

Environment and Climate Change Canada Comments on the Lake Manitoba and Lake St. Martin Outlet Channels Project - Public Comment Period on the draft Environmental Assessment Report and draft Potential Conditions under the *Canadian Environmental Assessment Act, 2012*

Submitted to the Impact Assessment Agency of Canada on May 8, 2024

Table 1: Comments on draft EA Report

Original Text	Suggested Change: new text in bold, deleted text in strikethrough	Rationale/Recommendation
Air Quality		
<p>7.5.3 Key Mitigation Measures</p> <p>N/A</p>	<p>The Proponent shall ensure that all off-road machines meet, at a minimum, Tier 4 emission standards where technically and economically feasible, to minimize changes to air quality that may result in adverse effects to the health of Indigenous peoples or, provide a rationale for the use of any off-road machines that meet lower-tier emission standards.</p>	<p>ECCC recommends this addition to the Agency Analysis and/or key mitigation measures, given that the Agency recognizes that “construction and operation activities may result in adverse effects to the health of Indigenous peoples through changes to air quality” in the draft EA report (section 7.5.1.3),</p> <p>In response to IAAC-01 (CIAR 147), the Proponent stated that they will adopt Tier 4 compliant vehicles where possible. ECCC’s final views submission (CIAR 226) stated that if Project construction does not meet Tier 4 emission standards, there may be potential residual effects to air quality due to higher NOx emissions.</p>
Hydrology		
<p>Glossary Page xxii [PDF 22]</p> <p>“Conveyance time - The length of time water is conveyed from one water body to the next”</p>	<p>Conveyance capacity - maximum volume of water that can be conveyed from one water body to the next in a given amount of time.</p>	<p>ECCC recommends this change to be consistent with footnote 13.</p>
<p>6.1.3 Follow-up and Monitoring Page 58 [PDF 84]</p>	<p>Deviation from the rating curve might indicate a change in the geometry of the outlet inlet or</p>	<p>ECCC provides this edit for accuracy, the area with the potential for change is the inlet of the Dauphin River.</p>

<p>“Deviation from the rating curve might indicate a change in the geometry of the outlet or it’s roughness (i.e., substrate type), which in turn could indicate a change in fish habitat.”</p>	<p>it’s roughness (i.e., substrate type), which in turn could indicate a change in fish habitat.</p>	
<p>Migratory Birds and Species at Risk</p>		
<p>5.1 Biophysical Environment Page 37 [PDF 63]</p> <p>Habitat types present in the LAA and RAA, such as mixed forest and wetlands, provide suitable habitat for bird species listed under the <i>Migratory Birds Convention Act, 1994</i> and species at risk listed under SARA including critical habitat for the eastern whip-poor-will, red-headed woodpecker, piping plover, little brown myotis, northern myotis, northern leopard frog, and snapping turtle.</p>	<p>Habitat types present in the LAA and RAA, such as mixed forest and wetlands, provide suitable habitat for bird species listed under the <i>Migratory Birds Convention Act, 1994</i> and species at risk listed under SARA including critical habitat and/or suitable habitat for the eastern whip-poor-will, red-headed woodpecker, piping plover, little brown myotis, northern myotis, northern leopard frog, and snapping turtle.</p>	<p>ECCC provides this edit for accuracy.</p> <p>The current wording suggests that critical habitat for all the SAR species listed is present in the LAA and RAA, which is not the case. Critical Habitat has a very distinct meaning under SARA.</p> <p>The provided text by ECCC provides clarity that there is suitable habitat present for the listed SAR within the RAA and LAA.</p>
<p>6.3.3 (or 7.2.3) Mitigation Measures or Follow-up and Monitoring</p> <p>N/A</p>	<p>Collect baseline data prior to Project construction to ensure that sufficient year-to-year comparisons can be made as per the commitments described in the Proponent’s Wetland Monitoring Plan (WetMP)</p>	<p>The EA Report includes this concept in 7.2.2 Views Expressed section.</p> <p>However, ECCC recommends the Follow-up and Monitoring section include the completion of baseline monitoring prior to project construction, as described in ECCC’s final views submission (ECCC FV-13, CIAR #226).</p> <p>Wetlands in the project area provide suitable habitat for numerous Migratory Birds protected under the MBCA and Species at Risk protected under SARA. Wetland dependent migratory birds SAR with known observations or the potential to occur in the project area include: Yellow Rail, Least Bittern, Buff-breasted Sandpiper, Horned Grebe, Western Grebe and Least Bittern.</p>

