



July 16, 2025

NIRB FILE: 24XN038

Dionne Filiatrault
Executive Director
Nunavut Impact Review Board
29 Mitik Street, PO Box 1360
CAMBRIDGE BAY, NU X0B 0C0
Via Email: info@nirb.ca

RE: *Draft* Scope List and the *Draft* Impact Statement Guidelines for the West Kitikmeot Resources Corporation's "Grays Bay Road and Port" Project Proposal (NIRB File No.: 24XN038)

Dear Dionne Filiatrault,

On April 16, 2025, the Nunavut Impact Review Board (NIRB) issued correspondence related to the *Draft* Scope List and *Draft* Impact Statement Guidelines for the West Kitikmeot Resources Corp.'s "Grays Bay Road and Port" Project (the Project).

The NIRB invited interested parties to review the documents and provide comments on:

- whether the listing and description of proposed project components and activities outlined in the *Draft* Scope List of the Project Proposal is accurate or whether specific inclusions or exclusions should be considered; and
- suggested revisions to the *Draft* Impact Statements Guidelines.

The Northern Projects Management Office is responding on behalf of: Crown-Indigenous Relations and Northern Affairs Canada; Environment and Climate Change Canada; Fisheries and Oceans Canada; Health Canada; Natural Resources Canada; and, Transport Canada. The Government of Canada has reviewed the documents and is providing the attached comments for consideration by the NIRB.

The first section of this submission provides general comments from the Government of Canada. The second section deals with department-specific comments on the *Draft* Scope List and *Draft* Impact Statement Guidelines.

The Government of Canada appreciates the opportunity to submit these comments on the Project. Federal departments look forward to participating in further assessment stages for the Project, as applicable. If you have any questions regarding this correspondence, please contact Melissa Alexander, Senior Project Manager at Melissa.Alexander@cannor.gc.ca.

Sincerely,

Carey Sibbald, A/Projects Director
Northern Projects Management Office

Canadian Northern Economic Development Agency

cc Spencer Dewar, Regional Director General, Nunavut Region, Crown-Indigenous Relations and Northern Affairs Canada

Jody Small, Regional Director Prairie and Northern Region, Environmental Protection Operations Directorate, Environment and Climate Change Canada

Thomas Hoggarth, Regional Director of Aquatic Ecosystems, Arctic Region, Fisheries and Oceans Canada

Chantal Roberge, National Director, Environmental Health Programs, Regulatory Operations and Enforcement Branch, Health Canada

Deborah Yu, Director General, Explosives, Regulatory and Business Services Branch, Lands and Minerals Sector, Natural Resources Canada

Shari Currie, Regional Director General, Prairie and Northern Region, Transport Canada



Government of Canada

Draft Scope List and *Draft* Impact Statement Guidelines Comments

*For the Assessment of the “Grays Bay Road and Port” Project
Proposal*

Date: July 16, 2025



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Executive Summary

Government of Canada (GC)

The GC has undertaken a review of the *Draft* Scope List and *Draft* Impact Statement Guidelines for West Kitikmeot Resources Corp.'s (the Proponent) "Grays Bay Road and Port" project proposal (the Project). The GC provides four (4) general comments for consideration by the Nunavut Impact Review Board (NIRB) on the *Draft* Impact Statement Guidelines to:

1. Include a tentative list of legislation and authorizations that are applicable to the Project.
2. Provide a tentative list of valued ecosystemic and socio-economic components that may be used to assess the significance of impacts from the Project.
3. Specify information expected to be included to support the assessment of transboundary impacts.
4. Provide a list of topics for monitoring and mitigation plans, to guide the development of the monitoring program for the Project.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

CIRNAC has undertaken a review of the *Draft* Scope List and *Draft* Impact Statement Guidelines for the Project and provides seventeen (17) comments and recommendations for consideration by the NIRB. The Department is recommending that the NIRB update:

1. The Scope of the Project to clarify works and activities that are planned at Jericho Station and those at the existing Jericho Mine site.
2. The Scope of the Project to reflect components of the Project that would be subject to closure and reclamation.
3. The Scope of the Project to clarify the proposed use of the Tibbitt to Contwoyto Winter Road for the Project.
4. The Scope of the Project to reflect the potential expansion of fuel storage and the airstrip.
5. The Scope of the Project to reflect the types of waste and associated infrastructure that are anticipated for the Project and the Scope of the Assessment to include waste management.
6. The Scope of the Assessment to include the acid rock drainage/metal leaching potential of materials, surface water quantity, and groundwater quantity and quality.
7. The Scope of the Assessment to include projects in the eastern Northwest Territories for the assessment of cumulative effects, as well as potential induced effects associated with the Project.
8. The Scope of the Assessment to further highlight key issues noted in the Screening Decision Report.



9. The *Draft* Impact Statement Guidelines to ensure requirements are specific to the Project.
10. The *Draft* Impact Statement Guidelines to include a statement regarding references to Inuit and/or Inuit Qaujimajatuqangit also potentially applying to other Indigenous peoples and/or Indigenous or Traditional Knowledge.
11. The *Draft* Impact Statement Guidelines for permafrost degradation and hydrogeology, to reflect relevant infrastructure and areas associated with the Project.
12. The *Draft* Impact Statement Guidelines to account for the potential impacts of construction and operations activities on the marine environment and marine wildlife at the proposed port site.
13. The *Draft* Impact Statement Guidelines to include reference to induced effects within the description of the Regional Study Area.
14. The *Draft* Impact Statement Guidelines to expand the definition of transboundary impacts to include impacts outside the designated area resulting from activities within and outside the designated area.
15. The *Draft* Impact Statement Guidelines to include discussion of how the Project may affect transportation and infrastructure networks both within and beyond Nunavut.
16. The *Draft* Impact Statement Guidelines to specify relevant caribou herds for the assessment.
17. The *Draft* Impact Statement Guidelines to adjust the title and content of Appendix B.

Fisheries and Oceans Canada (DFO)

DFO has undertaken a review of the *Draft* Scope List and *Draft* Impact Statement Guidelines for the Project and provides eleven (11) comments and recommendations for consideration by the NIRB to help refine the NIRB's review in alignment with the mandate of DFO and the Fish and Fish Habitat Protection Program.

Comments included within this document address some language proposed in the NIRB's *Draft* Scope List which does not reflect language of the *Fisheries Act*. Other comments address gaps in the *Draft* Scope List which DFO considers potential impacts to fish and fish habitat posed by the Project. DFO does not have any comments on the *Draft* Impact Statement Guidelines and no major concerns were identified during the review of the *Draft* Scope List.

Environment and Climate Change Canada (ECCC)

ECCC has undertaken a review of the *Draft* Scope List and *Draft* Impact Statement Guidelines for the Project and provides ten (10) comments and recommendations for consideration by the NIRB. ECCC provides expert information and knowledge to project assessments on subjects, including climate change, air quality, water quality, biodiversity, environmental emergencies preparedness and responses. This work includes reviewing proponent characterization of environmental effects and proposed mitigation measures. ECCC provides advice to decision-



makers regarding a proponent's characterization of environmental effects, the efficacy of their proposed mitigation activities, and may suggest additional mitigation measures. Any comments received from ECCC in this context do not relieve the proponent of its obligations to respect all applicable federal legislation.

ECCC's recommendations on the *Draft* Scope List and *Draft* Impact Statement Guidelines for the Project relate to groundwater quality, acid rock drainage, migratory birds, species at risk, air quality, environmental emergencies, and revisions to address inconsistencies between the draft documents and Project Description.

Health Canada (HC)

HC has undertaken a review of the *Draft* Scope List and *Draft* Impact Statement Guidelines for the Project and provides three (3) comments and recommendations for consideration by the NIRB.

HC recommends that the NIRB consider adopting the following changes:

1. Require that a well-documented Human Health Risk Assessment (HHRA) be conducted to provide increased scientific support for the conclusions of the assessment of potential Project-related impacts on human health.
2. Include references to HC's *Guidance for Evaluating Human Health Effects in Impact Assessment* series, as well as the World Health Organization (WHO) air quality standards to support the assessment of potential Project-related health impacts.
3. Include off-duty workers in the noise assessment.

HC is a federal department responsible for helping Canadians maintain and improve their health. One of the ways this is accomplished is through participation in the environmental impact review of major resource and infrastructure projects. Specifically, HC provides its expertise, information, or knowledge on human health issues related to the potential environmental impacts of a proposed project. Note that HC only provides recommendations to help prevent, reduce, and mitigate the potential effects of changes to the environment on the health of Indigenous peoples; the Department does not approve or issue licenses or permits to enforce its recommendations.

To support the assessment of impacts on human health and complete its technical review of the Project, HC comments on areas where information may be lacking which would prevent completing a meaningful review during the Impact Statement technical review phase.

Natural Resources Canada (NRCan)

NRCan has undertaken a review of the *Draft* Scope List and *Draft* Impact Statement Guidelines for the Project to assess whether the requirements relevant to permafrost conditions, terrain sensitivity and stability, groundwater, and marine aspects are adequate to ensure that the Proponent provides appropriate information in the Impact Statement.

This review considered the proposed activities and components as described in the Project Description submitted by the Proponent. NRCan provides twenty (20) comments and recommendations to ensure the requirements described in the guidelines are clear and relevant to the Project.



NRCan notes that several of the requirements refer to mining projects or are specifically relevant to mining projects (and therefore not relevant to the Project). NRCan has recommended that requirements that are not relevant to the Project be removed or revised. NRCan has considered the Terms of Reference for the Inuvik to Tuktoyaktuk Highway (ITH) and the Mackenzie Valley Highway (MVH) and recommended similar text be used in some of its comments to ensure that requirements are relevant to the Project. Although requirements that refer to mining projects have been identified in the comments below these are largely associated with aspects of the physical environment within the reviewer's expertise.

Transport Canada (TC)

TC has undertaken a review of the *Draft* Scope List and *Draft* Impact Statement Guidelines for the Project and provides twelve (12) comments and recommendations for consideration by the NIRB.

These recommendations include that the *Draft* Impact Statement Guidelines be revised to require the Proponent to provide:

- In-depth information about navigable waters in the Project area, including the identification and description of navigable waterbodies where Project works (e.g., bridges and wharves) will be located, and information about the present, past or potential uses of these waterbodies.
- Details about the proposed temporary and permanent airstrips and their use, such as information about airstrips' locations, accompanying infrastructure such as a communication tower, expected operations such as passenger type (e.g., fee or non-fee paying), aircraft types and passenger capacity, airstrip surfacing, aircraft operators, aviation fuel storage, and de-icing program.
- Information about alternative energy infrastructure (e.g., wind turbines and solar arrays) that may be constructed and used for the Project.
- In the Accidents and Malfunctions section of the Impact Statement, a discussion of aviation accidents and the Proponent's plans for complying with the *Transportation of Dangerous Goods Act, 1992* and the *Transportation of Dangerous Goods Regulations*.
- Additional marine-related baseline information, including bathymetry for approaches to the port and proposed location of wharves, identification and details of safe anchorage locations along the proposed shipping route(s), and details of mooring adequacy at wharves and of tugs that will be used to accommodate the types of vessels that are expected to frequent the port.



List of Acronyms

ARD/ML	Acid Rock Drainage/Metal Leaching
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
CARs	<i>Canadian Aviation Regulations</i>
CEPA	<i>Canadian Environmental Protection Act</i>
CNWA	<i>Canadian Navigable Waters Act</i>
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
DAS	Disposal at Sea
ECCC	Environment and Climate Change Canada
FA	<i>Fisheries Act</i>
DFO	Fisheries and Oceans Canada
GHG	Greenhouse Gas
GC	Government of Canada
HC	Health Canada
HHRA	Human Health Risk Assessment
IR	Information Request
IS	Impact Statement
MBCA	<i>Migratory Birds Convention Act</i>
MDMER	<i>Metal and Diamond Mining Effluent Regulations</i>
NIRB	Nunavut Impact Review Board
NRCan	Natural Resources Canada
NuPPAA	<i>Nunavut Planning and Project Assessment Act</i>
NWB	Nunavut Water Board
PAG	Potentially Acid Generating
SARA	<i>Species at Risk Act</i>
TC	Transport Canada
TLA	<i>Territorial Lands Act</i>
VEC	Valued Ecosystemic Component
VSEC	Valued Socio-economic Component



Introduction

Mandate, Roles and Responsibilities

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

CIRNAC has a broad mandate for the co-management of land and water resources in Nunavut, as well as the management of Crown Land under the following applicable acts and regulations:

- *The Department of Crown-Indigenous Relations and Northern Affairs Act*;
- *The Nunavut Land Claims Agreement Act* and the Nunavut Agreement;
- *The Nunavut Planning and Project Assessment Act* (NuPPAA);
- *The Arctic Waters Pollution Prevention Act* and Regulations;
- *The Nunavut Waters and Nunavut Surface Rights Tribunal Act* and Regulations; and
- *The Territorial Lands Act* (TLA) and Regulations.

As set out in the Nunavut Agreement and the NuPPAA, the Minister of Northern and Arctic Affairs, along with other responsible Ministers, can have a decision-making role for proposed projects undergoing assessment, based on the report and recommendations provided by the NIRB. The responsible Ministers, as decision-makers acting on behalf of the federal Crown, must ensure the duty to consult with Indigenous groups has been met before deciding on whether projects should proceed.

CIRNAC has regulatory roles for projects that are authorized to proceed, which include participating in the Nunavut Water Board licensing process and issuing authorizations under the TLA. CIRNAC also conducts inspections to ensure compliance with NIRB Project Certificates, water licences, and authorizations issued under the TLA.

As part of the NIRB's assessment process, CIRNAC, along with other parties, acts as an intervenor, providing advice and expertise to the NIRB. Based on its regulatory mandate and decision-making roles, CIRNAC participates in the assessment process by providing expertise on a variety of matters related to project works, activities, and associated management, mitigation, and monitoring plans, such as:

- Environmental impact assessment methodology and best practices, including cumulative effects assessment;
- Surface water quality and quantity;
- Groundwater quality and quantity;
- Marine water quality as affected from activities on the land;
- Permafrost;
- Waste management;
- Crown land contamination/degradation, particularly closure and reclamation planning;
- Socio-economic impact assessment and monitoring; and
- Indigenous consultation and accommodation.

CIRNAC also administers the Northern Participant Funding Program, which supports meaningful participation of Inuit and other Indigenous peoples and Northerners in the assessment of major projects.

On January 18, 2024, the Nunavut Lands and Resources Devolution Agreement (Devolution Agreement) was officially signed by the Government of Nunavut, Nunavut Tunngavik Incorporated, and the GC. The Devolution Agreement represents the transfer of responsibilities



for Crown lands and resources in Nunavut from the GC to the Government of Nunavut. During the Implementation Phase, both governments will work on legislation to advance the Devolution Agreement, which is currently agreed to take effect on April 1, 2027. As relevant, an update will be provided to parties closer to the Transfer Date set-out in the Devolution Agreement, regarding any implications for decision-making for this assessment.

Fisheries and Oceans Canada (DFO)

DFO is a federal department responsible for safeguarding our waters and managing Canada's fisheries and oceans resources. Fisheries and Oceans Canada's Fish and Fish Habitat Protection Program reviews development projects taking place in or near water to ensure compliance with the *Fisheries Act*.

The Fish and Fish Habitat Protection Program also serves as the lead and coordinates all of DFO's participation in environmental assessments conducted under the various enabling legislation throughout Canada, including the NuPPAA.

Environment and Climate Change Canada (ECCC)

ECCC carries out its legislated responsibility under Article 12 of the Nunavut Agreement and Section 197 of the NuPPAA by providing information and knowledge within its mandate to both the proponent and decision-makers. ECCC's information and knowledge may be used to develop potential conditions or measures that may accompany a final decision for a project.

The mandate of ECCC is determined by the statutes and regulations under the responsibility of the Minister of Environment and Climate Change. Under the *Department of the Environment Act*, the powers, duties and functions of the Minister of Environment and Climate Change extend to matters such as:

- the preservation and enhancement of the quality of the natural environment, including water, air and soil quality, and the coordination of the relevant policies and programs of the GC;
- renewable resources, including migratory birds and other non-domestic flora and fauna;
- meteorology; and
- the enforcement of rules and regulations.

In delivering this mandate, ECCC is responsible for the development and implementation of policies, guidelines, codes of practice, inter-jurisdictional and international agreements, and related programs. ECCC's specialist information and knowledge is provided in the context of the *Canadian Environmental Protection Act* (CEPA) including the *Disposal at Sea Regulations* (DAS), the pollution provisions of the *Fisheries Act* (FA), the *Migratory Birds Convention Act* (MBCA), and the *Species at Risk Act* (SARA).

ECCC administers the pollution prevention provisions of the FA, which prohibits the deposit of a deleterious substance into water frequented by fish. ECCC also regulates the DAS under the CEPA with the objective of protecting the marine environment. Regulated aspects of the DAS include the loading of material for disposal, the transport of that material to a disposal site and the disposal itself.



ECCC is responsible for protecting and conserving migratory bird populations and individuals under the MBCA. ECCC also administers the SARA in cooperation with DFO and the Parks Canada Agency to: prevent wildlife species from becoming extirpated or extinct; provide for the recovery of wildlife species that are extirpated, endangered or threatened as a result of human activity; and, manage species of special concern to prevent them from becoming threatened, endangered or extirpated.

