

Notice of Determination

Gibsons Landing, Gibsons BC – July 19, 2021 – The Department of Fisheries and Oceans, Small Craft Harbours Branch has determined that the proposed Wharf Repair Project is not likely to cause significant adverse environmental effects.

The project involves the following:

- removal of 18 timber bearing piles in poor condition and replacement with new timber piles approximately 51 mm larger in diameter
- re-secure pile wrapping on 3 piles
- repair concrete foundation of five piles
- replacement of cross bracings on 9 bents
- asphalt resurfacing
- installation of new concrete panels
- grouting/ reinforcement of existing concrete pile footings

The project will take place within the footprint of the existing wharf and will not result in any expansion of the existing wharf.

The proposed works are limited to maintenance and repair of existing structures. Mitigation measures can be implemented to control environmental effects during the work. Therefore, the proposed project is not expected to adversely impact rights of Indigenous Groups.

This determination was based on a consideration of the following factors:

- impacts on rights of Indigenous peoples;
- Indigenous and community knowledge;
- comments received from the public;
- assessment of biophysical site conditions surrounding work area(s);
- technically and economically feasible mitigation measures.

Mitigation and contingency measures taken into account for this determination are:

- Work will be conducted within the least risk fisheries window for Area 28 – Vancouver (Howe Sound): August 16 – January 31.

- Equipment (e.g., excavators, cranes, marine derricks) used in and around water will be kept clean and in good working condition (e.g., free of leaks, excess oil, and grease). Minimum daily inspections of heavy equipment (e.g. excavators) must be conducted by the contractor and documented;
- Hydraulic machinery will use environmentally friendly hydraulic fluids (i.e., biodegradable);
- Equipment washing, refuelling, and servicing will be conducted away from the water (i.e., at least 30 m away from the high-water mark), unless a refuelling plan is in place that includes use of secondary containment to collect any potentially spilled fuel;
- The contractor will develop a Site-specific Spill Response Plan for the project;
- A spill containment kit will be accessible onsite and in each piece of equipment;
- Barges and other vessels employed during the dredge works will be positioned in a manner that reduces disturbances to the foreshore and seabed. With the exception of barge spuds, equipment will not be permitted to rest on the seabed;
- Positioning of spuds on a sensitive vegetation (eelgrass) will be avoided; and
- Work will proceed rapidly following the commencement to minimize the duration of potential effects.
- Concrete works shall follow industry BMPs. Precast concrete will be used below the high-water mark where possible, as determined by the contractor. If pouring of concrete below the high-water mark is necessary, it will be installed inside a sealed framework to prevent leakages or contact of uncured concrete with marine waters. The framework shall be inspected by the environmental monitor prior to concrete pouring to confirm there are no large holes in containment.
- Any works involving the use of concrete, cement, mortars or other Portland cement or lime containing materials will be isolated and prevented from being deposited either directly or indirectly into the aquatic environment. This includes concrete fines, wash, or contact water.
- Quick set additives should be added to the concrete to decrease curing time.
- Workers should be familiar with concrete clean up procedures in the event of a spill.

- Washing of concrete related equipment will not be permitted within 30 m of the high water mark. Wash-down procedures will follow industry standards with containment in place. Wash water will be properly disposed of offsite.
- An appropriately qualified environmental monitor will be retained to conduct water quality monitoring for pH and turbidity.
- Water quality samples will be collected at multiple stations around the work area and at a reference location that is located at a suitable distance from the work area as determined by the environmental monitor.
- Pile installation will be completed during the least risk window.
- Mobile invertebrate species shall be identified by the Environmental Monitor to be removed from the piles and relocated to suitable habitat (e.g., seastars). Any salvage of marine fish or invertebrates will require a Scientific Fish Collection Permit from Fisheries and Oceans Canada.
- The creosote piles selected for installation must be treated and selected following industry BMPs. The piles selected will be installed following the installation BMPs.
- During pile removal or use of cast-in-place concrete below the HWL, in situ water turbidity and/or pH will be monitored against the water quality guidelines for aquatic life. The location and frequency of sampling will be at the discretion of the Environmental Monitor but will include a background reference site for comparison.
- Pile installation will be conducted using a vibratory hammer, which is not expected to result in sound pressure levels that are harmful to fish. Additionally, the installation of timber piles is expected to produce lower sound pressure levels compared to steel piles. However, an impact hammer (e.g., drop hammer) may be required to achieve the design pile penetration. Hydroacoustic monitoring will be conducted during pile installation (both vibratory and impact) to monitor underwater sound thresholds. For the protection of fish, sound pressure levels (SPL) will not exceed a peak pressure of 206 dB re 1 μ Pa and a cumulative sound exposure level (SEL) of 186 dB re 1 μ Pa when measured 10 m from the pile.
- If underwater noise monitoring indicates that sound levels are in excess of the above mentioned thresholds, pile installation will cease and will only resume after additional mitigation measures (e.g., installation of a bubble curtain) are implemented to reduce sound levels and potential harm to fish.

