to the Departmental Representative for approval. Construction of new access roads will only commence after approval is received from the Departmental Representative.
- Limit impacts on riparian vegetation to those approved for the work:
    - Limit access to banks or areas adjacent to waterbodies.
    - Avoid tree removal/grubbing/uprooting and instream prune or top the vegetation.
    - Limit grubbing on watercourse banks to the area required for the footprint of work.
    - Construct access points and approaches perpendicular to the watercourse or waterbody.
    - Use methods to prevent soil compaction and/or rutting, such as swamp mats or pads.
    - Remove vegetation or species selectively and in phases.
    - If required, re-vegetate the disturbed areas with native species suitable for the site.
- Vegetation clearing required for access roads should be scheduled to avoid the regional migratory bird nesting period.
- The construction and removal of temporary in-water works (e.g., turbidity curtains, access roads, causeways, platforms, trestle bridges, etc.) will be at the Contactor's expense and will be removed immediately after construction.
- The construction of temporary in-water works below the mean high water mark will only be placed within the footprint of the approved work area.
- All material used for construction of temporary in-water access roads and causeways must be clean and free from excessive fines, organics, debris and non-toxic (i.e., free of fuel, oil, grease and/or any other contaminants), non-ore bearing and from a provincially approved, non-water source.

- No construction or infill material may be obtained from any coastal feature, namely a beach, dune or coastal wetland.
- Temporary in-water works shall be constructed to an elevation such that machinery and equipment are operating completely out of the water at all stages of the tide. If tidal work is being carried out, machinery and equipment shall be relocated back to a suitable elevation to prevent operating in submerged waters. Bidders are advised to consult the Canadian Tide and Current Tables issued by Fisheries and Oceans Canada in order to make sure of the tidal conditions affecting work.
- Limit impacts on fish habitat components:
    - Avoid sensitive habitats such as wetlands, eelgrass and spawning areas.
    - Salvage, reinstate or match habitat structure (e.g., large wood debris, boulders, instream aquatic vegetation/substrate) to its initial state.
    - Restore stream geomorphology (i.e., restore the bed and banks, gradient and contour of the waterbody) to its initial state.
    - Replace/restore any other disturbed habitat features and remediate any areas impacted by the work.
- All materials used to construct temporary in-water access roads and causeways must be reused in the work or disposed of in a provincially approved manner. For disposal, this may include transportation to and disposal at a registered environmental facility approved to accept the material or at a location predetermined under the contract. It is the Contractor's responsibility to dispose of the material at its approved location. Disposal slips must be submitted to the Departmental Representative before final payment is to be made under the contract.

OPERATION OF MACHINERY

- Ensure that machinery arrives on site in a clean condition and is maintained free of fluid leaks, invasive species and noxious weeds.
- Whenever possible, operate machinery on land above the high water mark, on ice, or from a floating barge in a manner that minimizes disturbance to the banks and bed of a water body.
- Wash, refuel and service machinery and store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering the water.
- Biodegradable fluids should be considered for use in place of petroleum products whenever possible, as a standard for best practices.
- No operation or storage of vehicles or equipment/material is permitted on any beach, dune, wetland or other environmentally sensitive areas.
- Do not perform cleaning, wash down or fueling within a 30-metre buffer zone of a wetland, watercourse or other identified environmentally sensitive area.

NAVIGATION

- Work must comply with all conditions of the *Canadian Navigable Waters Act* (CNWA) approval issued by Transport Canada.