Health Canada (HC)

HC is the federal department responsible for helping Canadians maintain and improve their health. One of the ways this is accomplished is through participation in the environmental assessment of major resource and infrastructure projects. One of the key objectives of HC's environmental assessment program is to help prevent, reduce, and mitigate the potential effects of any change to the environment on the health of Indigenous peoples. At the request of a Responsible Authority, Review Panel, or other jurisdiction conducting an environmental assessment, HC makes available specialist or expert information or knowledge in its possession on human health issues related to the potential environmental impacts of a proposed project. These areas include contamination of country foods (also known as traditional foods), HHRA, and health effects related to air quality, noise, and drinking and recreational water quality. In this context, HC provides expert information at the request of the NIRB for a project.

In its review, HC examines the assessment of health impacts of current and potential future environmental conditions resulting from a project. The Department provides comments on potential risks to human health and assesses the results of any relevant modelling but does not validate the predicted future contaminant levels in the air, water, or country foods.

The Department considers the following aspects of environmental assessment reviews:

- The appropriateness of methodologies used;
- The predicted health risks and any comparisons to health-based guidelines and standards;
- The measures proposed to mitigate human health impacts;
- The conclusions made concerning human health effects, and the accompanying rationales and justifications; and
- The evidence provided to justify the conclusions, and the scientific defensibility of the rationales for the conclusions regarding the potential effects on human health.

The Department's review and comments focus on the accuracy, scientific validity, and completeness of assessments concerning human health effects. HC does not issue any approvals or make any regulatory decisions concerning this Project.

Additional information on HC's mandate can be found at: <https://www.canada.ca/en/health-canada/corporate/publications/health-canada-participation-environmental-assessments.html>.

Natural Resources Canada (NRCan)

NRCan works to improve the quality of life of Canadians by ensuring that our natural resources are developed sustainably, providing a source of jobs, prosperity and opportunity, while preserving our environment and respecting our communities and Indigenous peoples. NRCan's areas of expertise for the Project include marine geosciences and permafrost. The Department is also responsible for administering the *Explosives Act* and Regulations.



Transport Canada (TC)

TC is responsible for the GC's transportation policies and programs. TC develops legislative and regulatory frameworks and conducts oversight through legislative, regulatory, surveillance and enforcement activities. While not directly responsible for all aspects or modes of transportation, TC plays a leadership role to ensure that all parts of the transportation system across Canada work together effectively.

TC would be a Responsible Minister for the Project pursuant to the Nunavut Agreement and the NuPPAA as several Project components would require *Canadian Navigable Waters Act* (CNWA) approvals to proceed. TC also has regulatory authority for the Project pursuant to a number of pieces of legislation, including the *Aeronautics Act*, *Arctic Waters Pollution Prevention Act*, *Canada Shipping Act, 2001*, CNWA, *Marine Liability Act*, *Marine Transportation Security Act*, and *Transportation of Dangerous Goods Act, 1992*. Project components listed in the Project Proposal that are subject to TC's regulatory authority include:

1. Port at Grays Bay

a. During Construction Phase

- Dredging
- Potential disposal at sea of dredge materials
- Temporary airstrip
- Temporary storage of explosives
- Marine aids to navigation
- Approximately two (2) freighter (sealift) sailings and around 60 to 100 offload barge trips to stage materials for the first season of construction at the port site
- One (1) sealift and barge for resupply annually with resupply volume less than initial mobilization

b. During Operations Phase

- Two (2) deep water wharves suitable for 100,000 deadweight tonnes ore bulk oil vessels (post-Panamax size)
- One (1) barge berth
- Small craft harbour, with possible breakwater
- 10 million litres fuel storage including unloading and refueling facilities
- 1,800 metre (6,000 foot) airstrip including a loading area, passenger hangar, communication building and aircraft refueling and parking areas
- Two (2) tugs providing berthing assistance to vessels
- Transloading infrastructure
- Moorage
- Explosives storage
- One (1) sealift and barge for resupply annually

2. A 230-kilometre Controlled All-season Access Road Between Grays Bay (Kogloktokyo) and the Jericho Mine site (Jericho Station)

a. During Construction Phase

- Water crossings, including bridges and culverts

b. During Operations Phase

- Maintenance of watercourse crossings

TC has undertaken a review of the *Draft* Impact Statement Guidelines and offers comments based on TC's mandate, roles, and responsibilities.



Specific Comments

Government of Canada

Comment	GC-01
Subject/Topic	Legislation and authorizations
References	<ul style="list-style-type: none"> Proposal Section 1.7 Applicable Legislation and Approvals (pg. 1.14) <i>Draft IS Guidelines</i> Section 5.4 Regulatory Regime (pg. 21)
Summary	Section 5.4 of the <i>Draft IS Guidelines</i> does not provide a tentative list of legislation and authorizations that are applicable to the development of the Project.
Importance of Issue to Impact Assessment Process	Providing a tentative list of applicable legislation and authorizations would help guide the development of the IS and clarify regulatory approvals required to construct and operate the Project.
Detailed Comment	<p>Section 5.4 of the <i>Draft IS Guidelines</i> describes that the Proponent shall present its understanding of the regulatory regime in which it would be operating by identifying the legislation and other regulatory approvals applicable to the Project, as required by all relevant federal, territorial, regional and/or municipal-owned lands.</p> <p>The GC understands that the Proponent provided a preliminary list of authorizations in Section 1.7 of its Proposal, and that the authorizations required to construct and operate the Project would depend on the Proponent's development plans. However, the GC is of the view that providing a tentative list of legislation and authorizations in Section 5.4 will help guide the development of the IS and clarify the regulatory approvals required to construct and operate the Project.</p>
Recommendation/Request	<p>The GC recommends that the NIRB update Section 5.4 of the <i>Draft IS Guidelines</i> to provide a list of legislation currently applicable to the Project, including:</p> <ul style="list-style-type: none"> <i>The Nunavut Land Claims Agreement Act</i> and the Nunavut Agreement; <i>The Nunavut Planning and Project Assessment Act</i>; <i>The Arctic Waters Pollution Prevention Act</i> and Regulations, including the <i>Arctic Shipping Safety and Pollution Prevention Regulations</i> <i>The Nunavut Waters and Nunavut Surface Rights Tribunal Act</i> and Regulations; <i>The Territorial Lands Act</i> and Regulations; <i>Fisheries Act</i>; <i>Species at Risk Act</i>;



- *Migratory Birds Convention Act*;
- *Explosives Act* and Regulations;
- *Canadian Navigable Waters Act*;
- *Canadian Environmental Protection Act*, including the *Disposal at Sea Regulations*;
- *Aeronautics Act* and *Canadian Aviation Regulations*;
- *Canada Shipping Act, 2001* and Regulations, including the *Ballast Water Regulations*, the *Cargo, Tackle, and Fumigation Regulations*, the *Environmental Response Regulations* and the Environmental Response Standards, and the Guidelines for Over-Wintering of Vessels (TP15295);
- *Marine Liability Act* and Regulations;
- *Marine Transportation Security Act* and Regulations; and
- *Transportation of Dangerous Goods Act* and the *Transportation of Dangerous Goods Regulations*;

The GC recommends that the NIRB update Section 5.4 of the *Draft IS Guidelines* to provide a tentative list of authorizations that may be required to construct and operate the Project.

CIRNAC

CIRNAC anticipates the Proponent may require:

- Two (2) surface leases, issued under the *Territorial Lands Regulations* (i.e., one for the port facility and another for the road); and
- Quarry lease(s), issued under the *Territorial Quarrying Regulations*.

CIRNAC also notes that the Proponent would be required to establish reclamation security, which can be facilitated through the water licensing process by the Nunavut Water Board.

DFO

DFO anticipates the Proponent may require:

- Two (2) *Fisheries Act* Authorizations (FAAs) issued under the *Fisheries Act*, one for construction of the port and one for construction of the all-season road.
- Multiple Letters of Advice (LOAs) for culvert replacement and other maintenance activities throughout the operations phase of the Project, issued under the *Fisheries Act*.



	<p><u>ECCC</u></p> <p>The following permits may apply during the Project. Other permits/authorizations may also apply; it is the Proponent's responsibility to comply with all regulatory requirements.</p> <p>ECCC anticipates that the Proponent may require:</p> <ul style="list-style-type: none"> • Disposal At Sea permit under the <i>Canadian Environmental Protection Act, 1999</i> (CEPA) for dredged material and any other substances listed in Schedule 5 of the CEPA, where disposal at sea is an environmentally preferable and practical alternative. For more information, refer to Disposal at sea legislation and regulations - Canada.ca. • <i>Species at Risk Act</i> (SARA) permits in relation to activities that may affect species listed on Schedule 1 of the SARA, as extirpated, endangered, or threatened and which contravene the Act's general or critical habitat prohibitions. Further information from the Proponent on the Project will be considered when determining potential SARA permitting implications. For more information on SARA permits, refer to Species at Risk Act permits and agreements - Canada.ca <p><u>NRCan</u></p> <p>NRCan anticipates that under the <i>Explosives Act</i>, the Proponent may require a license for the storage of explosives needed for the Project.</p> <p><u>TC</u></p> <p>TC anticipates the Proponent may require approvals under the <i>Canadian Navigable Waters Act</i> (CNWA) for multiple Project works including for:</p> <ul style="list-style-type: none"> • Works in Grays Bay (Arctic Ocean) such as wharves, small craft harbour, breakwater, dredging, and disposal at sea of dredged materials; and • Works in or across inland navigable waters that do not meet the requirements of the CNWA Minor Works Order, such as bridges with piers.
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Comment:	GC-02
Subject/Topic	Valued Components
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines Section 7.2.1 Valued Ecosystemic and Socio-economic Components (pg. 29-30)
Summary	Section 7.2.1 of the <i>Draft</i> IS Guidelines does not provide a list of VECs or VSECs.



Importance of Issue to Impact Assessment Process	Providing a tentative list of VECs and VSECs would guide the selection of valued components that will be used to assess the significance of Project component interactions.
Detailed Comment	<p>Section 7.2.1 of the <i>Draft</i> IS Guidelines describes that the Proponent should include the processes and interactions between the valued components selected that are likely to be affected by the Project.</p> <p>The GC understands that the final list of valued components will be completed according to the evolution and design of the proposed Project but is of the view that providing a tentative list of VECs and VSECs in Section 7.2.1 will help guide the selection of valued components that will be used to assess the significance of Project component interactions.</p>
Recommendation/Request	<p>The GC recommends that the NIRB update Section 7.2.1 of the <i>Draft</i> IS Guidelines to reflect the following revisions:</p> <p>“The final list of valued components to be presented in the Impact Statement shall be completed according to the evolution and design of the proposed project and reflect the knowledge on the biophysical or socio-economic environments acquired through public engagement. <u>Some valued components that the Proponent should consider in the Impact Statement include, but are not limited to:</u></p> <ul style="list-style-type: none"> • <u>Hydrology/Hydrogeology;</u> • <u>Surface Water and Groundwater Quantity and Quality;</u> • <u>Landforms and Soils;</u> • <u>Economic Development and Opportunities;</u> • <u>Employment;</u> • <u>Education and Training;</u> • <u>Contracting and Business Opportunities;</u> • <u>Population Demographics;</u> • <u>Non-traditional Land Use and Resource Use;</u> • <u>Health and Wellbeing;</u> • <u>Community Infrastructure and Public Services;</u> • <u>Navigable Waters;</u> • <u>Air Quality;</u> • <u>Migratory Bird;</u> • <u>Mammals:</u> <ul style="list-style-type: none"> ○ <u>Barren-ground caribou population, including Dolphin and Union populations – listed on Schedule 1 of the Species at Risk Act as Special</u>



	<p><u>Concern, under consideration for uplisting to Endangered; and</u></p> <ul style="list-style-type: none"> ○ <u>Polar bears, listed on Schedule 1 as Special Concern; and</u> • <u>All subheadings from Section 8.1 and 8.2 of the Draft IS Guidelines.</u>
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Comment	GC-03
Subject/Topic	Transboundary impacts
References	<ul style="list-style-type: none"> • <i>Draft IS Guidelines</i> (throughout)
Summary	The GC wishes to express certain, specific information it expects to be included in the IS, to support the assessment of transboundary impacts.
Importance of Issue to Impact Assessment Process	Clarity in the IS Guidelines regarding information required for appropriate assessment of potential transboundary impacts supports an efficient and comprehensive process.
Detailed Comment	<p>While touched on to varying degrees throughout the <i>Draft IS Guidelines</i>, the GC notes the following, specific information it expects will be included in the IS (to the relevant level of detail) to support the assessment of transboundary impacts:</p> <ul style="list-style-type: none"> • Identification of migratory marine wildlife species potentially affected by port construction and operations as well as Project-related shipping (presence/habitat overlap); • Project-related shipping details (shipping routes, number and type of ships); • Project-related flight details (flight routes, number and type of aircraft); • Road usage estimates (number and type of vehicles); • Project-related emissions details; • Dredging details (locations, volumes); • Mitigation and monitoring procedures regarding potential fuel spills from landside port infrastructure; • Mitigation and monitoring procedures regarding marine wildlife; and • Mitigation and monitoring procedures regarding underwater noise, collisions/vessels strikes, introduction of aquatic invasive species, and spills of deleterious materials.
Recommendation/Request	The GC recommends that the NIRB further incorporate the information requirements specified above into the IS Guidelines, where and as appropriate.

Comment	GC-04
Subject/Topic	Topics for monitoring and mitigation plans



References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines Section 11.3 Monitoring and Mitigation Plans (pg. 94)
Summary	Section 11.3 of the <i>Draft</i> IS Guidelines does not provide a list of topics for monitoring and mitigation plans.
Importance of Issue to Impact Assessment Process	Providing a list of topics for monitoring and mitigation plans would guide the development of the monitoring program, which is necessary to verify the accuracy of impact predictions and effectiveness of mitigation measures.
Detailed Comment	<p>Section 11.3 of the <i>Draft</i> IS Guidelines describes that the Proponent shall present individual monitoring and mitigation plans specific to various aspects of the Project and the environment.</p> <p>The GC understands that monitoring and mitigation plans will be refined throughout the review process, depending on the Proponent's development plans, but is of the view that providing a list of topics for monitoring and mitigation plans in Section 11.3 will help guide the development of the monitoring program, which is necessary to verify the accuracy of impact predictions and effectiveness of mitigation measures.</p>
Recommendation/Request	<p>The GC recommends that the NIRB update Section 11.3 of the <i>Draft</i> IS Guidelines to reflect the following revisions:</p> <p>"In accordance with the Environmental Management Plan, the Proponent shall present individual monitoring and mitigation plans specific to various aspects of the proposed project and the environment and to be incorporated into all applicable phases of the proposed project. <u><i>This may include the following:</i></u></p> <ul style="list-style-type: none"> • <u><i>Thermal Monitoring;</i></u> • <u><i>Risk Management and Emergency Response;</i></u> • <u><i>Spill Contingency;</i></u> • <u><i>Borrow Pits and Quarry Management;</i></u> • <u><i>Blasting Plan (including near-water or in-water blasting);</i></u> • <u><i>Water Management;</i></u> • <u><i>Hazardous Material Management;</i></u> • <u><i>Road Management;</i></u> • <u><i>Port Management;</i></u> • <u><i>Aquatic Effects Management;</i></u> • <u><i>Aquatic Effects Monitoring Plan;</i></u> • <u><i>Wildlife Mitigation and Monitoring;</i></u> • <u><i>Air Quality Monitoring and Mitigation Plan;</i></u> • <u><i>Sediment and Erosion Control Plan;</i></u> • <u><i>Noise;</i></u>



	<ul style="list-style-type: none"> • <u>Soil;</u> • <u>Marine and Terrestrial Country Foods;</u> • <u>Marine Mammal Monitoring & Response;</u> • <u>Underwater Noise Monitoring; and</u> • <u>Fish and Fish Habitat Protection.</u> <p><u>In particular, Borrow Pits and Quarry Management may include descriptions of:</u></p> <ul style="list-style-type: none"> • <u>Methods used in quarry site selection, to minimize the extraction of PAG material and potential for ARD/ML;</u> • <u>Sampling methodology and analyses of PAG material; and</u> • <u>Results of PAG material testing and proposed mitigation measures to minimize impacts on the environment.</u>
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Department Comments

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Comment	CIRNAC-01
Subject/Topic	Jericho Station
References	<ul style="list-style-type: none"> • <i>Draft</i> Scope List (pg. 3) • Proposal Section 2.1.3 Jericho Station (pg. 2.12)
Summary	The Scope of the Project does not clearly define works and activities that are planned at Jericho Station and those at the existing Jericho Mine site.
Importance of Issue to Impact Assessment Process	Defining works or activities that are planned at the Jericho Mine site and any new areas that may be established at, or near, the Jericho Mine site would provide greater clarity to the potential impacts of the Project on receiving environments during construction, operations, and closure of any relevant infrastructure.
Detailed Comment	<p>In Section 2.1.3 of the Proposal, the Proponent states that Jericho Station will be located at, or near, the existing Jericho Mine site, and where possible, previously disturbed areas of the Jericho Mine site will be used to locate facilities, while respecting any limitations associated with geotechnical and access conditions, and current ownership of the site.</p> <p>CIRNAC understands that the exact location of Jericho Station will be determined as design progresses but is of the view that the Scope of the Project should clearly differentiate the terms “Jericho Mine site” and “Jericho Station”, because the information provided by the Proponent suggests these terms may represent</p>



	<p>different areas. For instance, Jericho Station may be established in a new land area outside of the previously disturbed areas of the Jericho Mine site due to geotechnical and access considerations.</p> <p>In particular, the “Staging at the Jericho Mine site” category in the Scope of the Project may be more accurately described as “Staging at Jericho Station”. For example, in Section 2.1.3 of the Proposal, the Proponent describes that Jericho Station may be used as a transshipment facility and temporary construction camp and laydown area during construction, but this information is listed under the “Staging at the Jericho Mine site” category in the Scope of the Project.</p> <p>Defining works or activities that are planned at Jericho Station and those at the existing Jericho Mine site would provide greater clarity to the potential impacts of the Project on receiving environments during construction, operations, and closure of any relevant infrastructure.</p>
Recommendation/Request	CIRNAC recommends that the NIRB update the Scope of the Project to clarify works and activities that are planned at Jericho Station and those at the existing Jericho Mine site.

