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January 5, 2022

NWB File No: 8BC-CLY

Nunavut Water Board (NWB)  
Attn: Richard Dwyer  
Manager of Licencing  
P.O. Box 119  
Gjoa Haven, NU X0B 1J0

**Re: 8BC-CLY---- NWB Application for the Clyde River Harbour Development  
Project by Fisheries and Oceans Canada - Small Craft Harbours- Response to Screening  
comments.**

Dear Richard Dwyer:

On December 16, 2021, Fisheries and Oceans Canada – Small Craft Harbours (DFO-SCH) received a summary of comments from parties interested in the Clyde River Harbour project (the Project) currently under a public screening process completed by NWB. Parties including, regulators, non-government organizations (NGO's), stakeholders, and the public were provided an opportunity to comment on the Project. The comment period closed on December 15, 2021 and subsequently the comments were collated and summarized by NWB for DFO-SCH to address. DFO-SCH was provided an opportunity to respond to the comments by January 7, 2022.

DFO-SCH are pleased to address the comments collected through the NWB screening process. Attached is a summary table of DFO-SCH's responses to the screening comments provided by NWB.

If you have any questions with the content of this letter, please contact Chris McDermid at (431) 335-7530 or by email at [Chris.McDermid@dfo-mpo.gc.ca](mailto:Chris.McDermid@dfo-mpo.gc.ca) .

Yours sincerely,

Eleanor McEwan, P. Eng.  
Senior Project Engineer  
Small Craft Harbours Branch  
Fisheries and Oceans Canada

cc.      Chris McDermid (DFO-SCH)  
            Kenton Thiessen (Public Services and Procurement Canada)  
            Dan MacDonald (CBCL)  
            Loretta Hardwick (CBCL)

Attachments:  
Clyde River Harbour NWB Comment Response Table

## **DFO- SCH Clyde River Harbour NWB Comment Response Table**

<b><u>Commenter</u></b>	<b><u>Comment</u></b>	<b><u>Response</u></b>
Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)	<p>1. Water Use:</p> <p>a) DFO states in paragraph 4 of the executive summary that, “No water taking is planned for this project”. Similarly, DFO states in section 12 of the Water Licence Application Form that, water use will be confined to “diverting a water course and to cross a watercourse”.</p> <p>b) CIRNAC notes that DFO intends to use water for camp and construction purposes, however DFO’s statement in paragraph 5 of the Executive Summary states that “Water used at the camp and for the construction site will be from the municipal water supply”.</p> <p>c) DFO notes in section 7.1.1 of the Project Proposal that; “Dust that is created during construction activities will be managed by applying calcium chloride or water, which are acceptable means of dust suppression for municipalities in Nunavut”.</p> <p>d) CIRNAC is concerned that the proposed water use activities could exceed the Type B water licence requirement for daily water consumptions permitted for the municipality of Clyde River by the Nunavut Water Board (NWB). Also, CIRNAC is concerned that DFO did not indicate where the water for dust suppression activities would be obtained.</p> <p>e) Currently, Clyde River Water Licence 3BM-CLY1924 permits daily water use up to 299 m3. CIRNAC is requesting DFO to provide daily water use estimates for the proposed Clyde River Harbour Development project to include estimates of water for the camp and any other purposes.</p>	<p>For the purpose of this application there is no requirement to take water. The project design includes replacement of on existing culvert, installation of one new culvert and a temporary river crossing to access the Quarry.</p> <p>The water supplied for the construction camp and dust suppression activities will be obtained from municipal sources in coordination with the Hamlet as is required by the project specification. Section 4.3.2 of the Clyde River Harbour- Project Proposal indicates that an estimated 6 m<sup>3</sup>/day of water will be used in the camp. In addition, it is estimated there could be up to 15 to 30 m<sup>3</sup>/day used for dust suppression along the haul roads during peak hauling periods. If water is used for dust suppression, then the combined water volume use at peak periods for dust control and camp use would be 21 to 36 m<sup>3</sup>/day, which is less than the currently licenced 299 m<sup>3</sup>/day for the hamlet.</p> <p>DFO-SCH recognizes the potential impacts which may occur due to temporary activities associated with the Clyde River Harbour Project. Project components including aggregate quarrying and haul road maintenance have been considered in our project planning. DFO-SCH will apply appropriate mitigations during the construction phase to reduce the potential impacts of our activities on freshwater sources. As detailed in the project CEMP, these mitigation measures include:</p> <ul style="list-style-type: none"> <li>5.2.2 Community Infrastructure and Access</li> <li>5.2.3 Dust, Erosion and Sediment Control</li> <li>5.2.4 Permafrost Management</li> <li>5.2.5 Vehicle Operation and Traffic</li> <li>5.2.6 Marine Vessel Operation and Traffic</li> <li>5.2.7 Marine Construction</li> <li>5.2.8 Fish and Fish Habitat</li> <li>5.2.9 Blasting</li> <li>5.2.10 Non-Hazardous Waste and Wastewater</li> <li>5.2.11 Hazardous Materials</li> <li>5.2.12 Vegetation and Wildlife</li> <li>5.2.13 Archaeological Resources</li> </ul> <p>These measures will be applied to all components of the project, where applicable.</p>