		<p>Understanding the changes to these wetland habitats from the project is important to applying adaptive management. Collection of current baseline data during pre-construction is required to allow a comparison with monitoring data collected during construction and operations phase to test predictions on impacts from the project, and assess effectiveness of mitigation measures.</p>
<p>7.2.1 Proponent’s Assessment of Environmental Effects Page 112 [PDF 138]</p> <p>The Proponent identified 14 migratory bird species listed as at risk under Schedule 1 of SARA, that may have suitable habitat in the LAA and RAA, of which 11 were observed during baseline surveys: bank swallow (<i>Riparia riparia</i>), barn swallow (<i>Hirundo rustica</i>), bobolink (<i>Dolichonyx oryzivorus</i>), common night hawk (<i>Chordeiles minor</i>), eastern whip-poor-will (<i>Antrostomus vociferus</i>), evening grosbeak (<i>Coccothraustes vespertinus</i>), horned grebe (<i>Podiceps auratus</i>), least bittern (<i>Ixobrychus exilis</i>), olive-sided flycatcher (<i>Contopus cooperi</i>), red-headed woodpecker (<i>Melanerpes erythrocephalus</i>), and yellow rail (<i>Coturnicops noveboracensis</i>) (Appendix B Species at Risk).</p>	<p>The Proponent identified 14 192 migratory bird species as defined by the <i>Migratory Birds Convention Act (MBCA)</i> species at risk under Schedule 1 of SARA, that may have suitable habitat within the LAA and RAA, of which 14 are listed as species at risk under Schedule 1 of SARA. of which 11 species at risk migratory birds were observed during baseline surveys: bank swallow (<i>Riparia riparia</i>), barn swallow (<i>Hirundo rustica</i>), bobolink (<i>Dolichonyx oryzivorus</i>), common night hawk (<i>Chordeiles minor</i>), eastern whip-poor-will (<i>Antrostomus vociferus</i>), evening grosbeak (<i>Coccothraustes vespertinus</i>), horned grebe (<i>Podiceps auratus</i>), least bittern (<i>Ixobrychus exilis</i>), olive-sided flycatcher (<i>Contopus cooperi</i>), red-headed woodpecker (<i>Melanerpes erythrocephalus</i>), and yellow rail (<i>Coturnicops noveboracensis</i>) (Appendix B Species at Risk).</p>	<p>The original text narrows the scope for migratory birds to only those that are also listed as species at risk (SAR).</p> <p>ECCC recommends that the migratory bird section starts with an assessment of all migratory birds, then focuses on the SAR migratory birds. It may be misleading to omit information about non-SAR migratory birds.</p> <p>The information added is from MTI's Draft EIS section 8.3.3 (CIAR #100)</p>
<p>7.2.3 Mitigation Measures Page 121 [PDF 146]</p> <p>If pre-construction surveys identify red-headed woodpecker or eastern whip-poor-will breeding pairs or roosting habitat, compensate for the</p>	<p>If pre-construction surveys identify red-headed woodpecker or eastern whip-poor-will breeding pairs or nesting or roosting habitat, compensate for the loss of this habitat respective of the Recovery Strategy for red-headed woodpecker (<i>Melanerpes</i></p>	<p>The word nesting seems to have been lost between versions of the draft EA Report. The inclusion of nesting habitat in this sentence is important to retain since nests of Red-headed woodpecker are considered residences and have special protections under SARA.</p>