Comment	CIRNAC-02
Subject/Topic	Closure and reclamation
References	<ul style="list-style-type: none"> • <i>Draft</i> Scope List (pg. 1) • Proposal Section 2.2 Construction (pg. 2.13)
Summary	The Scope of the Project does not describe the closure and reclamation of temporary work sites and facilities, including camps and quarries.
Importance of Issue to Impact Assessment Process	Defining the closure and reclamation of work sites and quarries would clarify the nature of Project activities and potential impacts that may result from those activities during construction and operations.
Detailed Comment	<p>In Section 2.2 of the Proposal, the Proponent describes that the reclamation of temporary work sites and facilities, including camps and quarries, is planned during construction.</p> <p>CIRNAC understands that the Scope of the Project describes that there are no plans for closure and reclamation other than areas used solely for pre-construction/construction activities that are not required for ongoing operations and maintenance. However, defining components of the Project that are subject to closure and reclamation would clarify the nature of project activities and</p>



	potential impacts that may result from those activities during construction and operations.
Recommendation/Request	CIRNAC recommends that the NIRB update the Scope of the Project to reflect relevant components of the Project that would be subject to closure and reclamation, including camps and quarries.

Comment	CIRNAC-03
Subject/Topic	Use of Tibbitt to Contwoyto Winter Road
References	<ul style="list-style-type: none"> • <i>Draft</i> Scope List (pg. 3) • Proposal Section 2.2.2 Materials and Equipment Staging (pg. 2.14)
Summary	The Scope of the Project includes transportation of materials from the Nunavut/Northwest Territories border via ice road but does not specify use of the ice road beyond the territorial border.
Importance of Issue to Impact Assessment Process	Fulsomely defining planned activities would provide greater clarity to the potential impacts of the Project on receiving environments during construction and operations.
Detailed Comment	<p>In Section 2.2.2 of the Proposal, the Proponent notes that construction materials will be transported to the Jericho Mine site on the Tibbitt to Contwoyto Winter Road during winter prior to construction and annually thereafter. Further, approximately 1000 trucks will be required to transport construction materials, fuel, and equipment during each winter road season.</p> <p>The Scope of the Project currently notes transportation of construction materials and resupply from the Nunavut/Northwest Territories border annually during the construction and operations phases, respectively. Truck-based transportation beyond the border is not specified but may result in relevant impacts that should be considered in the assessment.</p>
Recommendation/Request	CIRNAC recommends that the NIRB update the Scope of the Project to clarify the proposed use of the Tibbitt to Contwoyto Winter Road for the Project.

Comment	CIRNAC-04
Subject/Topic	Fuel storage and airstrip
References	<ul style="list-style-type: none"> • <i>Draft</i> Scope List (pg. 2) • Proposal Section 1.4.1 Works and Undertakings Forming Part of the Project (pg. 1.7) and Section 2.1.1 Grays Bay Port (pg. 2.4)
Summary	The Scope of the Project notes 10 million litres fuel storage but does not currently indicate that it is expandable to 160 million



	litres. Similarly, the Scope of the Project notes a 1,800 m airstrip but does not currently indicate that it is expandable to 2,500 m.
Importance of Issue to Impact Assessment Process	Fulsomely defining planned works would provide greater clarity regarding the potential impacts of the Project.
Detailed Comment	<p>In Section 1.4.1 of the Proposal, the Proponent indicates that the proposed 10 million litres fuels storage facilities are expandable to 160 million litres and that the proposed 1,800 m airstrip near Grays Bay Port is expandable to 2,500 m.</p> <p>In Section 2.1.1 of the Proposal, the Proponent includes additional fuel storage tanks to increase storage capacity to 160 million litres and airstrip expansion in a list of areas set aside for future development for, or by, third party users. The Proponent indicates that these areas (but not the infrastructure) are also part of the Project.</p> <p>The Scope of the Project includes "...additional areas reserved for future third party users but not included in this application".</p> <p>It is unclear how this is to be interpreted for the purpose of the assessment. (As well as how responsibility for fuel storage and the airstrip could be split between the Proponent and a third party.) To appropriately assess potential impacts, both potential fuel storage and airstrip footprints should be taken into consideration.</p>
Recommendation/Request	<p>CIRNAC recommends that the NIRB update the Scope of the Project to reflect the following revisions:</p> <p>10 million litres fuel storage (<u>expandable to 160 million litres</u>) including unloading and refueling facilities</p> <p>an 1,800 meter (6,000 foot) airstrip (<u>expandable to 2,500 meters or 8000 feet</u>) including a loading area, passenger hangar, communication building and aircraft refueling and parking areas</p>

Comment	CIRNAC-05
Subject/Topic	Waste management
References	<ul style="list-style-type: none"> • <i>Draft</i> Scope List (pg. 2 and 5) • Proposal Section 2.2.3.3 Waste Management (pg. 2.15) and Section 2.2.5.2 Land Infrastructure (pg. 2.19)
Summary	The Scope of the Project only provides a high-level description of wastes that are anticipated to result from the Project and does



	not consider waste management practices and infrastructure proposed by the Proponent.
Importance of Issue to Impact Assessment Process	Defining waste types and associated waste management practices and infrastructure would provide greater clarity to the potential impacts of wastes on receiving environments during construction and operations.
Detailed Comment	<p>In Section 2.2.3.3 of the Proposal, the Proponent describes that domestic waste, greywater, and sewage wastes from camps will be transported to permanent construction camps at the port site and Jericho Station for treatment, incineration, or backhaul until permanent solid waste and sewage facilities are commissioned during construction. The Proponent also describes proposed waste management infrastructure in Section 2.2.5.2, including:</p> <ul style="list-style-type: none"> • Potential use of a mechanical treatment plant or lagoon for wastewater; • A solid waste facility will be constructed to accept inert waste and temporary storage of hazardous waste; • Domestic waste will be incinerated or landfilled; and • Landfarms may be established to facilitate the treatment of hydrocarbon contaminated material. <p>CIRNAC understands that Section 2 (Project Components) of the Scope of the Project describes solid waste and materials storage, but notes that it does not clearly delineate waste types or waste management practices and infrastructure, such as those related to hazardous materials and wastes. Providing additional details on waste types and associated waste management infrastructure and practices would improve understanding of the potential impacts associated with the generation, storage, and disposal of wastes during the construction and operation phases of the Project.</p> <p>CIRNAC also notes that waste management is not explicitly stated in the list of contingency plans or risk management plans to avoid and mitigate adverse impacts caused by the proposed Project components and activities in Section 3 of the Scope of Assessment.</p>
Recommendation/Request	<p>CIRNAC recommends that the NIRB update:</p> <ol style="list-style-type: none"> 1. The Scope of the Project to reflect the types of waste that are anticipated from the Project and associated waste management infrastructure and practices during the construction and operations phases of the Project. 2. Item 3(d) of the Scope of the Assessment to the following: "Hazardous materials <u>and waste</u> management".



Comment	CIRNAC-06
Subject/Topic	Geochemistry and water quantity and quality
References	<ul style="list-style-type: none"> • <i>Draft</i> Scope List (pg. 3) • Proposal Section 8.7 Potential Changes to Groundwater (pg. 8.8), Section 8.8 Potential Changes to Surface Water Quantity (pg. 8.9) and Section 8.9 Potential Changes to Surface Water Quality (pg. 8.10)
Summary	Item 1(e) of the Scope of Assessment does not include the ARD/ML potential of materials. Items 1(f) and 1(g) do not include surface water quantity and groundwater quantity and quality, respectively.
Importance of Issue to Impact Assessment Process	Refining the Scope of the Assessment is important to account for the potential impacts of the Project on surface water and groundwater quality and quantity.
Detailed Comment	<p>Sections 8.7 and 8.8 of the Proposal describe that the Project has the potential to result in impacts to groundwater quality and quantity and surface water quantity, respectively. Section 8.9 further describes that the Project may have potential effects on water quality, including:</p> <ul style="list-style-type: none"> • The release of contaminants from rock with ARD/ML potential, which may be found at rock cuts, quarries, stockpiles, embankment, or armouring materials; and • The release of blast residue at quarries, among others. <p>CIRNAC notes that the Scope of the Assessment appears to be missing relevant information:</p> <ul style="list-style-type: none"> • Item 1(e) does not include the ARD/ML potential of rock cuts, quarries, stockpiles, embankment, armouring, or any other materials with acid-generating potential; • Item 1(f) does not include surface water quantity or a discussion on the potential effects of atmospheric particulate matter and gaseous deposition on the aquatic environment; and • Item 1(g) does not include groundwater quantity and quality. <p>CIRNAC is of the view that refining the Scope of the Assessment is warranted due to the potential impacts of the Project on water quality and quantity.</p>
Recommendation/Request	CIRNAC recommends that the NIRB update the Scope of the Assessment to reflect the following revisions:



	<p>Item 1(e): Geological features including discussion of geology and geochemistry <u>of potential rock cuts, quarries, stockpiles, embankment, armouring, and any other materials with the potential for ARD/ML</u></p> <p>Item 1(f): Hydrological features and surface water quality <u>and quantity, including a discussion on the potential effects of atmospheric particulate matter and gaseous deposition on surface water quality</u></p> <p>Item 1(g): Hydrogeology and groundwater <u>quality and quantity</u></p>
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Comment	CIRNAC-07
Subject/Topic	Cumulative and induced effects
References	<ul style="list-style-type: none"> • Draft Scope List (pg. 3-5) • Proposal Section 1.5 Project Location (pg. 1.9) • Screening Decision Report NIRB File No.: 24XN038 (pg. 27-28)
Summary	The Scope of the Assessment does not include projects or proposals from the eastern Northwest Territories in relation to the assessment of cumulative effects, or potential induced effects associated with the Project.
Importance of Issue to Impact Assessment Process	Expanding the Scope of the Assessment to include projects or proposals from the eastern Northwest Territories and potential induced effects associated with the Project would support comprehensive effects assessment.
Detailed Comment	<p>CIRNAC understands that the list of projects provided in Item 1(w) of the Scope of Assessment is not intended to be exhaustive, but notes that including mining and transportation infrastructure projects in the eastern Northwest Territories would help guide the cumulative effects assessment by considering potential impacts from those projects that may interact cumulatively with those of the Project (e.g., Diavik and Ekati Mines, Lockhart All-Season Road).</p> <p>CIRNAC also notes that the Scope of the Assessment does not include information on potential induced effects associated with the Project. The Screening Decision Report describes that the Project may:</p> <ul style="list-style-type: none"> • Induce mineral development in areas that were previously deemed economically unviable due to the lack of infrastructure (e.g., High Lake, Izok, and Ulu deposits); and



	<ul style="list-style-type: none"> Revive interest in diamondiferous kimberlite deposits in the Jericho Mine and surrounding areas. <p>CIRNAC understands that potential future mining development cannot be predicted with certainty but is of the view that the Scope of the Assessment should account for projects along the proposed Grays Bay Road corridor that become more feasible if the Project proceeds.</p>
Recommendation/Request	<p>CIRNAC recommends that the NIRB update the Scope of the Assessment, Item 1(w), to reflect the following revisions:</p> <p>“Cumulative effects, giving specific consideration to the project in terms of existing, proposed, and reasonably foreseeable future mining and transportation infrastructure projects. Specific focus is required for ongoing proposals and projects <i>in Nunavut</i>, such as the Hope Bay Project (NIRB File No. 05MN047), Hope Bay Phase 2 (NIRB File No. 12MN001), Back River Project (NIRB File No. 12MN036), Hackett River Project (NIRB File No. 08MN006), and Izok Corridor Project (NIRB File No. 12MN043), <u>and those in the eastern Northwest Territories, such as the Diavik and Ekati Mines and the proposed Lockhart All-Season Road.</u>”</p> <p>CIRNAC recommends that the NIRB update the Scope of the Assessment, to reflect the following addition:</p> <p><u>“Item 1(z). Induced effects, giving specific consideration to works or undertakings that may become more feasible if the Project proceeds. Specific focus is required for proposals and projects in Nunavut, such as the Izok Corridor and Ulu Gold Projects.”</u></p>

Comment	CIRNAC-08
Subject/Topic	Scope of the Assessment
References	<ul style="list-style-type: none"> Draft Scope List (pg. 3-8) Screening Decision Report NIRB File No.: 24XN038 (pg. 27-31)
Summary	Particular issues identified by the NIRB in the Screening Decision Report could be further highlighted in the Scope of Assessment.
Importance of Issue to Impact Assessment Process	Including additional information regarding expectations for the assessment's scope and key considerations provides clarity to parties and supports process efficiency.
Detailed Comment	The Screening Decision Report described several issues identified by the NIRB that are particularly relevant to the assessment. These issues relate to: potential cumulative impacts



	<p>of increasing mineral development; clarity regarding other transportation infrastructure projects; impacts of increasing shipping; impacts on caribou herds; and transboundary issues.</p> <p>Additional detail could be incorporated into the Scope of Assessment, based on these identified issues. E.g., examples from the Screening Decision Report could be included under the bullet for 'Transboundary effects'. Further, the breadth of potential cumulative impacts to caribou, including the Dolphin and Union, Bathurst, and Beverly herds, could be highlighted under 'Cumulative effects'.</p>
Recommendation/Request	CIRNAC recommends that the NIRB consider updating the Scope of the Assessment to further highlight key issues noted in the Screening Decision Report.

Comment	CIRNAC-09
Subject/Topic	General comment
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines (throughout)
Summary	Portions of the <i>Draft</i> IS Guidelines have been copied from IS Guidelines issued for other projects, and not updated to reflect Project components and activities.
Importance of Issue to Impact Assessment Process	Ensuring the IS Guidelines are project-specific reduces confusion and supports an efficient assessment process.
Detailed Comment	<p>CIRNAC understands that the <i>Draft</i> IS Guidelines are derived from a template, and certain requirements are included as examples which may or may not apply to a particular project.</p> <p>For clarity, the following referenced items should be reviewed and removed as the IS Guidelines are developed: references to mining (life of the mine/mining lifecycle, mine site, ore processing, etc.), terminology specific to other projects (Futuresmart technology), works and activities unrelated to the Project (wind turbines, nuclear power, return shipping, etc.), and specific references to closure/post-closure/permanent or final closure for infrastructure identified as permanent (e.g., see Section 7.2.2.2 Temporal Boundaries).</p>
Recommendation/Request	<p>CIRNAC recommends that the NIRB review the <i>Draft</i> IS Guidelines to ensure information requirements are specific to the Project, including references to:</p> <ul style="list-style-type: none"> • Mine life cycles; • Technology that will not be included in the Project or have likely reasonable cumulative effects with the Project;



	<ul style="list-style-type: none"> • Works not related to the Project such as wind turbines and nuclear power; and • Final closure of infrastructure identified as permanent infrastructure.
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Comment	CIRNAC-10
Subject/Topic	General comment
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines (throughout)
Summary	Given the nature and location of the Project, certain references to Inuit within the <i>Draft</i> IS Guidelines may also be applicable to other Indigenous peoples.
Importance of Issue to Impact Assessment Process	Clear IS Guidelines support an efficient, inclusive assessment process.
Detailed Comment	Given its nature and location, the Project has the potential to impact both Inuit and other Indigenous peoples. The <i>Draft</i> IS Guidelines are generally inclusive in referring to Inuit and/or Indigenous groups, and Inuit Qaujimajatuqangit and/or Indigenous/Traditional Knowledge. However, there remain some instances where Inuit alone are referenced, which may also apply to other Indigenous peoples.
Recommendation/Request	CIRNAC recommends that the NIRB include a statement in the IS Guidelines indicating that, where appropriate, references to Inuit and Inuit Qaujimajatuqangit may also be intended to apply to other Indigenous peoples and their Indigenous or Traditional Knowledge.