CONTAINMENT AND SPILL MANAGEMENT

- Comply with federal (*CEPA - Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations*) and provincial regulations, codes, standards and guidelines for the storage of fuel and allied petroleum products on the site.
- In the event of a petroleum spill and release into the environment, stop work and immediately notify the Departmental Representative and the Canadian Coast Guard 24-Hour Environment Emergencies Report System (1-800-565-1633). Contain spill and perform clean-up in accordance with all regulations and procedures stipulated by authority having jurisdiction.
- Do not dump petroleum products or any other deleterious substances on ground or in the water.
- Be diligent and take all necessary precautions to avoid spills and contamination of the soil and water (both surface and subsurface) when handling petroleum products on the site and during fuelling and servicing of vehicles and equipment.
- Maintain on site appropriate emergency spill response equipment consisting of at least one 250-litre overpack spill kit for containment and clean-up of spills.
- Maintain vehicles and equipment in good working order to prevent leaks on site. Hoses, couplings and tanks are to be inspected on a regular basis to prevent fractures and breaks.
- All equipment to be used in or over the marine environment is to be free from leaks or coatings of hydrocarbon-based fluids and/or lubricants harmful to the environment.
- Materials such as paint, primers, blasting abrasives, rust solvents, degreasers, grout, or other chemicals are not to enter the watercourse.
- Develop and submit to the Departmental Representative an **Emergency Response Plan** that is to be implemented immediately in the event of a sediment or spill release of a deleterious substance.
- Ensure that building material used in a watercourse has been handled and treated in a manner to prevent the release or leaching of substances into the water that may be deleterious to fish.
- If an oiled seabird is encountered, methodology for the handling and release of marine and migratory birds outlined in Environment and Climate Change Canada (ECCC) – Canada Wildlife Service (CWS)'s National Wildlife Emergency Response Framework will be implemented. A permit application must be obtained from ECCC-CWS prior to implementation of this protocol.
- Ensure that any vessels, floating plant equipment, or barges have procedures in place to ensure safeguards against marine pollution: awareness training of all employees, means of retention of waste oil on board and discharge to shore-based reception facilities and capacity of responding to and clean-up of accidental spill caused by equipment involved in any particular part of the project.

- If heavy machinery is being operated from a barge, on-site crews must have emergency spill clean-up equipment, adequate for the activity involved, on the barge. Spill equipment will include, as a minimum, at least one 250-liter overpack spill kit containing items to prevent a spill from spreading; absorbent booms, pillows, and mats; rubber gloves; and plastic disposal bags. Take appropriate measures to contain and clean up any spills and all releases into the marine environment must be promptly reported to the 24-hour Environment Emergencies Report System (1-800-565-1633).

HAZARDOUS MATERIAL HANDLING

- Store and handle hazardous materials in accordance with applicable federal and provincial regulations, codes, standards and guidelines. Store in location that will prevent spillage into the environment.
- Label containers to Workplace Hazardous Materials Information System (WHMIS) requirements and keep Material Safety Data Sheets (MSDS) on site for all hazardous materials.
- Maintain inventory of hazardous materials and hazardous waste stored on site. List items by product name, quantity and date when stored.
- Store and handle flammable and combustible materials in accordance with National Fire Code of Canada.
- Workers in contact with hazardous materials must be provided with, and use regulated Personal Protective Equipment (PPE) and must have the necessary training to know how to handle the different hazardous materials in accordance with applicable health and safety and environmental regulations.

DISPOSAL OF WASTES

- Source separate and dispose and recycle construction and demolition-related debris and waste materials in accordance with provincial, and municipal waste management regulations and the project waste management requirements.
- Do not bury construction and demolition-related debris (e.g., concrete, creosote timbers, steel, impacted soil, etc.) or other waste materials on site.
- Do not dispose of hazardous wastes (e.g., paints, batteries, cleaners, acids, etc.) including volatile materials (e.g., solvents, mineral spirits, aerosol cans, etc.) and petroleum products on the ground, near or into watercourses, storm or sanitary sewers or in waste landfill sites. Dispose of hazardous wastes in accordance with applicable federal and provincial, regulations, codes, standards and guidelines.
- Chipped vegetation may be used as mulch but must not be spread into a water body or wetland.
- Temporarily store any potentially contaminated materials (treated timber, impacted soils, excavated sediments, etc.) on a waterproof membrane and cover with a protective membrane to isolate them from wind and weather events so as to avoid erosion and/or surface runoff. Favor surfaces with limited permeability, such as clay and compacted earth, asphalt or concrete in designated area or as directed by Departmental Representative. Materials to be source separated and immediately removed off site to provincially approved disposal facilities.
- Handle creosote-treated timber (including removal, temporary storage/containment and disposal) in a manner so as to minimize the potential for release of contaminants to the aquatic environment.
- All salvageable stockpiles of creosote timbers must be situated a minimum of 500 meters from any dwelling or potable water well and a minimum of 100 meters from any watercourse/wetland or other environmentally sensitive area. All stockpiles must be contained on federal land, unless approved by Departmental Representative. Prior to completion of the work, all salvageable/disposal material must be removed from the site as directed by the Departmental Representative.