<p>loss of this habitat respective of the Recovery Strategy for red-headed woodpecker (<i>Melanerpes erythrocephalus</i>) and Eastern Whip-poor-will (<i>Antrostomus vociferus</i>) in Canada.</p>	<p>erythrocephalus) and Eastern Whip-poor-will (<i>Antrostomus vociferus</i>) in Canada.</p>	
<p>Water Quality</p>		
<p>6.1 Key Mitigation Measures page 56 [PDF 82]</p> <p>During all project phases and quarrying activities, the Proponent will manage surface water quality taking into account water quality guidelines to prevent project-related exceedances of the baseline conditions in waterbodies frequented by fish within the PDA, LAA, and RAA, including for total suspended solids, nutrients, bacterial (coliforms) concentrations, hydrocarbons, metals, oxygen demand, dissolved oxygen, pH, and other relevant parameters. In Birch Bay and Sturgeon Bay, the Proponent will comply with CCME guidelines during WCS gate opening sequences.</p>	<p>During all project phases and quarrying activities, the Proponent will manage surface water quality taking into account water quality guidelines and baseline conditions to avoid effects to fish and fish habitat to prevent project-related exceedances of the baseline conditions in waterbodies frequented by fish within the PDA, LAA, and RAA...</p>	<p>Water quality guidelines and baseline conditions should be taken into account when managing surface water quality. The revised text reflects an approach that is often used in managing surface water quality. The Proponent has referenced guidelines in the draft Environmental Management Plans (EMPs) provided in the EIS and responses to information requests (June 2022).</p>
<p>6.1 Key Mitigation Measures page 57 [PDF 83]</p> <p>During construction, the Proponent will employ erosion and sediment control measures to mitigate adverse effects to surface water quality and the aquatic environment as it relates to fish and fish habitat and current use related to the transport of sediment.</p>	<p>During construction, the Proponent will employ erosion and sediment control measures to minimize sediment transport and deposition in order to mitigate adverse effects to surface water quality and the aquatic environment as it relates to fish and fish habitat and current use related to the transport of sediment.</p>	<p>The phrase “related to the transport of sediment” appears out of place. ECCC has revised the Key Mitigation Measure (KMM) and included the word “avoid” to improve clarity.</p>

<p>Chapter 6.1 (Surface Water) Chapter 7.1 (Fish and Fish Habitat)</p> <p>N/A</p>	<p>N/A</p>	<p>ECCC recommends the Agency consider a key mitigation measure (KMM) for the potential for nutrient related effects of nitrogen-based explosives and their residues on fish and fish habitat. A KMM could be added to Chapter 6.1 (Surface Water) or Chapter 7.1 (Fish and Fish Habitat).</p> <p>If used, nitrogen-based explosives and their residues may cause nutrient-related effects in the aquatic environment and possible adverse effects on fish and fish habitat.</p> <p>Best practices should be followed at source quarries to minimize explosive residues on construction materials, including armouring materials, to mitigate nutrient-related adverse effects to fish and fish habitat. Additionally, the Proponent should follow best practices for use, storage, and management of nitrogen-based explosives to avoid the introduction of explosives and their residues into the aquatic environment.</p> <p>While Chapter 7.1 (Fish and Fish Habitat) includes a key mitigation measure regarding explosives, the guideline specified (i.e., <i>Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters</i>) focuses on impacts arising from the destructive forces of explosives and does not address nutrient-related effects.</p> <p>ECCC recommends considering whether to include this requirement under the conditions in section 3.</p>
<p>Chapter 6.1 (Surface Water), Follow-up & Monitoring page 58 [PDF 84]</p> <p>Monitoring locations for Watchorn Bay, Birch Creek, Birch Bay, LMOC, Lake St. Martin</p>	<p>Monitoring locations for Watchorn Bay, Birch Creek, Birch Bay, LMOC, Lake St. Martin Narrows, Lake St. Martin north basin, Big Buffalo Lake, Buffalo Creek, LSMOC Sturgeon Bay near LSMOC outlet, at the mouth of Sturgeon Bay, along the east shore of Sturgeon</p>	<p>ECCC notes that the list provided by IAAC may not reflect a comprehensive list of the proposed monitoring associated with the Project. The monitoring locations listed in the Follow-up and Monitoring section capture most, but not all, of the surface water quality monitoring sites described in Section 3.3.3 (Field and Laboratory</p>