Comment	CIRNAC-11
Subject/Topic	Impact assessment of permafrost degradation and hydrogeology
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines Section 8.1.4.2 Impact Assessment, Item vii (pg. 58-59) and Section 8.1.6.2 Impact Assessment, Item viii (pg. 61)
Summary	The proposed impact assessment analysis for permafrost degradation and hydrogeology in Section 8.1.4.2, Item vii, and Section 8.1.6.2, Item viii, respectively, focuses on mining infrastructure and lacks detail on relevant infrastructure and areas associated with the Project.
Importance of Issue to Impact Assessment Process	Defining relevant infrastructure and areas would improve the impact assessment analysis for the prediction and assessment of permafrost degradation and hydrogeology.
Detailed Comment	Section 8.1.4.2, Item vii, and Section 8.1.6.2, Item viii, of the <i>Draft</i> IS Guidelines outline impact assessment analysis requirements



	<p>for the prediction and assessment of permafrost degradation and hydrogeology.</p> <p>CIRNAC notes that the proposed impact assessment analysis for permafrost degradation and hydrogeology in Section 8.1.4.2, Item vii, and Section 8.1.6.2, Item viii, respectively, focuses on mining infrastructure and lacks detail on relevant infrastructure and areas associated with the Project (e.g., all-weather road, waste rock storage areas, fuel tank farms, quarries).</p> <p>CIRNAC is of the view that refining the list of proposed infrastructure and areas associated with the Project would improve the impact assessment analysis for the prediction and assessment of permafrost degradation and hydrogeology.</p>
Recommendation/Request	<p>CIRNAC recommends that the NIRB update the following:</p> <p>Section 8.1.4.2, Item vii:</p> <p>“Assessment and prediction of permafrost behaviour (degradation and its rate) beneath <u>relevant infrastructure and areas (e.g., all-weather road, waste rock storage areas, fuel tank farms, quarries)</u> the pits during mining and operation of the tailings management facilities including disposing of waste rock. Long-term predictions of the thermal regime around <u>relevant infrastructure</u> the tailings management facilities should be conducted with the consideration of climate change. Numerical modelling should be employed for both short term and long-term predictions of permafrost evolution including predictions of artesian inflow into <u>any relevant</u> the tailings management facilities if thawing of permafrost is envisioned.”</p> <p>Section 8.1.6.2, Item viii:</p> <p>“Potential changes to permafrost and ground ice conditions as a result of Project activities, including an analysis of the potential for groundwater inflow into <u>any relevant facilities</u> the open pit,”</p> <p>CIRNAC refers the NIRB to NRCan-12 and NRCan-17 for complementary recommendations to Section 8.1.4.2, Item vii and Section 8.1.6.2, Item viii, respectively.</p>
Comment	CIRNAC-12
Subject/Topic	Impacts to the marine environment and marine wildlife from port construction and operations including activities on land



References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines Section 8.1.13.2 Impact Assessment (pg. 72-73) and Section 8.1.14.2 Impact Assessment (pg. 73) • <i>Draft</i> Scope List (pg. 1) • Proposal Section 2.2.5.2 Land Infrastructure (pg. 2.19)
Summary	The proposed impact assessment analysis does not account for the potential impacts to the marine environment and marine wildlife from the construction and operation of the port, including land-based infrastructure.
Importance of Issue to Impact Assessment Process	Accounting for the construction and operation of the port and land-based port infrastructure would improve the impact assessment analysis for the marine environment and marine wildlife.
Detailed Comment	<p>Section 2.2.5.2 of the Proposal describes that civil works are planned at the port site for land-based infrastructure, consisting of site grading, earthworks, and building erection. Fill material will be obtained through blasting and drilling from a permanent quarry to be established near the site.</p> <p>Section 8.1.13.2 of the <i>Draft</i> IS Guidelines describes that the Proponent is required to present an impact analysis on the potential for Project shipping activities to impact the marine environment. CIRNAC notes that the potential impacts to the marine environment, resulting from construction activities at the port site, are not listed as a requirement in the impact analysis.</p> <p>Section 8.1.14.2 of the <i>Draft</i> IS Guidelines indicates that the Proponent is required to present an impact analysis that gives consideration to the potential for Project shipping activities to impact marine wildlife. Given the nature of the Project, port construction and operations are also relevant to mention.</p> <p>CIRNAC is of the view that presenting and evaluating potential impacts for construction and operations activities at the port site would improve the impact analysis, due to the potential impacts of these activities on the marine environment (e.g., sedimentation from earthworks, fuel spills, atmospheric deposition of gases and particulate matter from blasting and equipment) and marine wildlife.</p>
Recommendation/Request	CIRNAC recommends that the NIRB update the requirements of the impact analysis in Section 8.1.13.2 to account for the potential impacts of construction activities at the port site on the marine environment and Section 8.1.14.2 to account for the potential impacts of port construction and operations on marine wildlife.



Comment	CIRNAC-13
Subject/Topic	Regional Study Area
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines 7.2.2.1 Spatial Boundaries (pg. 32)
Summary	It is unclear whether “Regional Study Area”, as defined, is also intended to capture potential induced effects.
Importance of Issue to Impact Assessment Process	Clarity in the IS Guidelines regarding spatial boundaries for the assessment of induced effects supports an efficient and comprehensive process.
Detailed Comment	<p>The <i>Draft</i> IS Guidelines indicate that the Regional Study Area is the area within which there exists the potential for direct and indirect biophysical and socio-economic effects of the proposed project that may interact with the effects of other projects, resulting in the potential for cumulative effects.</p> <p>The Regional Study Area should also include the area within which there exists the potential for induced effects, as relevant.</p>
Recommendation/Request	CIRNAC recommends that the NIRB include reference to induced effects within the description of the Regional Study Area.

Comment	CIRNAC-14
Subject/Topic	Transboundary impacts
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines 7.4.4 Transboundary Impacts (pg. 49-50)
Summary	The description of transboundary impacts should be expanded to include impacts outside the designated area resulting from activities within and outside the designated area.
Importance of Issue to Impact Assessment Process	Clarity in the IS Guidelines regarding the scope of transboundary impacts supports an efficient and comprehensive process.
Detailed Comment	<p>Transboundary impacts are described in the <i>Draft</i> IS Guidelines as those impacts linked directly to the activities of a project or related works conducted inside the designated area, which occur across provincial, territorial, or international boundaries, or could result in impacts within the designated area from project-related works that may occur outside of the designated area.</p> <p>It is important to note that there may also be transboundary impacts occurring outside the designated area, resulting from activities occurring within and outside the designated area (e.g., transportation by truck or ship associated with the Project).</p>
Recommendation/Request	CIRNAC recommends that the description of transboundary impacts be expanded to also include impacts outside the



	designated area resulting from activities within and outside the designated area.
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Comment	CIRNAC-15
Subject/Topic	Transportation and infrastructure networks
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines 6.2 Project Purpose, Need, and Alternatives (pg. 24)
Summary	The rationale for the Project should include discussion of how the Project may affect transportation and infrastructure networks both within and beyond Nunavut.
Importance of Issue to Impact Assessment Process	The Proponent has also presented the Project as part of a larger Arctic Security Corridor.
Detailed Comment	<p>Section 6.2 of the <i>Draft</i> IS Guidelines indicate that the rationale for the Project must include an assessment of the longer-term strategic implications of the proposed project, and how it may affect or contribute to transportation and other infrastructure networks (existing and proposed) in Nunavut.</p> <p>Given the nature of the Project, it would be appropriate to also mention transportation and infrastructure networks outside Nunavut.</p>
Recommendation/Request	<p>CIRNAC recommends that the NIRB update Section 6.2 of the IS Guidelines to reflect the following revisions:</p> <p>“An assessment of the longer-term strategic implications of the proposed project, and how it may affect or contribute to transportation and other infrastructure networks (existing and proposed) in Nunavut <u>and beyond</u>.”</p>

Comment	CIRNAC-16
Subject/Topic	Caribou
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines 8.1.11 Terrestrial Wildlife and Wildlife Habitat (pg. 67)
Summary	The <i>Draft</i> IS Guidelines refer to caribou, but do not specify relevant herds.
Importance of Issue to Impact Assessment Process	Clarity in the IS Guidelines regarding which caribou herds are relevant for the assessment supports an efficient and comprehensive process.
Detailed Comment	Given the nature and location of the Project, multiple caribou herds/ranges could potentially be impacted, as was noted by parties during the Screening phase.



	The <i>Draft</i> IS Guidelines include various provisions relating to caribou, but do not specify relevant herds.
Recommendation/Request	CIRNAC recommends that the NIRB specify relevant caribou herds for the assessment, in the IS Guidelines.

Comment	CIRNAC-17
Subject/Topic	Appendix B
References	<ul style="list-style-type: none"> <i>Draft</i> IS Guidelines Table of Contents (pg. iv), Section 10.0 Inuit Qaujimajatuqangit, Indigenous Knowledge, and Community Knowledge (pg. 89) and Appendix B (pg. B-1-B-3)
Summary	Appendix B is mistitled "Sample Concordance Table for NIRB IS Guidelines Information Requirements (See Section 3.2)". The content of Appendix B could also be further adjusted for the Project.
Importance of Issue to Impact Assessment Process	Ensuring the IS Guidelines are clear and project-specific reduces confusion and supports an efficient and comprehensive assessment process.
Detailed Comment	<p>Appendix B is mistitled throughout the <i>Draft</i> IS Guidelines (as well as being referred to as Appendix A on pg. 89). Appendix B is not a sample concordance table, but rather a list of potential organizations to engage with in Nunavut as well as neighbouring jurisdictions.</p> <p>The content of Appendix B could also be further adjusted to better apply to the Project. For example, the Government of the Northwest Territories and the (Inuvialuit) Environmental Impact Screening Committee could be added.</p>
Recommendation/Request	CIRNAC recommends that the NIRB correct the title of Appendix B throughout the <i>Draft</i> IS Guidelines and further adjust the content to be Project-specific (e.g., include the Government of the Northwest Territories and the Environmental Impact Screening Committee).

Fisheries and Oceans Canada (DFO)

Comment	DFO-01
Subject/Topic	Wording under <i>Fisheries Act</i>
References	<ul style="list-style-type: none"> <i>Draft</i> Scope List – Scope of the Assessment – Items 1) i-iv and m-v
Summary	<i>Draft</i> Scope wording regarding "commercial, recreational, and Aboriginal fisheries" should be updated to include all fisheries.



Importance of Issue to Impact Assessment Process	The modernized (2019) <i>Fisheries Act</i> provides full protection for all fish and fish habitat, not only fisheries with commercial, recreational or Aboriginal value.
Detailed Comment	<p>Before 2012, the <i>Fisheries Act</i> provided broad protection for fish and fish habitat throughout Canada. In 2012, changes were made so that only fish and habitat related to a commercial, recreational or Aboriginal fishery were protected. The modernized (2019) <i>Fisheries Act</i> sees lost protections restored, resulting in full protection for all fish and fish habitat.</p> <p>The <i>Draft</i> Scope List refers to “commercial, recreational, and Aboriginal fisheries”; this wording has been updated in 2019 in the <i>Fisheries Act</i>. The updated definition of fishery, in respect to any fish, is:</p> <ul style="list-style-type: none"> • (a) any of its species, populations, assemblages and stocks, whether the fish is fished or not, • (b) any place where fishing may be carried on, • (c) any period during which fishing may be carried on, • (d) any method of fishing used, and • (e) any type of fishing gear or equipment or fishing vessel used
Recommendation/Request	DFO recommends Items 1) i-iv and m-v be updated to “All fisheries as defined in the <i>Fisheries Act</i> ”.

Comment	DFO-02
Subject/Topic	Representative fish
References	<ul style="list-style-type: none"> • <i>Draft</i> Scope List – Scope of the Assessment – Section 1) i-ii
Summary	Assessment of impacts should account for all fish; the word “representative” should be removed from the sentence.
Importance of Issue to Impact Assessment Process	An assessment of impacts should account for all fish as defined in the <i>Fisheries Act</i> .
Detailed Comment	<p>The <i>Draft</i> Scope List states that the assessment of impacts should be inclusive of freshwater aquatic environments, including “aquatic biota including representative fish as defined in the <i>Fisheries Act</i>, [...]”. It is unclear what the word “representative” stands for. DFO is of the view that the assessment of impacts should account for all fish as defined in the <i>Fisheries Act</i> and that the word “representative” should be removed.</p> <p>Fish are defined in the <i>Fisheries Act</i> as:</p> <ul style="list-style-type: none"> • (a) parts of fish,



	<ul style="list-style-type: none"> • (b) shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals, and • (c) the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals.
Recommendation/Request	DFO recommends Item 1) i-ii be updated to “Aquatic biota including fish as defined by the <i>Fisheries Act</i> , [...]”

Comment	DFO-03
Subject/Topic	<i>Fisheries Act</i> Authorization Requirements
References	<ul style="list-style-type: none"> • <i>Draft Scope List – Scope of the Assessment – Section 8) Table</i>
Summary	The Project may require an authorization pursuant to paragraphs 34.4(2)(b) and 35(2)(b) of the <i>Fisheries Act</i> in order to proceed.
Importance of Issue to Impact Assessment Process	The impact assessment process should include considerations for relevant provisions of the updated <i>Fisheries Act</i> and <i>Species at Risk Act</i> .
Detailed Comment	<p>The Section 8) Table states the Project may require a “Section 35 authorization under the <i>Fisheries Act</i>”. Wording should be updated to “Authorization pursuant to paragraphs 34.4(2)(b) and 35(2)(b) of the <i>Fisheries Act</i>”.</p> <p>If Species at Risk may be present, then the following should be added:</p> <p>“Permit pursuant to sections 32, 33 and subsection 58(1) of the <i>Species at Risk Act</i>”.</p> <p>DFO identified potential impact to the following marine mammal populations present in Grays Bay:</p> <ul style="list-style-type: none"> • Bowhead Whale (<i>Balaena mysticetus</i>) Bering-Chukchi-Beaufort and Eastern Canada-West Greenland populations – the former listed as Special Concern and the latter under consideration. • Beluga (<i>Delphinapterus leucas</i>) Eastern Beaufort Sea and Eastern High Arctic-Baffin Bay populations – the latter under consideration. • Narwhal (<i>Monodon monoceros</i>) • Ringed seal (<i>Pusa hispida</i>) – under consideration.
Recommendation/Request	DFO recommends wording in the table be updated to “Authorization pursuant to paragraphs 34.4(2)(b) and 35(2)(b) of the <i>Fisheries Act</i> ”.



	<p>As Species at Risk may be present, then the following should be added:</p> <p>“Permit pursuant to sections 32, 33 and subsection 58(1) of the <i>Species at Risk Act</i>”.</p>
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Comment	DFO-04
Subject/Topic	Winter road construction, maintenance, and decommissioning
References	<ul style="list-style-type: none"> • <i>Draft</i> Scope List – Project Components (Item 1a bullet 4 and Item 4)
Summary	DFO recommends wording be included on the construction, inspection, maintenance and decommissioning of temporary bridges, culverts, ice bridges, and snow fills, as well as on the rehabilitation of impacted streams.
Importance of Issue to Impact Assessment Process	The construction, operation, and decommissioning of temporary water crossings may impact fish and fish habitat by disturbing the beds and banks, releasing sediments or other deleterious substances, damaging riparian vegetation, and impeding fish passage.
Detailed Comment	Temporary winter roads and water crossings are expected during the construction of the all-season road for movement of equipment and supplies. A winter road will be built every year of the operations phase to connect the Jericho Station to the winter road at the Northwest Territories/Nunavut border (operations phase expected to be at least 75 years). DFO recommends wording be included in the <i>Draft</i> Scope List relating to the construction, maintenance and decommissioning of bridges and culverts, as well as the rehabilitation of impacted streams, for any temporary winter roads.
Recommendation/Request	DFO recommends Item 2, sub-item a, bullet 4 be modified as follows: “Temporary winter road and water crossings to assist with movement of equipment and supplies, including their construction, use, maintenance, and decommissioning”. DFO recommends a second bullet be added to Item 4 reading as follows: “Maintenance and decommissioning of water crossings associated with the winter road”.

Comment	DFO-05
Subject/Topic	Anticipated effects of the environment on the Project’s all-season road culvert integrity
References	<ul style="list-style-type: none"> ▪ <i>Draft</i> Scope List – Scope of the Assessment – Section 2 ▪ <i>Draft</i> IS Guidelines – Section 7.4.2



Summary	The Proponent should consider the effects of the environment on culvert structural integrity.
Importance of Issue to Impact Assessment Process	Decreased structural integrity of culverts can lead to issues with hydrology and fish passage.
Detailed Comment	Changes to terrain, soils, and permafrost are possible due to climate change and road construction. Fluctuating temperatures can lead to decreased structural integrity of culverts and lead to issues with hydrology and fish passage.
Recommendation/Request	The Proponent should consider the effects of the environment on culvert structural integrity when reporting on the anticipated effects of the environment on the Project's all-season road culvert integrity.