WATER QUALITY

- Contractor to develop and submit to the Departmental Representative an **Erosion and Sediment Control Plan** for the site that minimizes risk of sedimentation to the surrounding waterbody during all phases of the work. Erosion and sediment control measures should be maintained until all disturbed ground has been permanently stabilized, suspended sediment has resettled to the bed of the water body or settling basin and runoff water is clear.
- The Plan is to be submitted for review and approval by the Departmental Representative and should, where applicable, include:
    - Effective sediment control measures (e.g., silt fencing, settling ponds, diversion ditches, site grading, check dams, etc.) as an initial step in the construction sequence. Measures for managing water flowing onto the site, as well as water being pumped / diverted from the site such that sediment is filtered out prior to entering a water body (e.g., pumping / diversion of water to a vegetated area, construction of a settling pond or other filtration system). The water can be pumped into a settling pond or filter bag to ensure that the concentration of sediment is below regulated discharged criteria before it reaches a water body.
    - Measures for containing and stabilizing waste material (e.g., excavated sediments, construction waste and materials, commercial logging waste, uprooted or cut aquatic plants, accumulated debris, etc.) above the high water mark of nearby water bodies to prevent re-entry.
    - Regular inspection and reporting details for sediment control measures to ensure they are functioning properly.
    - Repair methodology for erosion and sediment control measures and structures if damage occurs.
    - Removal methodology of non-biodegradable erosion and sediment control materials once site has been stabilized. Upon completion of use, these control measures must be removed in a way so as to prevent the escape of settled sediments.
    - Methodology for monitoring weather, specifically rainfall and storms and altering work plans and contingency measures as a result of inclement weather.
- Contractor is responsible to visually monitor the water turbidity in the vicinity of the project to ensure that turbidity is limited. If excessive change occurs in the turbidity that differs from the existing conditions of the surrounding water body (i.e., distinct change

in water clarity) as a result of the project activities, the work will stop, the contractor will notify the Departmental Representative and implement contingency measures as required.
- Prior to the commencement of any in-water works, a turbidity curtain must be installed.

AIR QUALITY

- Keep airborne dust and dirt resulting from the work on site to an absolute minimum.
- Monitor short and long-term weather forecast on a daily basis to assess the requirement for dust control and the use of dust suppressants.
- Apply dust control measures to roads, parking lots and work areas. The Departmental Representative shall determine locations where water is to be applied, the amount of water to be applied, and the times at which it shall be applied. Waste oil or any other petroleum products must not to be used for dust control under any circumstances.
- Spray surfaces with water or other environmentally approved product. Use purposely suited equipment or machinery and apply in sufficient quantity and frequency to provide effective result and continued dust control during the entire course of the work.
- Where and when applicable (e.g., during a dry summer), other agents such as calcium chloride may be used for dust suppression. The use of calcium chloride will be in accordance with the guidelines outlined in Environment Canada's Best Practices for the Use and Storage of Chloride-Based Dust Suppressants, referring to how, when and quantity to apply.
- All dust control agents shall be stored in areas away from water bodies and contained, to prevent entry into water bodies. Dust suppression by the application of water must be employed, when required.
- Fires and burning of rubbish on site is not permitted.
- To reduce emissions of air contaminants and greenhouse gas, implement an idling policy that includes:
    - Diesel construction equipment will be turned off when not in active use.
    - Vehicles idling more than 5 minutes will be turned off.
    - Morning vehicle warm-ups will be restricted to 3-5 minutes.
    - A staging zone will be established for trucks that are waiting to load/unload to minimize public exposure to emissions.
    - Idling restrictions will not apply when:
        - The engine is required to power auxiliary equipment (e.g., hoists, lifts, computers, safety lights, etc.).
        - Extreme weather conditions (-10˚ Celsius or below / +30˚Celsius or above) or any other circumstance where heating or air conditioning is required for worker's health and safety.
        - The original equipment manufacturer specifically recommends a longer idling period for normal and efficient operation of the motor vehicle in which case such recommended period shall not be exceeded;
        - Vehicle/equipment maintenance and diagnostic purposes.
        - Where the unit is not expected to restart due to mechanical issues.