<p>Narrows, Lake St. Martin north basin, Big Buffalo Lake, Buffalo Creek, LSMOC Sturgeon Bay near LSMOC outlet, at the mouth of Sturgeon Bay, along the east shore of Sturgeon Bay north to McBeth Point and Reindeer Island, Fairford River, Dauphin River, near field, mid field, and far field monitoring locations to capture the extent of the sediment plume in Birch Bay and Sturgeon Bay taking into account different wind scenarios, and monitoring locations for water quality informed by potentially affected Indigenous groups.</p>	<p>Bay north to McBeth Point and Reindeer Island, Fairford River, Dauphin River, monitoring locations proposed in the June 2022 Rev2 Surface Water Management Plan (Section 6.0 Monitoring) and Aquatic Effects Monitoring Plan (Section 3.3 Surface Water Quality Monitoring), and near shore, near field, mid field, and far field monitoring locations to capture the extent of the sediment plume in Birch Bay and Sturgeon Bay taking into account different wind scenarios, and monitoring locations for water quality informed by potentially affected Indigenous groups.</p>	<p>Methods) of the draft Aquatic Effects Monitoring Plan (AEMP). In addition to the draft AEMP, the draft Surface Water Management Plan (SWMP) outlines additional monitoring locations which may not be reflected in the list.</p> <p>Specifically, the SWMP states that the location of construction-phase surface water monitoring stations will change as construction staging advances. The SWMP also indicates that surface water quality monitoring sites will include previously established baseline sites, however, the SWMP does not provide a list of the baseline locations.</p> <p>ECCC recommends that, at minimum, monitoring locations include the monitoring locations proposed in the Surface Water Management Plan (Section 6.0 Monitoring) and Aquatic Effects Monitoring Plan (Section 3.3 Surface Water Quality Monitoring) as filed as part of the June 2022 supplemental information response to IAAC Round 1 Information Requests.</p> <p>ECCC also recommends adding “near shore” locations for sediment plume monitoring.</p> <p>As monitoring specifics vary between the SWMP and AEMP, rather than compiling a single list of monitoring locations it may be preferable to reference the monitoring plans to reduce the potential for error. It may also be useful to attach an appendix that summarizes the monitoring locations and clarifies which monitoring aspects apply to each location.</p> <p>Additionally, ECCC notes that Condition 3.19.3 includes several locations that are not listed in the surface water</p>
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		<p>quality follow-up program and recommends reviewing for consistency and accuracy.</p>
<p>Chapter 6.1 (Surface Water), Follow-up & Monitoring page 59 [PDF 85]</p> <p>Monitoring of the parameters outlined in Table 2 of the draft Surface Water Management Plan Rev 2.0 (June 2022) including, at a minimum, the following: field parameters, general chemistry, substrates, sediment, microbiological parameters, total and dissolved nutrients, carbon parameters, petroleum hydrocarbons, total and dissolved metals (including mercury), and pesticides as listed in Table IAAC-R2-01-9, taking into consideration the pesticides detected in the results from the baseline surface water dataset from 1973-2021.</p>	<p>Monitoring will occur during the construction phase and continue, at a minimum, until two years post-commissioning for of the parameters outlined in Table 2 and Table 4 of the draft Surface Water Management Plan Rev 2.0 (June 2022) including, at a minimum, the following: field parameters, general chemistry, substrates, sediment, microbiological parameters, total and dissolved nutrients, carbon parameters, petroleum hydrocarbons, total and dissolved metals (including mercury), and pesticides as listed in Table IAAC-R2-01-9, taking into consideration the pesticides detected in the results from the baseline surface water dataset from 1973-2021.</p>	<p>The surface water quality follow-up program should describe the timing of SWMP monitoring. According to Sections 6.0 and 10.0 (Monitoring) of the SWMP, surface water quality monitoring will be conducted during construction and for two years post-construction. Additionally, while Table 2 and Table 4 of the SWMP list the same monitoring parameters for the LMOC and LSMOC, respectively, both tables should be referenced since they refer to different locations. ECCC’s revised text provides wording consistent with the planned monitoring in the SWMP.</p>
<p>Chapter 6.1 (Surface Water), Follow-up & Monitoring page 59 [PDF 85]</p> <p>Monitoring at a minimum of the parameters outlined in in Appendix 2B of the Sediment Management Plan Rev. 2.0 (June 2022) during commissioning and Section 3.3.4 of the draft Aquatic Effects Monitoring Plan Rev 2.0 (June 2022) during every WCS gate opening. Provisions may be included for reduced monitoring frequency should monitoring demonstrate consistent results granted that monitoring capture effects after a minimum</p>	<p>- Monitoring at a minimum of field parameters (pH, dissolved oxygen, conductivity, temperature, turbidity) and total suspended solids the parameters outlined in in Appendix 2B of the Sediment Management Plan Rev. 2.0 (June 2022) prior to and during commissioning to ensure channel water quality is protective of aquatic life.</p> <p>- Real-time monitoring of turbidity and total suspended solids in the receiving environment during commissioning to mitigate adverse effects of suspended channel sediments on fish and</p>	<p>ECCC recommends including a requirement to monitor channel water quality prior to commissioning to ensure channel water quality is protective of aquatic life before release.</p> <p>The follow-up program does not fully capture the timing of AEMP monitoring. According to Section 3.3.2 (Timing) of the AEMP, surface water quality monitoring will be conducted during commissioning, and immediately prior to, during, and following channel operation for flood mitigation. Samples will be collected during all four seasons (spring, summer, fall, and winter) in each monitoring year to capture seasonal variability. The description of the follow-up program in the EA report is</p>