Comment	DFO-06
Subject/Topic	All season road crossing summary tables
References	<ul style="list-style-type: none"> ▪ <i>Draft</i> Scope List – Scope of the Assessment – Section 1, Item i ▪ <i>Draft</i> IS Guidelines – Section 8.1.9.1
Summary	DFO recommends aquatic information for all water crossings be summarized in table format.
Importance of Issue to Impact Assessment Process	The impact assessment process should include baseline data in table format summarizing information for each watercourse crossing to facilitate review.
Detailed Comment	Compiling aquatic information in tables will help parties understand the potential impacts at water crossings more efficiently.
Recommendation/Request	<p>To help with the review, DFO requests the Proponent compile the following information for each crossing:</p> <ul style="list-style-type: none"> • Watercourse ID; • Kilometer reference; • Coordinates; • Watercourse type; • Channel width; • Wetted width; • Gradient; • Crossing type (e.g., bridge, culvert); • Estimated number, size, and type of culverts; • Year/month the fish assessment was conducted; • Fish species (confirmed and potential); • SARA species;



	<ul style="list-style-type: none"> Reason why crossings were considered unlikely to be non-fish bearing, if relevant (i.e., downstream barrier to fish passage); Connecting waterbodies; and Photographs (and reference to photograph # or page #, if applicable). <p>(See also TC-04.)</p>
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Comment	DFO-07
Subject/Topic	Water use and withdrawal
References	<ul style="list-style-type: none"> <i>Draft</i> Scope List – Project Components – Section 2
Summary	DFO recommends adding clarification to the Project Description on the use of water and the locations of water withdrawal.
Importance of Issue to Impact Assessment Process	Excessive amounts of water withdrawn from ice-covered waterbodies can impact fish through oxygen depletion, loss of over-wintering habitat and/or reductions in littoral habitat. In addition, water extraction and flow alteration can impact physical attributes of rivers and cause ecological changes which can impact Canadian fisheries resources.
Detailed Comment	<p>Section 2, Item 1.a. of the <i>Draft</i> Scope List states the Project “may use desalinated marine water as a water source” during the construction phase. It is unclear if this is for domestic use (camp facilities) or operational purposes (e.g., drilling, dust suppression).</p> <p>It is unclear whether water withdrawal will be required for the construction or operations of the other Project components, including the all-season road (Section 2, Item 2), Jericho Mine site (Section 2, Item 3), and winter road (Section 2, Item 4).</p> <p>DFO is of the view that clarification regarding water withdrawal throughout the Project should be added. The Proponent should consider the effects of water withdrawal when reporting on their anticipated ecosystemic impacts of the Project.</p>
Recommendation/Request	DFO recommends clarity be provided in the Project Description regarding water use (i.e., water withdrawal is proposed only for domestic use and/or for operational needs), and water withdrawal locations (marine and freshwater) for each Project component. The Proponent should consider the effects of water withdrawal when reporting on their anticipated ecosystemic impacts of the Project as per Section 1, Items f and i.



Comment	DFO-08
Subject/Topic	Impacts from shipping and vehicle traffic
References	<ul style="list-style-type: none"> • <i>Draft</i> Scope List – Project Components
Summary	It is unclear whether shipping activities and road use associated with utilization of Project infrastructure will be considered within the scope of the IS.
Importance of Issue to Impact Assessment Process	The impact assessment process should include considerations for the effects of increased utilization of vessels in the marine environment and vehicles in the freshwater/terrestrial environment.
Detailed Comment	DFO is of the view that the assessment of the impacts of shipping and vehicle traffic on fish, including marine mammals, and fish habitat should be conducted for both construction and operations phases.
Recommendation/Request	DFO recommends clarification be provided in the Scope on whether impacts from utilization of Project infrastructure during the operations phase of the Project (road and port) are to be considered.

Comment	DFO-09
Subject/Topic	Impacts from shipping
References	<ul style="list-style-type: none"> ▪ <i>Draft</i> Scope List – Scope of the Assessment – Section 1, Item m ▪ <i>Draft</i> IS Guidelines – Section 8.1.13
Summary	Assessment of the impacts of shipping on fish, including marine mammals, and fish habitat during construction and operations phases.
Importance of Issue to Impact Assessment Process	The impact assessment process should include considerations for the effects of increased operation of vessels in the marine environment.
Detailed Comment	As per the Scope of the Project – Project Components, marine shipping will be required during the construction and operations phases to supply the Project with materials. Additionally, shipping is expected to continue after completion of the Project.
Recommendation/Request	<p>The Proponent should consider the effects of increased operation of vessels in the marine environment when conducting baseline sampling and reporting on their anticipated ecosystemic impacts of the Project as per Section 1, Item m.</p> <p>DFO recommends the Proponent provide information on:</p> <ul style="list-style-type: none"> • anticipated number and type of vessels; • shipping routes; and



	<ul style="list-style-type: none"> mitigation and monitoring measures related to underwater noise and the risks of collisions/vessel strikes.
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Comment	DFO-10
Subject/Topic	Underwater Noise
References	<ul style="list-style-type: none"> <i>Draft</i> Scope List – Scope of the Assessment – Section 1, Items m and n <i>Draft</i> IS Guidelines – Sections 8.1.13 and 8.1.14.2
Summary	Assessment of the underwater soundscape and marine species sensitive to increased underwater noise.
Importance of Issue to Impact Assessment Process	The impact assessment process should include considerations for the effects of increased underwater noise to the marine environment.
Detailed Comment	Underwater noise increase within the marine environment is an emerging issue, particularly in the Arctic where the underwater soundscape is pristine and marine species are not adapted to the increased noise caused by shipping and other industrial activities.
Recommendation/Request	DFO recommends adding a sub-item to Items m and n. reading as “vi) Underwater marine soundscape” and “i) Impacts from shipping, including underwater noise” respectively.

Comment	DFO-11
Subject/Topic	Aquatic Invasive Species (AIS)
References	<ul style="list-style-type: none"> <i>Draft</i> Scope List – Scope of the Assessment – Section 1
Summary	Assessment of the presence and abundance of aquatic invasive species at the Project site.
Importance of Issue to Impact Assessment Process	The impact assessment process should include considerations for the potential increased abundance of AIS due to Project activities and their effects upon the marine and freshwater environment.
Detailed Comment	<p>Section 1, Item m. states the components relevant to the marine environment which will be included in the NIRB's assessment, including marine ecology, water quality, sediment quality, biota, habitat, and fish.</p> <p>Section 1, Item i. states the components relevant to the freshwater environment which will be included in the NIRB's assessment, including aquatic ecology, biota, habitat, and fish.</p> <p>AIS is an issue of increasing ecological importance within Arctic marine and freshwater ecosystems as industry increases and raises the potential for introduction and spread of AIS.</p>



Recommendation/Request	DFO recommends adding a sub-item to Item m. reading as “vii) Aquatic Invasive Species”.
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Environment and Climate Change Canada (ECCC)

Comment	ECCC-01
Subject/Topic	Baseline hydrogeology and groundwater quality requirements
References	<ul style="list-style-type: none"> • <i>Draft IS Guidelines</i> <ul style="list-style-type: none"> - Section 8.1.6.1: Baseline Information - Section 8.1.7.1: Baseline Information • Proposal <ul style="list-style-type: none"> - Section 5.7: Groundwater
Summary	The scope of the baseline hydrogeology and groundwater quality requirements could be reduced to focus on elements that are likely to influence or be impacted by the Project.
Importance of Issue to Impact Assessment Process	It is important to focus baseline data requirements on elements that are most critical to the impact assessment decision.
Detailed Comment	<p>The baseline requirements for hydrogeology and groundwater quality would be very difficult to collect over the Regional Study Area. The level of detail requested is unlikely to be necessary to design and operate the road while protecting groundwater resources. For example, it is unlikely that sufficient data could be collected to develop a meaningful numerical hydrogeological model to fulfil the requirement for “<i>A conceptual and numerical hydrogeological model that discusses the hydrostratigraphy and groundwater flow systems</i>”, as stated in Section 8.1.6.1 of the <i>Draft IS Guidelines</i>. However, the conceptual model will be important for design and can incorporate Inuit Knowledge such as “<i>areas where water comes from the ground.</i>” (Section 5.7, Nunami Stantec Ltd. 2024). If necessary, numerical models could be restricted to areas with quarries or infrastructure that could potentially interact with groundwater. Similarly, the requirements for isotopic composition of groundwater, hydraulic conductivity data for hydrogeologic units or a detailed groundwater budget would be very difficult to obtain and are unlikely to influence design or be impacted by the Project.</p>
Recommendation/Request	ECCC recommends the NIRB consider reducing the scope of baseline hydrogeology and groundwater quality requirements to focus characterization on elements that are likely to influence or be impacted by the Project, including restricting numerical models to areas with quarries or infrastructure that could potentially interact with groundwater.



Comment	ECCC-02
Subject/Topic	References to mining project
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines
Summary	References to mining in the <i>Draft</i> IS Guidelines may not be applicable to the Project and should be modified or removed.
Importance of Issue to Impact Assessment Process	It is important for the <i>Draft</i> IS Guidelines to accurately describe the Project.
Detailed Comment	<p>ECCC noted the following references to mining in the <i>Draft</i> IS Guidelines (Section (page #)):</p> <p>8.1.6.1 vii. (60). Characterization of faults and fractures within the mine area, including information about occurrence, hydraulic conductivity testing and interpretation</p> <p>8.1.6.1 x. (61). Description of existing groundwater regimes, distribution characteristics and flow paths in the Project area, including any instances of frozen groundwater within/around the identified deposits</p> <p>8.1.7.2 vi. (63). Potential impacts on groundwater quality and surface water quality from use of water project-generated dust resulting from waste rock stockpiles, ore stockpiles, open pit and underground mine dewatering, construction fills, embankment of roads, and open quarry sites</p> <p>8.1.7.2 ix. (63). Potential for increases in suspended sediments in waterbodies as a result of construction and maintenance of the mine facilities, all-weather road and associated water crossings</p> <p>8.1.7.2 xvi. (63). Potential impact of ongoing exploration activities on surface water quality from drilling water withdrawals and returns</p> <p>8.1.8.2 v. (64). Potential impacts on sediment quality resulting from waste rock stockpiles, ore stockpiles, open pit dewatering, construction fills, embankment of roads, and open quarry sites</p> <p>8.1.14.2 viii. (74). Assessment of potential residual and cumulative effects on marine wildlife VECs resulting from escalated marine traffic in the Regional Study Area over the</p>



	mining lifecycle (and including the potentially extended mine operation period)
Recommendation/Request	ECCC recommends the NIRB consider removing the references to mining infrastructure in the <i>Draft</i> IS Guidelines or modifying them to be applicable to the Project.

Comment	ECCC-03
Subject/Topic	Erroneous geographical references
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines: <ul style="list-style-type: none"> - Section 6.1: Project Design - Section 8.1.13: Marine Environment
Summary	Geographical references should be revised to refer to the correct Project area.
Importance of Issue to Impact Assessment Process	It is important for the geographical references in the <i>Draft</i> IS Guidelines to accurately reflect the Project area.
Detailed Comment	<p>Two geographical references in the <i>Draft</i> IS Guidelines seem to be for the wrong region.</p> <ul style="list-style-type: none"> - The third bullet in Section 6.1 (Project Design) requests a discussion of cumulative impacts in the Qikiqtaaluk region; however, the Project is located in the Kitikmeot region. - The introductory paragraph in Section 8.1.13 (Marine Environment) refers to “<i>shipping corridors into Cumberland Sound or the Iqaluit Deep Sea Port</i>”. Given the Project’s proposed location, potential impacts to areas like Coronation Gulf seem more pertinent.
Recommendation/Request	ECCC recommends the NIRB consider revising geographical references to the proposed Project location.

Comment	ECCC-04
Subject/Topic	Acid rock drainage / metal leaching (ARD/ML)
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines - Section 8.1.4.1: Baseline Information • <i>Draft</i> Scope List - Scope of the Project and Section 2: Project Components
Summary	The <i>Draft</i> IS Guidelines could include a requirement to test the ARD/ML potential of rock used for Project construction and maintenance. The Proponent should also include mitigation measures, monitoring, and adaptive management plans for ARD/ML in constructed areas.
Importance of Issue to Impact Assessment Process	Testing construction materials for ARD/ML potential is an important consideration for the impact assessment process, given the potential environmental impacts of ARD/ML.



Detailed Comment	<p>The listed Project Components include:</p> <ul style="list-style-type: none"> - “A 230-kilometre controlled all-season access road between Grays Bay (Kogloktokkyok) and the Jericho Mine Site (Station)” - “An 1,800 metre (6,000 foot) airstrip including a loading area, passenger hangar, communication building and aircraft refueling and parking areas”, - “Estimated 40 quarries and borrow areas and roads” (during the construction phase) <p>The <i>Draft</i> IS Guidelines do not include a requirement for the Proponent to test all rock that would be used for construction or maintenance for ARD/ML potential. The proper characterization / segregation of the quarry or borrow area materials will determine which rocks are appropriate for construction. Testing for ARD/ML potential will ensure that only non-potential acid generating (non-PAG) and non-ML rocks are used for construction and maintenance.</p>
Recommendation/Request	<p>ECCC recommends the NIRB consider including a requirement in the <i>Draft</i> IS Guidelines to test all quarry rocks to be used for construction of the road and airstrip for ARD/ML potential and use only non-PAG rock for construction.</p> <p>The Proponent should be required to propose appropriate mitigation measures to address any incidences of ARD/ML. The Proponent should also be required to propose a monitoring and adaptive management plan to address any ARD/ML issues, as well as outline how they will prevent ARD/ML from entering waterbodies.</p>

Comment	ECCC-05
Subject/Topic	Species at Risk
References	<ul style="list-style-type: none"> • <i>Draft</i> Scope List: <ul style="list-style-type: none"> - Anticipated ecosystemic and socio-economic impacts of the Project - (o) Terrestrial and marine Species at Risk, including <ul style="list-style-type: none"> ○ Species under consideration for listing on the <i>Species at Risk Act</i> (SARA) - (ii) Species designated as “at risk” by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC)
Summary	References to Species at Risk in Items 1(o)(i) and (ii) should include Species at Risk on Schedule 1 of SARA.



Importance of Issue to Impact Assessment Process	It is important for the Scope of the Assessment to consider the Species at Risk listed on Schedule 1 of SARA, and the species under consideration for listing under SARA.
Detailed Comment	Although it may be implied in Item 1(o)(i) that Species at Risk should include those listed under Schedule 1 of SARA, it is not explicitly stated. Species under consideration for listing under SARA are similar to the species designated as "at risk" by COSEWIC, because species under consideration for listing are provided by COSEWIC. Species under consideration for listing can be found on the Species at Risk Public Registry.
Recommendation/Request	ECCC recommends the NIRB consider clarifying the wording in Items 1(o)(i) and (ii) as follows: i. Species listed under Schedule 1 of the <i>Species at Risk Act</i> (SARA) ii. Species under consideration for listing under SARA and species designated as "at risk" by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC)

Comment	ECCC-06
Subject/Topic	Birds and bird habitat
References	<ul style="list-style-type: none"> <i>Draft</i> IS Guidelines - Section 8.1.12: Birds and Bird Habitat
Summary	Section 8.1.12 of the <i>Draft</i> IS Guidelines should include shorebirds and sea ducks as unique subgroups of migratory birds.
Importance of Issue to Impact Assessment Process	It is important that the list of migratory birds under consideration for the impact assessment include subgroups of birds likely to occur in the Project area.
Detailed Comment	<p>Section 8.1.12 of the <i>Draft</i> IS Guidelines states: "<i>For the purpose of the current Guidelines, discussion relating to birds shall include raptors, migratory birds, marine birds and the associated habitat of each.</i>"</p> <p>Given the Project locations include marine and coastal habitats, shorebirds and sea ducks should be considered as subgroups of migratory birds that may be impacted by Project activities. This is to ensure shorebirds and sea ducks are not overlooked in the impact assessment process.</p>
Recommendation/Request	ECCC recommends the NIRB consider including shorebirds and sea ducks as unique subgroups of migratory birds under Section 8.1.12 of the <i>Draft</i> IS Guidelines.

Comment	ECCC-07
Subject/Topic	Refuelling facilities
References	<ul style="list-style-type: none"> <i>Draft</i> Scope List:



	<ul style="list-style-type: none"> - Scope of the Project - Section 2: Project Components - Subsection 1: Port at Grays Bay
Summary	The Scope of the Project should indicate whether there will be separate refuelling facilities for aircraft, marine vessels and terrestrial vehicles.
Importance of Issue to Impact Assessment Process	Given the potential for fugitive air emissions from refueling facilities, it is important that the Project Components specify whether there will be separate refueling facilities for the different types of vehicles associated with the Project.
Detailed Comment	<p>The Project Components listed for the Port at Grays Bay include a facility for aircraft refuelling and a reference to a 10-million litre fuel storage facility, including unloading and refueling facilities. It is not clear if there will be separate refuelling facilities for aircraft, marine vessels and terrestrial vehicles.</p> <p>Refueling facilities typically produce fugitive air emissions, and there is potential for spatial overlap in emissions if refueling facilities are in close proximity to each other. Separating the facilities reduces the spatial peak concentrations of air contaminants and the corresponding health impacts.</p>
Recommendation/Request	ECCC recommends the NIRB consider clarifying whether there will be separate refuelling facilities for aircraft, marine vessels and terrestrial vehicles.

Comment	ECCC-08
Subject/Topic	Airstrip details including length, fuel storage, and de-icing facilities
References	<ul style="list-style-type: none"> • <i>Draft</i> Scope List: <ul style="list-style-type: none"> - Scope of the Project - Section 2: Project Components - Part (b): Operations Phase
Summary	The Scope of the Project should include any fuel storage areas associated with the airstrip described in the Project Components section.
Importance of Issue to Impact Assessment Process	Given the potential for fuel leaks and spills from fuel storage areas, it is important that the Project Components identify all fuel storage areas.
Detailed Comment	<p>Under the Operations Phase, the Project Components include an 1,800 m airstrip with a loading area, passenger hangar, communication building, and aircraft refueling and parking areas.</p> <p>Based on the reference to an aircraft refueling area, it is assumed that the airstrip would contain facilities for fuel storage. Given the</p>



	potential for fuel leaks and spills to result in impacts to the environment, it is important to specify any associated fuel storage facilities in the Scope of the Project.
Recommendation/Request	ECCC recommends the NIRB consider including any fuel storage facilities associated with the airstrip in the Scope of the Project.