BIRDS AND BIRD HABITAT

- Become knowledgeable with and abide by the *Migratory Birds Convention Act* and *Migratory Birds Regulations, 2022* for the protection of migratory birds, their eggs, nests and their young encountered on site and in the vicinity.
- Minimize disturbance to all birds on site and adjacent areas during the entire course of the work.
- During nighttime work, position flood lights in opposite direction of nearby bird nesting habitat, and lights are to be shielded or pointed downwards where possible.
- Ensure that no litter (including food wastes) is left in and around the site.
- Do not approach concentrations of seabirds, waterfowl and shorebirds when anchoring equipment, accessing wharves or ferrying supplies.
- Do not use beaches, dunes, coastal wetlands and other natural previously undisturbed areas of the site to conduct work unless specifically approved by the Departmental Representative.
- All machinery must be well muffled. If necessary, trucks may be required to avoid the use of engine brakes along specific sections of the route.
- To avoid the risk of nest destruction, the proponent shall avoid vegetation clearing during the most critical period of the migratory bird breeding season, which is April 1st through August 31st.
- Maintain a minimum distance of 300 m from all areas occupied by concentration of seabirds and waterbirds. Travel at steady speeds when close to seabird and waterbird colonies, moving parallel to the shore, rather than approaching the colony directly. Avoid any sharp or loud noises, do not blow horns or whistles, and maintain constant engine noise levels. Do not pursue seabirds or waterbirds swimming on the water surface and avoid concentration of these birds on the water.
- Should nests or chicks of migratory birds or raptors be encountered during work, immediately stop work in that area and notify Departmental Representative for directives to be followed.

FISH AND FISH HABITAT

- The construction of temporary in-water works (e.g., access roads, causeways, trestle bridges, etc.) that are not pre-approved in the contract, may require regulatory approvals under the *Fisheries Act*. Should the construction of in-water works be requested by the Contractor, the Contractor must apply, pay for and obtain all necessary regulatory approvals, authorizations and/or permits necessary to complete the work.
- Monitor and assess weather forecast on a daily basis to determine the risk of extreme weather. Avoid work during periods for which Environment and Climate Change Canada had issued rainfall, storm surge or other weather warnings for the work area.

- In the event that pelagic fish are observed spawning or migrating in the project area, stop in-water activities immediately and resume such work only after fish leave the area.
- Ensure that all in-water activities, or associated in-water structures, do not interfere with fish passage, constrict the channel width, or reduce flows.
- The release of deleterious substances into the watercourse is strictly prohibited. In the event of a release of a deleterious substance, stop work, contain sediment-laden water or other deleterious substances and prevent their further migration into the watercourse. Immediately report any spills or releases of sewage, oil, fuel or other deleterious material, whether near or directly into a water body.

AQUATIC INVASIVE SPECIES

- Be aware of the risk for contamination of the fish habitat at the site as a result of aquatic invasive species being introduced into the marine environment. An AIS identification booklet can be found at this link:.
- Report any sightings of AIS as soon as possible to DFO by phone Toll-free: 1-888-435-4040 or by email at: DFO.MARAquaticInvasiveSpecies-EspecesAquatiquesEnvahissante.MPO@dfo-mpo.gc.ca.
- Ensure all watercraft and equipment arrives on site in a clean condition (i.e., no presence of slime coating, plants or animals, sediment on exterior and internal compartments of watercraft and equipment). Equipment shall include boats, barges, scows, cranes, excavators, haul trucks, pumps, pipelines and other all miscellaneous tools and equipment previously used in a marine environment.
- Inspect all watercraft and equipment for any attached or hitchhiking aquatic plants or animals prior to waterbody entry and exit. Clean, drain, decontaminate and fully dry all gear and equipment (including waders, nets, buckets, tools, boats, and trailers) before transferring from one body of water to another to prevent the transfer of disease and non-native organisms.
- Clean, drain, dry, and decontaminate all watercraft and equipment with high-pressure, hot-water spray (i.e., 68 °C at 1600 psi for 15 seconds) before storing or moving to a different waterbody. Cleaning and draining should be completed on land, away from any waterbody. Watercraft and equipment should be completely clean and dry before entry into a different waterbody.
- Small pieces of equipment can be cleaned and decontaminated by being submerged in:
    - hot water (60 °C for 5 min.);
    - sodium hypochlorite (0.25% concentration for 20 min.);
    - Virkom (4% for 90 min.); or
    - quaternary ammonium compounds (0.4% for 10 min.).
- Maintain a logbook of past and present use and cleaning of watercraft and equipment (e.g., date/time, location, AIS observations, comments.
- Inspect all materials and structures to be placed in a waterbody and ensure there are no attached or hitchhiking aquatic plants or animals prior to placement
- Avoid sourcing materials or structures to be placed in a waterbody from areas where AIS are known to be present. Additional information on AIS can be found at this following link: http://www.dfo-mpo.gc.ca/species-especes/ais-eae/about-sur/index-eng.html.