<p>number of WCS gate openings and a range of magnitudes of floods including any new record floods, as determined in consultation with Environment and Climate Change Canada, relevant authorities, and Indigenous groups. Monitoring should not be reduced if effects are greater than predicted or results demonstrate a trend of increasing effects.</p>	<p>- Monitoring of the parameters listed in Section 3.3.4 of the draft Aquatic Effects Monitoring Plan Rev 2.0 (June 2022) during commissioning, and immediately prior to, during, and following every WCS gate opening. Provisions may be included for reduced monitoring frequency should monitoring demonstrate consistently acceptable results granted that monitoring capture effects after a minimum number of WCS gate openings and a range of magnitudes of floods including any new record floods, as determined in consultation with Environment and Climate Change Canada, relevant authorities, and Indigenous groups. Monitoring should not be reduced if effects are greater than predicted or results demonstrate a trend of increasing effects. Monitoring will be conducted during all four seasons (spring, summer, fall, and winter) in each monitoring year to capture seasonal variability.</p>	<p>missing many of these timing details. ECCC provides revised text to include this missing information and provide wording consistent with the planned monitoring in the AEMP. To improve clarity, ECCC recommends moving the AEMP monitoring information to a separate bullet.</p>
<p>Chapter 7.1 Fish & Fish Habitat, Follow-up and Monitoring page 111 [PDF 137]</p> <p>Monitoring sediment quality of the aquatic environment for project-related changes. Parameters should include particle size distribution, total organic carbon, metals, nutrients, hydrocarbons, and any additional parameters monitored during baseline sediment quality monitoring. Monitoring results should be compared with baseline sediment quality monitoring results.</p>	<p>Monitoring sediment quality of the aquatic environment for project-related changes. Parameters should include particle size distribution, total organic carbon, metals, nutrients, hydrocarbons, and any additional parameters monitored during baseline sediment quality monitoring. Monitoring results should be compared with baseline sediment quality monitoring results and relevant sediment quality criteria.</p>	<p>It is important to compare sediment quality monitoring results against both baseline data to gauge change from pre-project conditions and relevant guidelines to assess project conditions against science-based criteria. To incorporate both aspects, ECCC recommends the text be updated to include comparison against relevant sediment quality criteria.</p>