<u>Commenter</u>	<u>Comment</u>	<u>Response</u>
CIRNAC	<p>2. Culvert Effects on Water Quality</p> <p>a) In Section 7.3.1, Surface Water Resources, of the Project Proposal it states that “The installation of culverts at the river crossing may raise the water level above the exposed rock level on the riverbank during very high flow events.” It is also noted in the same section (7.3.1) that this could lead to an increase in erosion along the river. While it is noted that they plan to remove the culverts each construction season to mitigate the potential effects of flooding and riverbank erosion there is no mention of mitigation measures in place while the culverts are installed.</p> <p>b) As well, DFO stated in section 17, paragraph 5 of the Water Licence Application form that, “Construction and removal of the temporary river crossing may temporarily affect water quality in the freshwater river”. CIRNAC is concerned that the severity of this expected water quality impact is unknown.</p>	<p>High flow events were taken into consideration when assessing the best means of constructing a river crossing. The annual removal and reinstallation of the culverts associated with the low level river crossing was done to ensure that the culverts would not be in service during high flow periods where there is a risk of overtopping.</p> <p>Flow modelling conducted by the design consultant confirms that peak flows within the river are expected to occur before the culverts will be installed. The approaches to the culvert were planned in such a way to allow for potential anomalies as stated in the their design brief which states <i>“The causeway has been shown with 4:1 slopes and set at a lower elevation than the top of the culverts. This has been done so that the portion left in place would be capable of conveying a 5-year storm event without eroding.”</i></p> <p>The project specifications include a requirement for an Environmental Monitor (EM) to monitor mitigation measures associated with works that could result in erosion or sedimentation. The EM will ensure that environmental quality guidelines are followed. Sediment and erosion control conditions will also be applied to all in-water work activities through the <i>Fisheries Act Authorization</i> issued by Fisheries and Oceans Canada – Fish and Fish Habitat Protection Program.</p>
CIRNAC	<p>3. Dust Effects on Water Quality</p> <p>In section 7.1.1 of the Project Proposal, DFO noted that; “Dust that is created during construction activities will be managed by applying calcium chloride or water, which are acceptable means of dust suppression for municipalities in Nunavut”. CIRNAC is concerned about the increased levels of dust generated from the quarry and blasting affecting water quality.</p>	<p>DFO-SCH recognizes the potential impacts which may occur due to temporary activities associated with the Clyde River Harbour Project. Project components including aggregate quarrying and haul road maintenance have been considered in project planning. DFO-SCH will apply appropriate mitigations during the construction phase to reduce the potential impacts of activities on freshwater sources. Section 5.2.3 of the CEMP specifically addresses mitigation measures for Dust, Erosion and Sediment Control.</p> <p>DFO-SCH does not anticipate any impacts on the freshwater sources from aggregate quarrying and or use of the haul road. As part of the project specifications the Contractor must provide an Erosion and Sediment Control plan to ensure that water quality of adjacent waterbodies are not impacted. The project specifications also include requirements for an Environmental</p>