CETACEANS AND AQUATIC SPECIES AT RISK

- A mitigation zone for cetaceans and/or species listed under Schedule 1 of the *Species at Risk Act* (e.g. North Atlantic Right Whale, White Sharks or Leatherback Turtles) must be established at the work site. The mitigation zone shall consist of a circle with a radius of at least 500 meters as measured from the center of the work site.
- Maintain periodic visual surveys if cetaceans and/or species listed under Schedule 1 of the *Species at Risk Act* (e.g. North Atlantic Right Whale, White Sharks or Leatherback Turtles) within the safety zone.
- If cetaceans and/or species listed under Schedule 1 of the *Species at Risk Act* (e.g. North Atlantic Right Whale, White Sharks or Leatherback Turtles) are observed within the safety zone while in-water activities are underway, all in-water activities must cease until the animals leave the safety zone and are not observed within the safety zone for a minimum period of 30 minutes.
- Work may start or restart if cetaceans and/or species listed under Schedule 1 of the *Species at Risk Act* (e.g. North Atlantic Right Whale, White Sharks or Leatherback Turtles) are not observed within the safety zone within the 30-minute period.

SOCIO-ECONOMIC CONSIDERATIONS

- Abide by provincial and municipal regulations and bylaws for any restrictions on all work performed. Obtain applicable permits.
- Work equipment and machinery must be equipped with adequate muffling capacity to reduce noise on site to lowest possible level. Maintain mufflers in good operating condition at all times.
- Place any flood lights in opposite direction of residential and business areas. Use LED lights instead of other types of lights, where possible. LED light fixtures are less prone to light trespass (i.e., are better at directing light where it needs to be, and do not bleed light into the surrounding area).
- Sounds such as whistle blasts and horns will be limited or replaced, to the extent possible, with radio communications.
- Contractor to coordinate with the local Harbour Authority prior to commencement of the work such that the schedule with the least possible conflicts will be implemented. The contractor will be required to schedule project construction such that it does not interfere with fishing activities carried out by harbour users.
- Construction activities must be carried our during hours agreed upon with the Departmental Representative and in compliance with applicable local municipal noise by-laws, to mitigate disturbance to local residents.
- Potentially affected property owners should be informed of anticipated activities and schedule.

- Direct members of the public seeking access to navigable waters and infrastructure for fishing to the Five Fathom Hole Small Craft Harbour.

ARCHAEOLOGICAL RESOURCES

- For previously undisturbed substrates, limit ground disturbances such as site grubbing, grading and excavation to the minimum required so as to protect any subsurface cultural and archaeological resources. If site levelling or upgrading is required, import suitable fill and/or granular materials for placement in the work. Remove imported material as necessary upon completion of the work without disturbing the substrate.
- All construction personnel are responsible for reporting and cultural materials, which may be archaeological resources, unearthed during construction to the Construction Supervisor. If the find is believed to be an archaeological resource, the Construction Supervisor will immediately stop work in the vicinity of the find and notify the Departmental Representative.
- If an archaeological and/or historically significant item (an archaeological resource) is discovered, work in the area will be stopped immediately and the Departmental Representative will be contacted as well as the Provincial Authority (New Brunswick Department of Tourism, Heritage and Culture - Archaeological Services Branch – (506) 453-3115).
- Work can only resume in the vicinity of the find when authorized by the Project Manager and Construction Supervisor, after approval has been granted by the Provincial Authority.
- In the event of the discovery of possible human remains or possible evidence of human burials, the work will immediately cease. If the discovery is potential, but not positively human remains, contact the Project Manager as well as the Provincial Authority. If the materials discovered are undoubtedly human remains, the nearest law enforcement agency will be contacted immediately by the Project Manager and/or the Construction Supervisor. Until determined otherwise, the possible human remains should be treated as evidence in a criminal investigation. If the possible human remains are found in the bucket of heavy equipment, the bucket should not be emptied as physical evidence may be destroyed by that action. The area should immediately be designated as “Out of Bounds” to all personnel and the public. Depending on the weather and other conditions, the potential human remains should be provided with non-intrusive protection, such as covering with a cloth or canvas tarp (non-plastic preferred). Curiosity seekers should be kept off the site.