<p>Chapter 7.1 Fish and Fish Habitat Follow-up and Monitoring page 111 [PDF 137]</p> <p>At a minimum, monitoring of aquatic habitat conditions, including substrate composition, distribution of aquatic macrophytes, and benthic invertebrate community (species composition and abundance) will be conducted at the inlets and outlets of the outlet channels, representation shoals in the south and north basins of Lake St. Martin, Sturgeon Bay and selected locations near McBeth Point and the southeast shore of Reindeer Island in Lake Winnipeg, and a transect within the Lake St. Martin Narrows. Monitoring of habitat conditions in the outlet channels, including both open water and under ice, will assess, at minimum, dissolved oxygen and water depth.</p>	<p>At a minimum, monitoring of aquatic habitat conditions will be conducted as described in Section 4.0 (Aquatic Habitat) of the draft Rev2 Aquatic Effects Monitoring Plan (June 2022). Monitoring of including substrate composition, distribution of aquatic macrophytes, and benthic invertebrate community (species composition and abundance) will be conducted at the inlets and outlets of the outlet channels, representation representative shoals in the south and north basins... Monitoring of habitat conditions in the outlet channels, including both open water and under ice, will assess, at minimum, dissolved oxygen, and water depth, temperature and, pH.</p>	<p>The follow-up and monitoring program appears to be missing some of the important aquatic habitat monitoring elements proposed in the draft Rev2 Aquatic Effects Monitoring Plan (June 2022), including monitoring of substrate and benthic invertebrates in the channels. ECCC recommends that IAAC review the follow-up and monitoring program to ensure that all aspects of the following proposed studies, which are listed in Section 4.2.1 of the draft Rev2 Aquatic Effects Monitoring Plan (June 2022), are included in the follow-up and monitoring program for fish and fish habitat:</p> <ul style="list-style-type: none"> • Aquatic habitat (substrate type, water depth and benthic invertebrate composition and abundance) will be recorded within the excavated inlets and outlets and at representative sites within the channels after commissioning and during and after operation • Substrate will be assessed at selected sites in Lake St. Martin and Sturgeon Bay pre-commissioning and again after commissioning and operation • Substrate and the presence of suspended material will be assessed at selected sites in Lake Winnipeg pre-commissioning and after commissioning and operation <p>ECCC also recommends inclusion of temperature and pH monitoring to support the interpretation of dissolved oxygen monitoring results, including for monitoring in the channels.</p>
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<p>7.1 Follow up and Monitoring</p> <p>N/A</p>	<p>Following construction and prior to commissioning, the Proponent will confirm that the amount of sediment remaining in the channels and sediment makeup (percentage of silt and sand) is consistent with the inputs used in the sediment plume dispersion model. If conditions differ significantly from those used in the model, provide updated predictions for sediment plume dispersion and suspended sediment (TSS) concentrations in the outlets during commissioning, based on actual project conditions including the amount of sediment remaining in the channels and sediment makeup (percentage of silt and sand).</p>	<p>ECCC recommends adding to the follow-up and monitoring program a requirement for confirmation that sediment accumulation in the channels prior to commissioning is consistent with the assumed conditions in the modelling. If conditions are significantly different than the modelled conditions, ECCC recommends a provision of updated model predictions for sediment plume dispersion and suspended sediment (TSS) concentrations in the outlets during commissioning. Updated predictions should reflect the actual project conditions, including the amount of sediment remaining in the channels and sediment makeup (percentage of silt and sand).</p> <p>This information would inform mitigation measures to minimize adverse effects on fish from suspended sediment concentrations in the outlets during commissioning.</p>
<p>Wetlands</p>		
<p>6.3 Terrestrial Landscape</p>	<p>Monitor surface water and groundwater quality for potential project-related changes in wetland water quality and assess effects regarding wetland functions, fish and fish habitat, and other valued components.</p>	<p>ECCC recommends the provided text be added to relevant follow-up and monitoring program(s) regarding wetlands.</p> <p>ECCC notes that the EA report provides discussion on the potential impacts of the Project on wetlands but does not specifically discuss potential effects on wetland water quality.</p> <p>As discussed in the EA Report, the Project will result in the permanent loss and alteration of wetlands. In addition to the anticipated direct loss of wetlands during construction, there are potential indirect effects to wetlands during construction and operations from dewatering and water management activities altering</p>

		<p>surface water and groundwater flow patterns and water levels. As a result, there is potential for adverse effects to fish and fish habitat.</p> <p>Section 4.0 of the Wetland Monitoring Plan outlines specific monitoring studies that form the basis of the proposed monitoring program, including surface water (quality and flow), groundwater (quality and quantity), and additional studies. The wetland monitoring plan also includes baseline monitoring to enable comparison of monitoring results with pre-construction conditions.</p> <p>However, while the Wetland Monitoring Plan includes water quality monitoring, the follow-up and monitoring programs for wetlands described in the EA report do not incorporate water quality monitoring. Water quality monitoring is necessary to assess effects on fish and fish habitat. Therefore, this essential component should be incorporated into wetland follow-up and monitoring program(s) to assess project-related changes to fish and fish habitat in wetlands.</p>
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Table 2: Comments on draft Potential Conditions