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		<p>Monitor (EM) to ensure effectiveness of mitigation measures for all works that could result in erosion or sedimentation..</p> <p>The quarry location is an existing quarry that has been in use for many years and is located a distance of greater than 500 m away from the Clyde River, which should allow for settling of dust from quarrying activities prior to reaching the watercourse.</p>
CIRNAC	<p>4. Erosion and Sediment concerns</p> <p>a) DFO states in section 17, paragraph 6 of the Water Licence Application form that, “Blasting at the quarry has the potential to increase sediment loading in drainage from the quarry site to the river”. Additionally, in the same section (7.2.2) the DFO states “A sediment and erosion control plan will be implemented for the duration of the construction”.</p> <p>b) CIRNAC is concerned that this sediment build-up on the river bank as a result of quarry blasting activities could heavily impact the surface water flow rate of the river. CIRNAC is also concerned that the sediment build-up might increase the total dissolved solids (TDS) and total suspended solids (TSS) concentrations in the river which has the potential to affect downstream water quality.</p> <p>c) In section 7.2.1 of the Project Proposal under the Subsection Permafrost, DFO states that a geotechnical investigation determined the depth of permafrost to be 1.5 meters along the shoreline and that any negative effects can be mitigated. CIRNAC notes that DFO did not include any information on how they plan to mitigate any permafrost impacts.</p>	<p>The project specifications require the Contractor to develop and implement a Quarry Development Plan, a Water Quality Monitoring Plan, and an Erosion and Sediment Control Plan which will take into account mitigation measures to ensure freshwater watercourses are not impacted.</p> <p>The project specifications also require an Environmental Monitor (EM) to monitor mitigation measures for their effectiveness to ensure freshwater courses are not being impacted. The EM will adhere to environmental quality guidelines including monitoring of TSS levels as appropriate. DFO-SCH will ensure that sediment and/or rock debris does not build up in the river by implementing erosion and sedimentation controls. Dust, Erosion and Sediment Control mitigation measures have been identified in section 5.2.3 of the CEMP.</p> <p>Permafrost is not expected to be impacted as part of this work as there will not be excavation in the uplands where permafrost was identified. Most activity at the harbour uplands will involve fill material being placed on the existing ground and therefore will avoid any exposure of the permafrost. Section 5.2.4 of the CEMP addresses Permafrost Management mitigation measures that are required of the Contractor.</p>
CIRNAC	<p>5. Spill Contingency Plan</p> <p>As reported in section 6.1 of the Construction Environmental Management Plan, “The spill response plan will be prepared and implemented to provide guidance for Project”. CIRNAC acknowledges that DFO provided in the referenced document, a list of actions to be taken in an unlikely spill event of fuel or hazardous material occurs.</p>	<p>As stated in section 3.3.1 and 6.1 of the CEMP, mitigation measures are provided and the Contractor is responsible for developing and implementing spill prevention, contingency, and emergency response plan that will apply to all equipment brought to site.</p> <p>The project specifications require the Contractor to report all spills regardless of size to the Departmental Representative. The project specifications also require that the Contractor to take immediate action to contain, clean and store contaminated materials in a manner that will not further impact human</p>

<b><u>Commenter</u></b>	<b><u>Comment</u></b>	<b><u>Response</u></b>
		health or the environment. Regular reporting of Contractor activities is required throughout for the duration of the project.
CIRNAC	<p>6. Waste Management Plan (WMP)</p> <p>a) DFO states in section 15 of the Water Licence Application Form the estimated quantities for the different wastes composition for the Clyde River Harbour Development project. Also in section 4.3.5 of the Project Proposal document, DFO outlined the estimates of waste production and disposal methods for the project. In these two documents, CIRNAC notes that DFO only provided the estimates (i.e. quantities of waste), but did not provide the frequency of how often the respective waste categories would be disposed of.</p> <p>b) In the Water Licence Application Form, DFO provided a summary of the composition for the hazardous and solid wastes. CIRNAC observes that DFO did not provide any document detailing the procedure for the sorting (i.e. categorization) of the hazardous waste nor the solid waste.</p> <p>c) CIRNAC acknowledges there exist limitations within the municipality of Clyde River and is recommending the measures below to ensure that the hazardous materials and waste is appropriately managed by the proponent and not adding extra responsibility onto the municipality.</p>	<p>As part of the project specifications, the Contractor is required to develop and implement a Waste Management Plan. Waste management will be conducted in coordination with the Hamlet and their available resources. The project specifications require that sanitary facilities waste water will be removed through a “pay for” arrangement with rates determined by the Hamlet. Waste water/grey water removal is not expected to exceed the communities resources or capacity. Section 5.2.10 of the CEMP specifically addresses mitigation measures for Non-Hazardous Waste and Wastewater.</p> <p>Section 5.2.11 of the Clyde River Harbour- CEMP identifies the requirements for hazardous material handling, storage and labelling. Disposal of hazardous waste materials is identified in sections 5.2.11.12 and 5.2.11.14 of the Clyde River Harbour – CEMP to ensure that that the Hamlet is not impacted.</p>
CIRNAC	<p>7. Abandonment and Restoration Plan (ARP) for Quarry Site</p> <p>In section 7.2.2, second paragraph of the Project Proposal, it states “There will be additional disturbance to soils and terrain due to an increase in size of the pit at the quarry and elevation changes at the small craft harbour site”. CIRNAC is concerned that there is not enough information provided regarding the abandonment and restoration plan for the quarry site at the end of the construction phase of the project.</p>	Restoration of the quarry will be completed in accordance with the quarry permit issued under the authority of the Commissioner’s Land Act for use of quarry activities on Commissioners lands, and in coordination with the Hamlet.