Comment	ECCC-09
Subject/Topic	Consideration of extreme weather events
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines - Section 7.4.2: Impacts of the Environment on the Project.
Summary	The list of severe weather events to consider for potential impacts of the environment on the Project should include extreme temperatures and high winds.
Importance of Issue to Impact Assessment Process	It is important to consider the different types of extreme weather events that could occur in the Project area, given their potential to impact the Project.
Detailed Comment	Section 7.4.2 includes a list of factors to consider in the discussion of potential impacts of the environment on the Project. One of the factors listed is: " <i>Severe weather events (extreme precipitation events, flooding, storm surges etc.)</i> " The specified weather events should also include extreme temperatures and high winds, as they both have the potential to result in accidents and malfunctions, leading to impacts to the environment, health and safety.
Recommendation/Request	ECCC recommends the NIRB consider including extreme temperatures and high winds in the list of severe weather events to be considered when evaluating potential impacts of the environment on the Project.

Comment	ECCC-10
Subject/Topic	Plans related to accidents and malfunctions
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines: <ul style="list-style-type: none"> - Section 8.4: Accident and Malfunctions Assessment - Section 11: Environmental Management System
Summary	Section 8.4 of the <i>Draft</i> IS Guidelines provides a list of elements related to the assessment of accidents and malfunctions that must be included in the IS. A description of plans to manage and mitigate accidents and malfunctions (e.g., Spill Contingency Plan, Emergency Response Plan) should also be included in this section.
Importance of Issue to Impact Assessment Process	It is important that the assessment of accidents and malfunctions include consideration of emergency response plans, as these plans are critical to support emergency preparedness.



Detailed Comment	<p>Section 8.4 of the <i>Draft</i> IS Guidelines lists multiple elements related to accidents and malfunctions that the Proponent must include in the IS, including:</p> <ul style="list-style-type: none"> • <i>“A description of how each potential accident and malfunction would be managed and mitigated, including but not limited to a description of:</i> <ul style="list-style-type: none"> ○ <i>Any design safeguards;</i> ○ <i>Contingency and emergency response measures;</i> ○ <i>Clean-up or restoration work in the surrounding environment that would be required during, or immediately following the incident; and</i> ○ <i>How these would differ by season/environmental conditions.</i> • <i>A description of any existing emergency preparedness and response systems and existing arrangements and/or coordination with qualified response organizations (including communities and government capacity).”</i> <p>One element not included in this section (representing a possible gap) is the requirement for the Proponent to provide a description of the plans they will develop and use to manage and mitigate accidents and malfunctions (e.g., spill contingency plan, emergency response plan, etc.).</p> <p>It is noted that Section 11 (Environmental Management System) outlines the need for various plans, including an Environmental Management Plan, Environmental Protection Plan, and associated monitoring and mitigation plans; however, it is not clear whether the scope of the required plans described in this section would address accidents and malfunctions.</p> <p>Such plans are critical to support preparedness efforts and help ensure that the correct information is available to responders during response efforts.</p>
Recommendation/Request	<p>ECCC recommends the NIRB consider the following edit (<u>underlined</u>) to account for any plans that will be developed and used in the management and mitigation of accidents and malfunctions:</p> <ul style="list-style-type: none"> • “A description of how each potential accident and malfunction would be managed and mitigated, including but not limited to a description of: <ul style="list-style-type: none"> ○ Any design safeguards;



	<ul style="list-style-type: none"> Contingency and emergency response <u>measures and plans (e.g., spill response plan, emergency response plan, etc.)</u>; Clean-up or restoration work in the surrounding environment that would be required during, or immediately following the incident; and How these would differ by season/environmental conditions.”
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Health Canada (HC)

Comment	HC-01
Subject/Topic	Assessment of potential impacts to human health
References	<ul style="list-style-type: none"> <i>Draft</i> IS Guidelines, Section 8.3
Summary	<p>Language in the <i>Draft</i> IS Guidelines suggests that it is at the discretion of the Proponent as to whether a HHRA is needed. Providing clear guidance within the IS Guidelines that a HHRA is <u>required</u> for an assessment of Project-related health impacts would facilitate the technical review of Project documents and allow a full assessment of possible impacts.</p> <p>HC has published updated guidance documents that can be used to guide the development of a HHRA to identify potential risks to human health from major resource and infrastructure projects in Canada.</p>
Importance of Issue to Impact Assessment Process	<p>The absence of a HHRA limits HC’s ability to assess potential Project-related impacts on human health which could result in underestimating human health risks and/or introducing additional uncertainty into the technical review of the Project.</p> <p>Referencing HC’s updated guidance would ensure that the Environmental Impact Statement reflects current best practices.</p>
Detailed Comment	<p>A well-documented HHRA can provide increased scientific support for the conclusions of an assessment and can be especially useful for determining the level of potential health effects.</p> <p>Section 8.3 notes that “The Proponent shall consider the following when determining the need for and level of detail of a Human Health and Environmental Risk Assessment for a proposed project, including but not limited to Health Canada’s Guidance Documents for Evaluating Human Health Impacts in Environmental Assessment”.</p>



	<p>Although conducting a HHRA may not always be required for all assessments and is dependent on the potential health effects of a particular proposed project, the results of a well-documented HHRA can provide increased scientific support for the conclusions of an assessment. The findings of a HHRA can be especially useful for determining the level of potential health effects, for identifying appropriate mitigation measures and monitoring plans, and for establishing remediation and/or risk management needs.</p> <p>The proposed Project may pose potential risks to human health over the lifespan of the Project (i.e., pre-construction, construction, operation, decommissioning/closure, and/or post-closure) via adverse changes in:</p> <ul style="list-style-type: none"> • air quality (e.g., increased exhaust emissions from machinery, fugitive dust, and fuel combustion by-products); • noise (e.g., increased noise levels due to machinery use, during road construction and clearing and drainage activities, as well as increased traffic during the construction and operation phases); • surface and groundwater quality (e.g., increased levels of specific chemical contaminants in waters due to run-off or effluent discharge); and • country foods quality (e.g., emissions of contaminants to the environment may lead to increased concentrations of these contaminants in country foods that are then harvested and consumed). <p>HC has updated its published guidance document series that provides general guidance on assessing risks to human health from major resource and infrastructure projects in Canada. These documents present the principles, current practices, and specific information HC looks for when it reviews the IS or other reports submitted by proponents. This series (including specific checklists within the appendices of each document) was prepared to support an efficient and transparent project review process. References to these guidance documents can be included under the Literature Cited.</p>
Recommendation/Request	<p>HC recommends:</p> <ol style="list-style-type: none"> 1. Requiring that a HHRA is completed for the Project; 2. Referencing HC's guidance document series under Section 8.3; and, 3. Adding HC's guidance document series to the list of Literature Cited.



	<p><i>Guidance for Evaluating Human Health Effects in Impact Assessment: Human Health Risk Assessment</i> https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-6-2023-eng.pdf</p> <p><i>Guidance for Evaluating Human Health Effects in Impact Assessment: Air Quality</i> https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-1-2023-eng.pdf</p> <p><i>Guidance for Evaluating Human Health Effects in Impact Assessment: Country Foods</i> https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-5-2023-eng.pdf</p> <p><i>Guidance for Evaluating Human Health Impacts in Environmental Assessment: Drinking and Recreational Water Quality</i> https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-2-2023-eng.pdf</p> <p><i>Guidance for Evaluating Human Health Effects in Impact Assessment: Noise</i> https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-3-2023-eng.pdf https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-4-2023-eng.pdf</p> <p><i>Guidance for the Environmental Public Health Management of Crude Oil Incidents</i> https://publications.gc.ca/collections/collection_2018/sc-hc/H129-82-2018-eng.pdf</p>
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Comment	HC-02
Subject/Topic	Updated references
References	<ul style="list-style-type: none"> • <i>Draft IS Guidelines, Section 8.1.1.2 ii)</i>
Summary	Include reference to World Health Organization (WHO) ¹ air quality standards
Importance of Issue to Impact Assessment Process	Updating references to current standards ensures that the IS would reflect the most current health-based guidelines.
Detailed Comment	<p>The WHO Global Air Quality Guidelines are health-based air quality standards that would also be appropriate to reference.</p> <p>Section 8.1.1.2 ii) states that assessment of dispersion of Project emissions should be compared to “total predicted air contaminant</p>



	<p>concentrations (including baseline and modelled concentrations) with relevant air quality standards (including Nunavut Ambient Air Quality Standards and Canadian Ambient Air Quality Standards)."</p> <p>The WHO has published health-based guidelines to interpret project monitoring results and assess the need for additional mitigations for the protection of human health. Providing updated guidelines would support a health protective approach.</p>
Recommendation/Request	<p>HC recommends:</p> <ol style="list-style-type: none"> 1. Updating the relevant air quality standards under 8.1.1.2 ii) to include WHO Global Air Quality Guidelines. 2. Adding the WHO Global Air Quality Guidelines to the list of Literature Cited. <p>¹ World Health Organization. (2021). WHO global air quality guidelines: particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide. https://apps.who.int/iris/handle/10665/345329. License: CC BY-NC-SA 3.0 IGO.</p>

Comment	HC-03
Subject/Topic	Inclusion of off-duty workers in the noise assessment
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines, Section 8.1.3.2
Summary	Off-duty workers who reside in or near the Project area may experience Project-related noise impacts (including annoyance and sleep disturbance).
Importance of Issue to Impact Assessment Process	The health and safety of workers falls under territorial jurisdiction but the <i>Draft</i> IS Guidelines do not take into account the potential for noise-related health impacts on off-duty workers living on-site or near the Project.
Detailed Comment	<p>Include an assessment of potential human health impacts from Project-related noise to off-duty workers.</p> <p>Section 8.1.3.2 (part v.) details the receptors which may experience impacts from noise and vibration. While HC does not review information related to potential noise impacts to workers, HC's guidance on noise (cited in HC-01) does include potential project-related noise impacts to off-duty workers who reside in (e.g., workers camp) or near the project area.</p> <p>In the context of an impact assessment, the associations that have been reported between noise exposure and hearing loss, sleep disturbance, interference with communication, noise</p>



	<p>complaints and a high level of annoyance are particularly relevant (WHO, 1999¹, 2009², 2011³).</p> <p>¹ World Health Organization. (1999). WHO Guidelines for community noise. https://iris.who.int/handle/10665/66217</p> <p>² World Health Organization. (2009). WHO Night noise guidelines https://www.who.int/europe/publications/i/item/9789289041737</p> <p>³ World Health Organization. Regional Office for Europe. (2011). Burden of disease from environmental noise: quantification of healthy life years lost in Europe. World Health Organization. Regional Office for Europe. https://iris.who.int/handle/10665/326424</p>
Recommendation/Request	<p>HC recommends:</p> <ol style="list-style-type: none"> 1. Including off-duty workers as part of the impact assessment's comprehensive analysis requirement in Section 8.1.3.2 v. as potential human receptors for noise-related impacts.

Natural Resources Canada (NRCan)

Comment	NRCan-01
Subject/Topic	General Comment
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines
Summary	<p>The <i>Draft</i> IS Guidelines, in several places, refer to project components that are not included in this Project such as mining infrastructure (e.g., open pits, tailings and waste rock facility). The suggested requirements in these sections are not relevant to the Project.</p>
Importance of Issue to Impact Assessment Process	<p>The IS Guidelines should be relevant to the proposed Project to ensure that adequate and appropriate information is provided in the IS to inform the decision-making process for the Project. Guidelines must therefore be clear and focused.</p>
Detailed Comment	<p>The description of several requirements in the <i>Draft</i> IS Guidelines make reference to project components that are not included in the Project. This includes for example reference to components associated with mining projects including open pits, underground mines and tailings and waste rock facilities. The required information associated with these facilities is not relevant to the proposed Project. NRCan suggests that requirements that are not relevant to the proposed Project be removed or revised to ensure that adequate and relevant information is provided in the IS to inform decision-making.</p>



	In the comments to follow, NRCan has identified several places in the <i>Draft</i> IS Guidelines where requirements should be removed or revised to ensure the Proponent provides adequate and appropriate information in the IS. However, NRCan suggests that the IS Guidelines will need to be checked prior to finalization as NRCan or other reviewers may not identify all occurrences of irrelevant requirements in the document.
Recommendation/Request	<p>NRCan recommends that sections where requirements are irrelevant to the Project be revised (including removal of irrelevant text) as suggested in additional comments provided by NRCan.</p> <p>NRCan recommends that the document be carefully reviewed to ensure the IS Guidelines focus on only infrastructure and facilities that are relevant to the Project.</p>

Comment	NRCan-02
Subject/Topic	Factors considered in impact assessment – physical environment
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines, Section 7.1, pg. 28, bullet (d)
Summary	The requirement does not include broader consideration of geohazards and potential landscape instability.
Importance of Issue to Impact Assessment Process	Landscape stability, especially in permafrost environments, is an important consideration in assessments of the effect of the environment on a project.
Detailed Comment	Changes to the permafrost environment including warming and thawing of the ground in response to infrastructure development and/or climate change can lead to landscape instability and implications for project infrastructure. Information on potential geohazards and landscape instability are required for assessments of the effects of the environment on the Project. NRCan suggests that explicit inclusion of geohazards and landscape instability be included for clarity to ensure adequate information is provided.
Recommendation/Request	NRCan suggests that bullet (d) be revised to “....seismological activity, other geohazards and landscape instability, and climate change”

Comment	NRCan-03
Subject/Topic	Impacts of the environment on the Project
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines, Section 7.4.2, pg. 38



Summary	Clarifications are required for the 1 st and 3 rd bullet to ensure appropriate information is provided regarding geotechnical hazards and permafrost.
Importance of Issue to Impact Assessment Process	Geotechnical hazards and permafrost are important considerations in the assessment of potential impacts of the environment on the Project. Clarifications to the requirements are recommended to ensure that appropriate information is provided in the impact assessment to inform decisions regarding the Project.
Detailed Comment	<p>The 1st bullet indicates that information on underground instability is required. NRCan suggests that this requirement is more appropriate for mining projects where underground stability is important. Reference to ground instability in general with the suggested examples is more appropriate.</p> <p>The 3rd bullet refers to artesian groundwater pressure. NRCan notes that the Terms of Reference for the Inuvik-Tuktoyaktuk Highway (ITH) and the Mackenzie Valley Highway (MVH) did not include artesian groundwater pressure as a requirement for assessment of impacts of the environment on the project and NRCan is unclear on the relevance of this requirement. NRCan suggests it may be more appropriate to refer to areas of subsurface water discharge to the surface and potential hazards associated with winter icing occurrence.</p>
Recommendation/Request	<p>1. Bullet 1 – NRCan recommends revision for clarity regarding hazards related to ground instability: “Geotechnical hazards such as: slope instability; ground instability including that related to differential thaw settlement and frost heave; ice scour; seismic activity.”</p> <p>2. Bullet 3 – NRCan recommends revision for clarity and relevance to proposed Project: “...permafrost thaw and discharge of subsurface water including potential hazards associated with winter icing occurrence.”</p>

Comment	NRCan-04
Subject/Topic	Impact of the environment on the Project
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines, Section 7.4.2, pg. 28, 5th bullet
Summary	Clarification is required regarding the term “subsidence” to ensure adequate information is provided in the IS.
Importance of Issue to Impact Assessment Process	The term “subsidence” can refer to ground movements resulting from different causes and the process needs to be clarified to ensure the Proponent provides the correct information in the IS.



Detailed Comment	The term “subsidence” is used to refer to ground movements that result in a decrease in surface elevation that may arise through different processes. This includes surface subsidence resulting from thaw of ice-rich permafrost (i.e., thaw settlement) or due to isostatic adjustments (crustal movements) following deglaciation. The requirement as written is unclear. Subsidence resulting from thawing of ice-rich permafrost in the onshore and nearshore components of the port area can have impacts on infrastructure and facilities. However, isostatic adjustments can result in subsidence or uplift with implications for relative sea level change. Clarification of the requirement for information on subsidence is necessary to ensure the appropriate information is provided to assess the impact of the environment on Project facilities in the port area.
Recommendation/Request	NRCan recommends that the 5 th bullet be revised to clarify the information required with respect to “subsidence”.

Comment	NRCan-05
Subject/Topic	Assessing Project resilience to climate change
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines, Section 7.4.2.1 c, pg. 43
Summary	Seismic activity is not influenced by climate and its inclusion in the 1 st paragraph of (c) is out of place.
Importance of Issue to Impact Assessment Process	Revision of text is required to ensure appropriate information is provided to facilitate assessment of the resilience of the Project to climate change.
Detailed Comment	The list of “influences in nature” includes seismic activity. Seismic activity is not a climate phenomenon and therefore seems out of place in the requirement. However, the terrain response, to seismic activity such as changes to the landscape (e.g., slope failures), can be affected by climate. For example, increases in soil moisture or permafrost thaw can result in reduction of soil strength enhancing the impact of seismic activity with respect to landscape change. Revisions are suggested for clarity.
Recommendation/Request	NRCan recommends the following revision for the second sentence of (c) regarding reference to seismic activity: “...outflow conditions and terrain response to seismic events due to changes in soil strength resulting from climate change).”