- The underwater noise will be monitored using a hydrophone deployed mid-water column.
- The hydrophone data will be reviewed by the environmental monitor to determine if exceedances were recorded; data will determine if additional mitigation measures are required.
- If dead fish are observed during pile driving, works will stop. The fish will be collected by the environmental monitor, identified, counted, and reported to DFO.
- If there is a risk to a marine mammal from direct contact with equipment or materials (e.g., vessels, barges, cranes, piles being installed or removed), in-water works will be temporarily suspended until the animal has left the area or has not been sighted for 30 minutes.
- If piles must be installed using impact pile driving, the following mitigation measures will be applied, under the direction of the environmental monitor:
- In addition to acoustic monitoring for compliance with sound level thresholds for fish outlined above, a qualified marine mammal observer (MMO) will establish a marine mammal exclusion zone of 500 m around the pile being installed. Acoustic monitoring will be conducted to ensure that underwater sound levels do not exceed 160 dB RMS re 1 μ Pa within the exclusion zone. Acoustic monitoring results may be utilized to either reduce or increase the exclusion zone, as determined by a qualified environmental professional (QEP) to ensure that underwater noise thresholds for marine mammals are not exceeded within the exclusion zone.
- The MMO will monitor for marine mammals within the exclusion zone for at least 30 minutes prior to the start of impact pile driving. If a marine mammal enters the exclusion zone, impact pile driving will be temporarily suspended until the animal has left the exclusion zone or has not been sighted for 30 minutes.
- A soft start will be utilized for the start impact pile driving each day, where the impact energy is gradually increased. This soft start procedure will also be utilized any time there is a break in pile installation with an impact hammer of 30 minutes or more.
- The hydrophone will be placed mid-water column when taking measurements.
- If the avoidance and mitigation measures outlined above are found over the course of the monitoring to be insufficient to prevent harmful

impacts to fish and fish habitat, the following contingency measures will be implemented:

- If potential risks to fish and fish habitat are identified in the initial works or during spot checks, the frequency of environmental monitoring may be increased as determined by the QEP.
- If the environmental monitor determines that there is a high risk for harmful impacts to fish and fish habitat from proposed works, the contractor will be required to stop works until a suitable mitigation strategy is implemented by the contractor and the monitor has confirmed the risk for harmful impacts is sufficiently reduced. This could include the use of a bubble curtain to attenuate underwater noise from pile installation or the installation of a silt curtain to contain suspended sediment from pile removal within the project footprint.
- An environmental monitor will monitor the proposed construction activities to confirm the conditions of any environmental approvals are being met and the mitigation measures outlined in this AEA are being adhered to and functioning effectively.
- The environmental monitor will be onsite for all sensitive and higher risk works (e.g., pile removal, pile installation) as determined by a QEP. The environmental monitor will be a QEP in British Columbia or will work under the direction of a QEP.
- All pile installation works requiring a marine mammal exclusion zone (e.g., installation with an impact hammer) will be completed during daylight hours, as required to facilitate visual observation of marine mammals within the exclusion zone by the MMO.
- Underwater noise will be recorded using a hydrophone to determine compliance with the noise thresholds for disturbance to fish and marine mammals.
- The underwater noise will be recorded using a hydrophone deployed mid-water column.
- The hydrophone data will be reviewed by the environmental monitor real time during pile installation to determine if exceedances were recorded.
- If dead fish are observed during pile driving, works will stop. The fish will be collected by the environmental monitor, counted, and reported to DFO.
- If data collected is consistently within the allowable thresholds, hydrophone monitoring may be suspended or the frequency may be reduced, subject to the QEP's discretion.

- Water quality samples will be collected at multiple stations around the work area and at a reference location that is located at a suitable distance from the work area as determined by the environmental monitor.
- Environmental monitoring will include, but will not be limited to:
- Attending a kick-off meeting with the construction crew prior to commencement of the works to review environmental requirements and expectations on the Project.
- Conducting visual inspections of equipment and site cleanliness.
- Assessing the adequacy of on-site fuel storage and transfer procedures, as well as on-site spill response equipment and procedures.
- Documenting visual observations of fish and marine mammals.
- Collecting water quality data.
- Conducting acoustic monitoring during pile installation.
- Identifying deficiencies on Site and providing recommendations to the contractor and/or relevant authorities to correct the deficiencies.
- If circumstances are expected to result in an immediate risk to fish or fish habitat or marine mammals, the environmental monitor will have the authority to stop work to assess the need for adaptive strategies to prevent harmful impacts to the environment.
- The environmental monitor will complete a monitoring report covering each site visit with each report covering a maximum 1 week period.

The Department of Fisheries and Oceans, Small Craft Harbours Branch is satisfied that the carrying out of the project is not likely to cause significant adverse environmental effects.

Therefore, the Department of Fisheries and Oceans, Small Craft Harbours Branch may carry out the project, exercise any power, perform any duty or function, or provide financial assistance to enable the project to be carried out in whole or in part.