Original Text	Suggested Change: new text in bold, deleted text in strikethrough	Rationale/Recommendation
Air Quality		
N/A	<p>The Proponent shall ensure that all off-road machines meet, at a minimum, Tier 4 emission standards where technically and economically feasible, to minimize changes to air quality that may result in adverse effects to the health of Indigenous peoples or, provide a rationale for the use of any off-road machines that meet lower-tier emission standards.</p>	<p>ECCC recommends that a condition be added, given that the Agency recognizes that “construction and operation activities may result in adverse effects to the health of Indigenous peoples through changes to air quality” in the draft EA report (section 7.5.1.3).</p> <p>In response to IAAC-01 (CIAR 147), the Proponent stated that they will adopt Tier 4 compliant vehicles where possible. ECCC’s final views submission (CIAR 226) stated that if Project construction does not meet Tier 4 emission standards, there may be potential residual effects to air quality due to higher NOx emissions.</p> <p>ECCC is of the view that a condition related to Tier 4 emission standards could be beneficial to the health of Indigenous peoples by helping minimize changes to air quality that are caused by off-road machines.</p>
Water Quality		
N/A	<p>Monitor water quality in channels for field parameters (pH, dissolved oxygen, conductivity, temperature, turbidity) and total suspended solids immediately prior to commissioning and ensure channel water quality is protective of aquatic life before initiating commissioning.</p>	<p>ECCC recommends including a condition to monitor channel water quality prior to commissioning to ensure channel water quality is protective of aquatic life before release and prevent adverse effects on fish and fish habitat.</p>

<p>N/A</p>	<p>The Proponent shall ensure that sources of construction rock (quarries) are tested and screened to confirm that armouring materials and other construction rock has low potential for acid rock drainage and metal leaching.</p>	<p>ECCC recommends that this text be incorporated into a condition to ensure acid rock drainage (ARD) and metal leaching (ML) testing and screening is conducted. Chapter 6.1 (Surface Water) of the EA Report includes a KMM which requires that sources of construction rock (quarries) be tested and screened to confirm that construction rock has low potential for acid rock drainage and metal leaching. However, there is no corresponding condition regarding ARD/ML.</p>
<p>3.19.1 monitor, at a minimum, the parameters outlined in Table 2 of the Surface Water Management Plan within Attachment 4.1 of the Proponent’s Response to Information Requests Round 1 (Canadian Impact Assessment Registry Reference Number 80148, Document reference number 147) including field parameters, general chemistry, substrates, sediment, carbon parameters, total and dissolved metals (including mercury and methylmercury), hydrocarbons, pesticides, and total and dissolved nutrients at a minimum two years post-commissioning and to capture seasonal variability and effects after a minimum number of outlet channel operations and a range of magnitudes of floods, including any new record floods;</p>	<p>3.19.1 monitor, at a minimum, the parameters outlined in Table 2 and Table 4 of the Surface Water Management Plan within Attachment 4.1 of the Proponent’s Response to Information Requests Round 1 (Canadian Impact Assessment Registry Reference Number 80148, Document reference number 147) including field parameters, general chemistry, substrates, sediment, microbiological parameters, carbon parameters, total and dissolved metals (including mercury and methylmercury), hydrocarbons, pesticides, and total and dissolved nutrients. Monitoring is to occur during the construction phase and continue, at a minimum, until two years post-commissioning to monitor for changes in surface water quality in accordance with the SWMP. and to capture seasonal variability and effects after a minimum number of outlet channel operations and a range of magnitudes of floods, including any new record floods;</p>	<p>Condition 3.19.1 is missing some monitoring details and includes some inaccuracies.</p> <p>Microbiological parameters are listed in the surface water quality follow-up program and Tables 2 and 4 of the Surface Water Management Plan (SWMP) but are missing from Condition 3.19.1. While Table 2 and Table 4 of the SWMP list the same monitoring parameters for the LMOC and LSMOC, respectively, both tables should be referenced since they refer to different locations.</p> <p>Also, Condition 3.19.1 does not fully capture the timing of SWMP monitoring. According to Sections 6.0 and 10.0 (Monitoring) of the SWMP, surface water quality monitoring will be conducted during construction and for two years post-construction. ECCC’s revised text includes missing information, corrections, and provides wording consistent with the planned monitoring in the SWMP.</p>
<p>3.19.2 monitor, at a minimum, the parameters outlined in Section 3.3.4 of the draft Aquatic</p>	<p>3.19.2 monitor, at a minimum, the parameters outlined in Section 3.3.4 of the draft Aquatic</p>	<p>Condition 3.19.2 does not capture the timing of surface water quality monitoring set out in the Aquatic Effects Monitoring Plan (AEMP). According to Section 3.3.2</p>