Comment	NRCan-06
Subject/Topic	Terrestrial environment – baseline information
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines, Section 8.1.4.1, pg. 57, bullet (iii)
Summary	Description of required information regarding landforms is unclear.



Importance of Issue to Impact Assessment Process	Clear description of requirements regarding landforms and topographic features is required to ensure the impact assessment provides adequate baseline information.
Detailed Comment	Information on soils or sediments is required for assessments of terrain sensitivity. The requirement as written is unclear and NRCan recommends it be revised to ensure that adequate information is provided.
Recommendation/Request	NRCan recommends bullet (iii) be revised to: "...including the thickness and characteristics of soil and/or sediment, assessment of terrain stability and sensitivity and classification of soils as applicable"

Comment	NRCan-07
Subject/Topic	Terrestrial environment – baseline information
References	<ul style="list-style-type: none"> <i>Draft</i> IS Guidelines, Section 8.1.4.1, pg. 57-58, bullet (iv)
Summary	The description of the requirement regarding geological information includes information that is not relevant to the proposed Project and incorrect terminology.
Importance of Issue to Impact Assessment Process	The requirement should be clear and focus only on information relevant for the proposed Project to ensure that adequate and appropriate information is provided in the impact assessment.
Detailed Comment	The requirement refers to "surface geology" which is incorrect terminology and reference should be made to "surficial geology" which refers to the unconsolidated material. The requirement refers to project facilities that are not relevant to the proposed Project (e.g., tailing and waste rock facilities) and these should be removed from the requirement.
Recommendation/Request	NRCan recommends the following revisions to the first sentence of bullet (iv): "Description of the bedrock lithology, morphology, surficial geology (including soils and sediment and their thermal and ground ice conditions), and landform at proposed borrow and quarry sites, roads and other areas where earthworks are proposed."

Comment	NRCan-08
Subject/Topic	Terrestrial environment – baseline information
References	<ul style="list-style-type: none"> <i>Draft</i> IS Guidelines, Section 8.1.4.1, pg. 58, bullet (vi)
Summary	Clarifications are required regarding taliks and groundwater flow with respect to ground stability and icing potential.
Importance of Issue to Impact Assessment Process	The rationale for inclusion of the implications for groundwater flow pathways is unclear and some clarification is required to



	ensure adequate information is provided with respect to interactions between the Project and the environment.
Detailed Comment	Talik configuration and groundwater flow pathways, especially deeper or regional groundwater flow is important for some development projects such as mines. However, for projects such as roads, the taliks in the vicinity of waterbodies including water crossings is important for stability assessments. Subsurface water flow especially at shallow depth is a consideration in design of drainage structures such as culverts. Discharge of water to the surface and potential for winter icings are also important for impact assessment and design.
Recommendation/Request	NRCan recommends the following revisions to bullet (vi) for clarity: “Discussion of the relationship between permafrost, waterbodies (including stream crossings) and topography, including a description of talik occurrence and implications for subsurface flow, stability assessments and potential for water discharge to the surface and winter icing occurrence.”

Comment	NRCan-09
Subject/Topic	Terrestrial environment – baseline information
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines, Section 8.1.4.1, pg. 58, bullet (viii)
Summary	Revisions to the requirement in bullet (viii) are suggested to ensure terminology is correct and adequate information is provided.
Importance of Issue to Impact Assessment Process	Revisions to the requirement will ensure that it is clear and that adequate information is provided in the impact assessment.
Detailed Comment	Ice lenses are a form of ground ice. However, there are other forms of ground ice that may be present in the Project area and all forms of ground ice occurrence need to be considered in the assessment of permafrost conditions and terrain stability. There is also some duplication with other requirements such as that in bullet (vi). NRCan suggests that revisions be made to focus on the essential information that is required for the impact assessment.
Recommendation/Request	NRCan recommends that bullet (viii) be revised for clarity: “Description of permafrost distribution in the Local Study area, in particular the occurrence of ice-rich permafrost and description of thaw sensitivity (including thaw-sensitive slopes).”

Comment	NRCan-10
Subject/Topic	Terrestrial environment – impact assessment



References	<ul style="list-style-type: none"> <i>Draft</i> IS Guidelines, Section 8.1.4.2, pg. 58, bullet (v)
Summary	Revisions to the requirement in bullet (v) are suggested to ensure terminology is correct and adequate information is provided.
Importance of Issue to Impact Assessment Process	Revisions to the requirement will ensure that it is clear and that adequate information is provided in the impact assessment.
Detailed Comment	As discussed in NRCan-09, ice lenses are only one form of ground ice. Similar revisions are suggested for clarity and to ensure adequate information is provided.
Recommendation/Request	NRCan recommends the following revisions for clarity: “...terrain condition, in particular sensitive landforms, ice-rich permafrost, thaw-sensitive terrain (including slopes) and occurrence of taliks in the vicinity of waterbodies”

Comment	NRCan-11
Subject/Topic	Terrestrial environment – impact assessment
References	<ul style="list-style-type: none"> <i>Draft</i> IS Guidelines, Section 8.1.4.2, pg. 58, bullet (vi)
Summary	Some text in the requirement is irrelevant to the proposed Project and revisions are required to ensure the text focusses on information required for the Project.
Importance of Issue to Impact Assessment Process	Revisions to the requirement will ensure that it is clear and that adequate information is provided in the impact assessment.
Detailed Comment	The requirement refers to activities (e.g., mining of kimberlite pipes) that are not relevant to the proposed Project and revisions are suggested to focus only on relevant Project components and activities. Revisions are also suggested for clarity regarding terrain stability which has a physical and thermal component.
Recommendation/Request	NRCan recommends the following revisions to requirement (vi): 1 st sentence – “Potential impacts on physical and thermal stability of terrain (including that due to thaw of ice-rich permafrost) in the vicinity of project facilities and infrastructure.” 2 nd sentence – Delete references to mining facilities: “...due to construction of facilities and infrastructure (e.g. overburden stripping, cuts/fills, excavation).”

Comment	NRCan-12
Subject/Topic	Terrestrial environment – impact assessment
References	<ul style="list-style-type: none"> <i>Draft</i> IS Guidelines, Section 8.1.4.2, pg. 59, bullet (vii)
Summary	The requirement as written is not relevant to the proposed Project and should be revised to be relevant to the Project.



Importance of Issue to Impact Assessment Process	Important information may not be included in the impact assessment because the requirement only refers to infrastructure and facilities that are not relevant to the Project.
Detailed Comment	Changes to permafrost behaviour over time due to Project construction and operation or climate change is an important consideration in the impact assessment of the proposed road and port. However, the requirement as written refers to infrastructure and facilities associated with mining development not a road and port project. Information on changes to permafrost behaviour may therefore not be provided in the impact assessment even though it is critical for design of the road and port and the impact assessment. The requirement needs to be revised so it is clear that assessment of permafrost behaviour is relevant to the proposed Project.
Recommendation/Request	NRCan recommends the following revision to bullet (vii) to ensure it is relevant to the proposed Project: 1 st sentence – “Assessment and prediction of permafrost behavior (include rate of degradation) in the project area including adjacent and beneath project components.” 2 nd sentence – “Long-term predictions of the thermal regime in the project area should be conducted with consideration of climate change.” 3 rd sentence – “...permafrost evolution in the project area.”

Comment	NRCan-13
Subject/Topic	Terrestrial environment – impact assessment
References	<ul style="list-style-type: none"> • <i>Draft IS Guidelines</i>, Section 8.1.4.2, pg. 59, bullet (xv)
Summary	The requirement does not make explicit reference to important terrain hazards such as ground instability.
Importance of Issue to Impact Assessment Process	Lack of reference to important terrain hazards may result in inadequate information being provided in the impact assessment.
Detailed Comment	Although snow accumulation may occur adjacent to road embankments there are other terrain hazards that are important to the integrity of infrastructure. Explicit reference to ground instability including slope stability ensures that adequate information is provided in the impact assessment.
Recommendation/Request	NRCan recommends the following revision to bullet (xv): “....terrain hazards, including ground instability (e.g. slope instability) and snow drifts and banks, as a result of construction activities....”

Comment	NRCan-14
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Subject/Topic	Baseline information – geological features, surficial and bedrock geology and geochemistry
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines, Section 8.1.5.1 pg. 59
Summary	Some information required is more relevant to mining projects than a road and port project and requirements similar to those for other northern transportation projects may be more relevant.
Importance of Issue to Impact Assessment Process	Guidelines relevant to the Project components will ensure that appropriate and adequate information is provided in the impact assessment.
Detailed Comment	<p>Road and port infrastructure normally do not include deep excavations that are associated with mining projects. Although excavation is required for borrow pits and quarries, they are not of the same depth of open pit or underground mines. Some of the information requested with respect to bedrock is therefore not relevant to the proposed Project. NRCan notes that this level of detail regarding bedrock geology was not requested in the Terms of Reference for the ITH or the MVH.</p> <p>Requirements for these projects focused on provision of information on bedrock type and depth; subsurface formations (and their hydrogeological conditions) that may be used for project-related disposal; assessment of acid rock drainage potential of exposed bedrock; and, physical, thermal, mechanical and geotechnical properties of surficial material and bedrock. NRCan suggests that similar requirements could be used in the IS Guidelines for the proposed Project.</p>
Recommendation/Request	<p>NRCan recommends that the following suggestions be considered for baseline information requirements:</p> <p>(i) Description of local and regional bedrock and surficial geology including the bedrock type and depth; physical, chemical and hydrogeological properties of bedrock and surficial material where applicable to the Project. Maps should be provided showing site location of in-situ investigations (e.g., boreholes) relative to planned Project components.</p> <p>(ii) Description of subsurface formations that may be used for Project-related disposal and their hydrogeological conditions.</p> <p>(iii) Physical thermal, mechanical and geotechnical characteristics of surficial material and bedrock (and if appropriate structural geology) where applicable to major infrastructure areas or where earthworks are proposed in the Project.</p> <p>(iv) Assessment of ARD potential of exposed bedrock.</p>



Comment	NRCan-15
Subject/Topic	Impact assessment - geological features, surficial and bedrock geology and geochemistry
References	<ul style="list-style-type: none"> <i>Draft</i> IS Guidelines, Section 8.1.5.2, pg. 60
Summary	Some of the requirements are not relevant to the Project and revisions are required to ensure information is provided that is appropriate and adequate for the impact assessment.
Importance of Issue to Impact Assessment Process	IS Guidelines relevant to the Project components will ensure that appropriate and adequate information is provided in the impact assessment.
Detailed Comment	<p>The requirements refer to project activities and components such as underground excavation, open pits and underground mines which are not relevant to the proposed Project. NRCan suggests that irrelevant text be removed in bullet (i) and (ii) so that the IS Guidelines focus only on requirements relevant to the Project.</p> <p>The text in bullet (i) refers to “seasonal subsidence”. NRCan assumes this is in reference to surface subsidence that occurs as the ground thaws during the summer. However, the ground may continue to warm and thaw over time in response to changes at the ground surface during construction or climate change. The text should therefore also refer to ongoing subsidence.</p>
Recommendation/Request	<p>NRCan recommends the following revisions:</p> <p>Bullet (i) 1st sentence– “Potential geotechnical and geophysical hazards within the Project area, including potential seasonal and ongoing surface subsidence, seismicity and (if applicable) faulting, risks associated with cut/fill slopes, excavations, and surface constructed facilities.”</p> <p>Bullet (ii) 2nd sentence – “Those Project components assessed shall include, but are not limited to the port facilities, major watercourse crossings, and equipment pads.”</p>

Comment	NRCan-16
Subject/Topic	Baseline information – hydrological features and hydrogeology
References	<ul style="list-style-type: none"> <i>Draft</i> IS Guidelines, Section 8.1.6.1, pg. 60-61
Summary	Requirements for baseline information with respect to groundwater and hydrogeology are more appropriate to mining projects and requirements should be relevant to the proposed Project.



Importance of Issue to Impact Assessment Process	Baseline information provided in the impact assessment needs to be relevant to the proposed Project to inform the decision-making process.
Detailed Comment	The baseline information requested in bullets (iv) to (x) is more relevant to mining projects that involve the excavation of deep pits or underground mines rather than to the surface infrastructure or shallow excavations (e.g., borrow pits, quarries) associated with the Project. NRCAN notes that the Terms of Reference for the MVH and ITH did not require this level of information on groundwater and hydrogeology. Information requested focussed more on hydrogeological conditions in the near-surface and only deeper formations where relevant to the proposed project components and activities. Information on taliks was largely focussed on shoreline areas or water crossing, issues of stability and the potential for icings. NRCAN suggests that the requirements in the Terms of Reference for the MVH and ITH be used as a model for the IS Guidelines for the Project.
Recommendation/Request	NRCAN suggests that bullets (iv) to (x) be replaced with requirements relevant to the proposed Project and similar to those in the Terms of Reference for the MVH and ITH such as: <ul style="list-style-type: none"> • Describe existing groundwater resources within the Project area including hydrogeological conditions in near-surface materials or deeper formations where relevant to proposed Project routes/areas, components and activities. • Describe permafrost and talik distribution at shorelines and beneath waterbodies such as proposed water crossings • Describe potential locations of naturally occurring icings including those at potential water crossings.

Comment	NRCAN-17
Subject/Topic	Impact assessment - hydrological features and hydrogeology
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines, Section 8.1.6.2, pg. 61
Summary	Requirements that are relevant to mining projects have been included and should be deleted or revised so that requirements are relevant to the proposed Project.
Importance of Issue to Impact Assessment Process	Revisions are required to ensure that the impact assessment provides information that is relevant and adequate for the assessment of the effect of the Project on the environment.
Detailed Comment	The requirements described in bullet (ii), (iv), (viii), (ix) refer to mining projects or are not written to be specific to the Project. As mentioned in NRCAN #16, the Terms of Reference for the MVH and ITH provides a model for the IS Guidelines. NRCAN suggests that the requirements be revised to be more relevant to the



	proposed Project to ensure that sufficient information is provided in the impact assessment.
Recommendation/Request	<p>NRCan recommends the following revisions to the requirements:</p> <p>Bullet (ii) – “...water diversions associated with proposed project components.”</p> <p>Bullet (iv) – “...from the construction and operation of Project infrastructure.”</p> <p>Bullet (viii) – “...Project activities including for example ponding of water or ground stability issues.”</p> <p>Bullet (ix) – “Potential changes to permafrost/talik distribution and subsurface flow in the vicinity of shorelines and water crossing including the potential for frost bulb or icing formation.”</p>

Comment	NRCan-18
Subject/Topic	Baseline information - Groundwater and surface water quality
References	<ul style="list-style-type: none"> • <i>Draft IS Guidelines</i>, Section 8.1.7.1 pg. 62
Summary	Clarifications are required for bullets (vii) to (xi) to ensure the requirements are relevant to the proposed Project rather than mining projects.
Importance of Issue to Impact Assessment Process	Revisions are required to ensure that the impact assessment provides information that is relevant and adequate for the assessment of the effects of the Project on the environment.
Detailed Comment	<p>The requirements regarding groundwater in bullets (vii) – (xi) as written, appear to be more appropriate to mining projects. Similar requirements were not included in the Terms of Reference for the MVH and ITH (see also NRCan-16). NRCan suggests that the requirements should better reflect the largely surface infrastructure and shallow excavations associated with the proposed Project rather than the deeper excavations associated with mining projects. Requirements similar to those for the MVH and ITH and described in NRCan-16 would be more appropriate.</p> <p>NRCan also notes that requirements for the MVH and ITH did not include groundwater monitoring wells and some consideration is required regarding whether these are necessary given the activities and infrastructure associated with the Project.</p>
Recommendation/Request	NRCan recommends that the requirements in bullets (vii) to (xi) be revised and/or reduced to focus on what is required for the proposed Project (see also recommendations in NRCan-16). This includes focussing more on hydrogeological conditions in the near-surface and deeper formations only where applicable to the Project; talik occurrence at shorelines and beneath water bodes (as applicable) including proposed water crossings.



Comment	NRCan-19
Subject/Topic	Impact assessment - groundwater and surface water quality
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines, Section 8.1.7.2, pg. 63
Summary	There are references to project components that are not relevant to the proposed infrastructure. Revision of the requirements is suggested to ensure they focus on the proposed Project.
Importance of Issue to Impact Assessment Process	The requirements regarding impact assessment need to be clear and relevant to the proposed Project to ensure the Proponent provides adequate and appropriate information for assessment of potential impacts.
Detailed Comment	Requirements in bullets (vi), (ix), (xvi) include references to mining projects and should only focus on information required for the proposed Project. NRCan suggests that these requirements be revised or deleted to ensure that information relevant to the proposed Project is provided in the impact assessment.
Recommendation/Request	<p>NRCan recommends the following revisions:</p> <p>Bullet (vi) – delete “waste rock stockpiles, ore stockpiles, open pit and underground dewatering”</p> <p>Bullet (ix) – delete “mine facilities”</p> <p>Bullet (xvi) – delete requirement as it refers to mineral exploration activities.</p>

Comment	NRCan-20
Subject/Topic	Sediment and coastal dynamics at the port site
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines, Section 8.1.13.1, pg. 72; Section 7.4.2.1 c, pg. 43-44
Summary	As baseline information on the marine environment and for assessing resilience to climate change, the <i>Draft</i> IS Guidelines indicate that the IS is to include a description of the marine environment including currents and that waves are considered. There is no mention of waves or currents in the Proposal.
Importance of Issue to Impact Assessment Process	Relates to fate of marine sediments suspended during port construction and operations, disposal of dredged material at sea if required, and potential siltation of the small craft harbour and port facility.
Detailed Comment	Nearshore waves and currents are primary contributors to the transport of sediment that may be suspended during construction and operations, and the natural redistribution alongshore of sediment from rivers such as the river to the east of the port site. While waves and wave-driven currents are likely low in the port area, and potentially inconsequential for much of the ice season,



	<p>as sea ice decreases the wave and current regime can be expected to change.</p> <p>Assessing the amount of dredging required for maintenance and the potential for changes in shoreline configuration and materials due to sedimentation as the port remains in operation for many decades will require understanding of contemporary and future patterns of nearshore waves, currents, and sediment erosion, transport, and deposition. NRCan notes that the <i>Draft</i> IS Guidelines include waves and currents at the port site as part of the IS, but the Proposal does not indicate that waves and currents and associated sediment transport and potential siltation in the future will be considered.</p>
Recommendation/Request	NRCan recommends that waves and currents be included in the IS, potentially through modelling waves, currents and sediment transport at the port site including sediment input from rivers and consideration of changes due to decreasing sea ice.

Transport Canada (TC)

Comment	TC-01
Subject/Topic	Identification of navigable waters
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines - Section 5.3 Project Location, pg. 20-21
Summary	Instruction regarding identification of waterbodies is confusing.
Importance of Issue to Impact Assessment Process	Medium
Detailed Comment	The <i>Draft</i> IS Guidelines would require the Proponent to provide the following information: "All waterbodies and navigable waterways." As written, the information requirement could be confusing to the Proponent and other readers of the <i>Draft</i> IS Guidelines as it suggests there is a difference between waterbodies and waterways.
Recommendation/Request	<p>TC recommends the <i>Draft</i> IS Guidelines be revised to the following (deletions stuck out; additions underlined):</p> <p>5.3 Project Location</p> <p>The following information shall be included:</p> <ul style="list-style-type: none"> • All waterbodies and navigable waterways; • <u>All waterbodies, with further identification of which waters are considered navigable under the <i>Canadian Navigable Waters Act (CNWA)</i>.¹</u>



	¹ Navigability is to be determined using Transport Canada's Navigation Protection Program's Project Review Tool at: https://npp-submissions-demandes-ppn.tc.canada.ca/projectreview-outildexamenduprojet .
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Comment	TC-02
Subject/Topic	Assessing impacts to use of navigable waters
References	<ul style="list-style-type: none"> <i>Draft</i> IS Guidelines - Section 6.1 Project Design, pg. 22-23
Summary	Repetition of required information for purposes of <i>Canadian Navigable Waters Act</i> .
Importance of Issue to Impact Assessment Process	Medium
Detailed Comment	<p>The <i>Draft</i> IS Guidelines require the following information with respect to travel and navigation:</p> <p>General project design information discussed in the Impact Statement shall include:</p> <ul style="list-style-type: none"> An explanation of how the biophysical and socio-economic environments and well-being have influenced the design of the proposed project. This should include consideration of relevant geographical, geological, meteorological, hydrological, and oceanographic conditions. This discussion should also include current and future land and/or aquatic use activities, including hunting, harvesting, gathering, occupancy, and land uses such as for cultural practices, <u>travel</u> and camps, and cultural connection (past, present and future) to the proposed project affected area; (emphasis added) <u>An assessment of each water crossing and in-stream work against the <i>Canadian Navigable Waters Act</i> and its Minor Works Order to determine if Transport Canada approval is required.</u> (emphasis added)" <p>The second bullet is redundant as "travel" includes navigation, and it repeats an information requirement set out in Section 8.1.6 Hydrological Features and Hydrogeology:</p> <p>8.1.6.2 Impact Assessment</p> <p>The Proponent is required to present a comprehensive impact analysis for all Project components and activities, including its shipping activities where applicable, on</p>



	<p>hydrology and hydrogeology. This analysis should include the following:</p> <p>vii. Assessment of each water crossing and in-stream work against the <i>Canadian Navigable Waters Act</i> (CNWA) and CNWA Minor Works Order to determine if Transport Canada approval is required, and potential impacts to the navigability and safety of the watercourses;</p> <p>The information requirements regarding the CNWA and potential impacts to navigability are a better fit for Section 8.2.6.</p>
Recommendation/Request	<p>TC requests the following bullet be deleted from Section 6.1 Project Design of the <i>Draft</i> IS Guidelines:</p> <ul style="list-style-type: none"> An assessment of each water crossing and in-stream work against the <i>Canadian Navigable Waters Act</i> and its Minor Works Order to determine if Transport Canada approval is required. <p>Please see TC-04 for requested addition to Section 8.2.6.</p>

Comment	TC-03
Subject/Topic	Assessing impacts to use of navigable waters
References	<ul style="list-style-type: none"> <i>Draft</i> IS Guidelines - Section 8.1.6.2 Hydrological Features and Hydrogeology - Impact Assessment, pg. 60-61
Summary	Assessment of impacts to navigation are a better fit with the assessment of Project effects on the socio-economic environment.
Importance of Issue to Impact Assessment Process	Medium
Detailed Comment	"Navigation" is the use of a navigable waterway(s). Given this, this topic is a better fit with the socio-economic environment portion of the IS Guidelines.
Recommendation/Request	TC requests to move assessment of impacts to navigation to Section 8.2.6.1 of the IS Guidelines. Please see TC-04 for requested addition to Section 8.2.6.1.

Comment	TC-04
Subject/Topic	Assessing impacts to use of navigable waters
References	<ul style="list-style-type: none"> <i>Draft</i> IS Guidelines - Section 8.2.6.1 Traditional Activity and Knowledge - Baseline Information, pg. 78-79
Summary	More information than what is required by the <i>Draft</i> IS Guidelines is needed to assess impacts to navigation.



Importance of Issue to Impact Assessment Process	High
Detailed Comment	TC recommended in TC-03 that information requirements regarding impacts to use of navigable waters be moved from Section 8.1.6 to 8.2.6 of the final IS Guidelines. In addition, as written, the <i>Draft</i> IS Guidelines will not provide TC with enough information to understand how the Project may impact the use of navigable waters. In an effort to avoid future information requests, the information that is to be included in the IS regarding use of navigable waters in the Project area should be clarified.
Recommendation/Request	<p>TC recommends adding the following direction to the Proponent to Section 8.2.6.1 of the final IS Guidelines (additions underlined):</p> <p><u>vii. Assessment of each water crossing and in-stream work against the Canadian Navigable Waters Act (CNWA) and CNWA Minor Works Order¹ to determine if Transport Canada approval is required. For each work in a navigable waterbody that is not a CNWA Minor Work,</u></p> <ul style="list-style-type: none"> <u>identify and describe the navigable waterbody where each work will be located, and all their uses including present, past or potential uses, as well as information regarding the physical characteristics of the waterway (depth, width, etc.); and</u> <u>provide a list of potentially affected waterbody users (i.e., those who use the waterbody for any part of the year as a means of transport or travel for commercial or recreational purposes, or as a means of transport or travel for Indigenous peoples of Canada exercising rights recognized and affirmed by section 35 of the Constitution Act, 1982), and concerns regarding use.</u> <p>¹Minor Works Order at: https://laws-lois.justice.gc.ca/eng/regulations/sor-2021-170/index.html. The assessment can be done using Transport Canada's Navigation Protection Program's Project Review Tool at: https://npp-submissions-demandes-ppn.tc.canada.ca/projectreview-outildexamenduprojet.</p>

Comment	TC-05
Subject/Topic	Assessing impacts of air navigation
References	<ul style="list-style-type: none"> <i>Draft</i> IS Guidelines - Section 6.1 Project Design, pg. 22-23



Summary	The information requirements regarding <i>Canadian Aviation Regulation 307</i> are better placed elsewhere in the IS Guidelines.
Importance of Issue to Impact Assessment Process	Medium
Detailed Comment	<p>Section 6.1 of the <i>Draft</i> IS Guidelines require the following information:</p> <ul style="list-style-type: none"> A discussion on planned consultation in advance of an aerodrome work, as identified in <i>Canadian Aviation Regulation 307</i>. <p>The specificity of this bullet is not in keeping with the other bullets in Section 6.1, which are more general in nature. The request for information regarding <i>Canadian Aviation Regulation 307</i> is a better fit with Section 8.2.7.2 of the IS Guidelines.</p>
Recommendation/Request	<p>TC requests the following bullet be deleted from Section 6.1 Project Design of the <i>Draft</i> IS Guidelines and moved to Section 8.2.7.2:</p> <ul style="list-style-type: none"> A discussion on planned consultation in advance of an aerodrome work, as identified in <i>Canadian Aviation Regulation 307</i>. <p>Please see TC-09 for the requested addition to Section 8.2.7.2.</p>

Comment	TC-06
Subject/Topic	Temporary and permanent airstrips
References	<ul style="list-style-type: none"> <i>Draft</i> IS Guidelines - Section 6.3.1 Detailed Project Description, pg. 26
Summary	The IS should include the information needed for TC to provide the NIRB with fulsome technical comments regarding Project-related air navigation.
Importance of Issue to Impact Assessment Process	High
Detailed Comment	As with past NIRB reviews, TC expects to provide comments regarding Project-related air navigation during the Department's technical review of the IS. In an effort to avoid future information requests, the final IS Guidelines should clearly identify information that is to be included in the IS regarding Project airstrips and flights.
Recommendation/Request	TC recommends that Section 6.3.1 be amended to include the following paragraph (additions underlined):



	<p><u>The description shall include information about temporary and permanent airstrips and their use. This will include a discussion of the airstrips' locations, accompanying infrastructure such as a communication tower, expected operations such as passenger type (e.g., fee or non-fee paying), aircraft types and passenger capacity, airstrip surfacing, aircraft operators, aviation fuel storage, and de-icing program.</u></p>
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Comment	TC-07
Subject/Topic	Alternative energy infrastructure, such as solar arrays and wind turbines
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines - Section 6.3.1 Detailed Project Description, pg. 26
Summary	The IS should include the information needed for TC to provide the NIRB with fulsome technical comments regarding Project-related air navigation.
Importance of Issue to Impact Assessment Process	High
Detailed Comment	As with past NIRB reviews, TC expects to provide comments regarding Project-related air navigation during the Department's technical review of the IS. In an effort to avoid future information requests, the final IS Guidelines should clearly identify information that is to be included in the IS regarding Project-related alternative energy infrastructure, such as solar arrays and wind turbines. Depending on their positioning and dimensions, such infrastructure can pose a risk to the safety of air navigation and therefore be subject to the <i>Canadian Aviation Regulations</i> and supporting standards, such as Standard 621 - Obstacle Marking and Lighting - Canadian Aviation Regulations.
Recommendation/Request	<p>TC recommends that Section 6.3.1 be amended to include the following paragraph (additions underlined):</p> <p><u>The description shall include information about alternative energy infrastructure and their use. This will include a discussion of the infrastructure's location(s), dimensions and specifications, and expected use/operations.</u></p>

Comment	TC-08
Subject/Topic	Impact of airstrips on access for traditional activities
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines - Section 8.2.6.2 Traditional Activity and Knowledge – Impact Assessment, pg. 78-79



Summary	Access to lands covered by airstrips and/or aerodromes could be prohibited.
Importance of Issue to Impact Assessment Process	High
Detailed Comment	Under <i>Canadian Aviation Regulation 301.08</i> , access to aerodromes, including for traditional uses, is prohibited except in accordance with permission given by the operator of the aerodrome. Given this, the impacts of changes for access to the lands occupied by the proposed aerodrome may be different than the remainder of the lands in the port area. For this reason, it is important that impacts related to accessibility of the lands occupied by the proposed aerodrome be specifically assessed.
Recommendation/Request	TC recommends that Section 8.2.6.2 be amended as follows (addition underlined): <ul style="list-style-type: none"> ii. Potential impacts related to accessibility to areas for hunting, fishing, marine harvesting, traveling, recreational and religious activities as a result of the Project development, including a consideration of individual components such as roads, terrestrial activities and infrastructure, <u>including airstrips (aerodromes)</u>, and marine shipping;

Comment	TC-09
Subject/Topic	<i>Canadian Aviation Regulation 307</i>
References	<ul style="list-style-type: none"> • <i>Draft IS Guidelines - Section 8.2.7.2 Non-traditional Land Use and Resource Use – Impact Assessment</i>, pg. 79-80
Summary	Request for information regarding <i>Canadian Aviation Regulation 307</i> .
Importance of Issue to Impact Assessment Process	Medium
Detailed Comment	Construction and operation of the proposed aerodrome may impact land use activities by local residents. Under <i>Canadian Aviation Regulation 307</i> , a report detailing consultations with “interested parties” must be submitted to the Minister of Transport before an aerodrome can be certified. As with past NIRB reviews, TC expects to provide comments regarding Project-related air navigation during the Department’s technical review of the IS. TC’s technical review would be assisted by the Proponent demonstrating their understanding of their obligations under the <i>Canadian Aviation Regulations</i> . Learning of the details of this planned consultation may also be beneficial to local residents



	should they wish to provide comments to the Proponent about the scope of the consultation.
Recommendation/Request	<p>TC requests a footnote be added to Section 8.2.7.2 (additions underlined):</p> <p>ii. Discussion of anticipated interactions between project development and land use activities by local residents in the Project Regional Study Area, in particular at the mine <u>port site</u>, road and shipping routes;¹ and</p> <p><u>¹The discussion is to include details of the planned consultation that will be undertaken in advance of the aerodrome work, as identified in Canadian Aviation Regulation 307.</u></p>

Comment	TC-10
Subject/Topic	Accident and malfunction assessment - aviation
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines - Section 8.4 Accident and Malfunctions Assessment, pg. 85
Summary	The IS should include an assessment of an aviation accident(s).
Importance of Issue to Impact Assessment Process	Medium
Detailed Comment	It is important that aviation accidents are specifically assessed in the IS as an aviation accident could significantly impact the environment at the airport and/or the surrounding area. Aircraft accidents have the potential to introduce a number of environmental contaminants in areas that may be inaccessible or challenging. Rescue operations may also adversely impact the environment.
Recommendation/Request	<p>TC requests a footnote be added to Section 8.4 (additions underlined):</p> <p>An explanation of how potential accidents and malfunctions were identified and their likelihood of occurrence.¹</p> <p><u>¹An aviation accident is to be included in the list of potential accidents.</u></p>

Comment	TC-11
Subject/Topic	Accident and malfunction assessment – dangerous goods
References	<ul style="list-style-type: none"> • <i>Draft</i> IS Guidelines - Section 8.4 Accident and Malfunctions Assessment, pg. 85-86



Summary	The IS should demonstrate the Proponent understands the requirements of the <i>Transportation of Dangerous Goods Regulations</i> .
Importance of Issue to Impact Assessment Process	Medium
Detailed Comment	The <i>Transportation of Dangerous Goods Act, 1992</i> and the <i>Transportation of Dangerous Goods Regulations</i> were designed to promote public safety (people, property and the environment) and security during the transportation of dangerous goods (TDG). Given the fundamental importance of this legislation in many accident scenarios, the IS should demonstrate the Proponent understands what is required of them by this legislation.
Recommendation/Request	<p>TC recommends a reference to the <i>Transportation of Dangerous Goods Act</i> and Regulation be added to Section 8.4 (addition underlined):</p> <ul style="list-style-type: none"> • A description of how each potential accident and malfunction would be managed and mitigated, including but not limited to a description of: <ul style="list-style-type: none"> ○ Any design safeguards; ○ <u>The Proponent's plans for complying with the <i>Transportation of Dangerous Goods Act, 1992</i> and the <i>Transportation of Dangerous Goods Regulations</i>;</u> ○ Contingency and emergency response measures; ○ Clean-up or restoration work in the surrounding environment that would be required during, or immediately following the incident; and ○ How these would differ by season/environmental conditions.

Comment	TC-12
Subject/Topic	Marine environment – baseline information
References	<ul style="list-style-type: none"> • <i>Draft IS Guidelines - Section 8.1.13.1 Marine Environment - Baseline Information</i>, pg. 71-72
Summary	More baseline data would improve the assessment of the Project's potential impacts to the marine environment.
Importance of Issue to Impact Assessment Process	Medium
Detailed Comment	Potential impacts to the marine environment caused by the Project are a primary concern of many of the participants in the



	review of the Project, including Inuit communities. The impact assessment of the Project would be strengthened by additional information about the marine environment in the Project area and proposed measures to accommodate Project shipping. In addition, as with past NIRB reviews, TC expects to provide comments regarding Project-related marine navigation during the Department's technical review of the IS. TC's technical review would be assisted by the Proponent discussing the information requested below in the IS.
Recommendation/Request	<p>TC recommends additional baseline information requirements be included in Section 8.1.13.1 (additions underlined):</p> <p>8.1.13.1 Baseline Information</p> <p>iii. Presentation of available bathymetric information along the proposed shipping route(s), <u>as well as at the approaches to the port and the proposed locations of wharves;</u></p> <p>vi. <u>Identification and details of safe anchorage locations along the proposed shipping route(s); and</u></p> <p>vii. <u>Details of mooring adequacy at wharves and of tugs that will be used to accommodate types of vessels that are expected to frequent the port.</u></p>