<p>Effects Monitoring Plan contained within Attachment 4.1 of the Proponent’s Response to Information Requests Round 1 (Canadian Impact Assessment Registry Reference Number 80148, Document reference number 147) during commissioning and every water control structure gate opening or at a revised frequency that takes into account a range of magnitudes of floods, including any new record floods, as determined as part of the development of the follow-up program pursuant to condition 2.5.3;</p>	<p>Effects Monitoring Plan contained within Attachment 4.1 of the Proponent’s Response to Information Requests Round 1 (Canadian Impact Assessment Registry Reference Number 80148, Document reference number 147) during commissioning and immediately prior to, during, and following every water control structure gate opening or at a revised frequency that takes into account a range of magnitudes of floods, including any new record floods, as determined as part of the development of the follow-up program pursuant to condition 2.5.3 and during all four seasons (spring, summer, fall, and winter) in each monitoring year to capture seasonal variability;</p>	<p>(Timing) of the AEMP, surface water quality monitoring will be conducted during commissioning, and immediately prior to, during, and following channel operation for flood mitigation. Samples will be collected during all four seasons (spring, summer, fall, and winter) in each monitoring year to capture seasonal variability. Condition 3.19.2 is missing some of these timing details. ECCC revised text to include this missing information and provide wording consistent with the planned monitoring in the AEMP.</p>
<p>3.19.3 conduct the monitoring referred to in condition 3.19.1 and 3.19.2 at the following locations: Watchorn Bay, Birch Creek, Birch Bay, Fairford River, Lake Manitoba Outlet Channel, Goodison Lake, Pineimuta Lake, Lake St. Martin, Lake St. Martin Narrows, Lake St. Martin north basin, Dauphin River, Big Buffalo Lake, Buffalo Creek, Lake St. Martin Outlet Channel, Sturgeon Bay near the Lake St. Martin Outlet Channel outlet, at the mouth of Sturgeon Bay, along the east shore of Sturgeon Bay, Berens Island, Berens River inlet, Pigeon Bay, Sandy Bar, Black Island, Hecla Island, Goldeye Creek, Fisher Bay, McBeth Point, Reindeer Island, Cross Lake, Split Lake, Fairford River, Dauphin River, and near field, mid field, and far field monitoring locations to capture</p>	<p>3.19.3 conduct the monitoring referred to in condition 3.19.1 and 3.19.2 at the following locations: Watchorn Bay, Birch Creek, Birch Bay, Fairford River, Lake Manitoba Outlet Channel, Goodison Lake, Pineimuta Lake, Lake St. Martin, Lake St. Martin Narrows, Lake St. Martin north basin, Dauphin River, Big Buffalo Lake, Buffalo Creek, Lake St. Martin Outlet Channel, Sturgeon Bay near the Lake St. Martin Outlet Channel outlet, at the mouth of Sturgeon Bay, along the east shore of Sturgeon Bay, Berens Island, Berens River inlet, Pigeon Bay, Sandy Bar, Black Island, Hecla Island, Goldeye Creek, Fisher Bay, McBeth Point, Reindeer Island, Cross Lake, Split Lake, Fairford River, Dauphin River, and monitoring locations proposed in the Surface Water Management</p>	<p>ECCC recommends that, at minimum, monitoring locations include the monitoring locations proposed in the Surface Water Management Plan (Section 6.0 Monitoring) and Aquatic Effects Monitoring Plan (Section 3.3 Surface Water Quality Monitoring). ECCC also recommends adding “near shore” locations for sediment plume monitoring.</p> <p>As monitoring specifics vary between the SWMP and AEMP, rather than compiling a single list of monitoring locations it may be preferable to reference the monitoring plans to reduce the potential for error. It may also be useful to attach an appendix that summarizes the monitoring locations and clarifies which monitoring aspects apply to each location.</p> <p>Additionally, ECCC notes that Condition 3.19.3 includes several locations that are not listed in the surface water</p>

<p>the extent of the sediment plume in Birch Bay and Sturgeon Bay taking into account different wind scenarios;</p>	<p>Plan (Section 6.0 Monitoring) and Aquatic Effects Monitoring Plan (Section 3.3 Surface Water Quality Monitoring), and near shore, near field, mid field, and far field monitoring locations to capture the extent of the sediment plume in Birch Bay and Sturgeon Bay taking into account different wind scenarios;</p>	<p>quality follow-up program and recommends reviewing for consistency and accuracy.</p>
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