DRAFT SCOPE LIST FOR THE GRAYS BAY ROAD AND PORT PROJECT PROPOSAL

The Nunavut Impact Review Board (NIRB or the Board) is seeking feedback from interested parties to determine the scope of Kitikmeot Inuit Association and the Government of Nunavut's (the Proponent) proposed "Grays Bay Road and Port" project proposal (scope of the project) and the scope of the NIRB's Review of this project proposal (scope of the assessment).

SCOPE OF THE PROJECT

1) Description of the project, the purpose of and the need for, the project

The scope of the project proposal includes all physical works, activities, and/or undertakings, as scoped by the NIRB on August 17, 2017 for the Grays Bay Road and Port Project and encompasses the entire project life.

a. Project Proposal Summary

The proposed "Grays Bay Road and Port" project (the Project) involves the construction and operation of an all-weather road and port, located within the Kitikmeot region, with the road beginning at the Jericho site and continuing north to Grays Bay where a deep sea port would be constructed and operated. The Project would be undertaken through a partnership between the Kitikmeot Inuit Association and the Government of Nunavut with the objective of establishing infrastructure connecting the existing Tibbitt-Contwoyto Winter Road to the Northwest Passage and providing an economically viable supply route for Nunavummiut, public, and industrial operators in the area. The program is proposed to commence in June 2020 with a pre-construction phase of two (2) years, construction occurring over three (3) years, and operations continuing for at least 75 years as part of the design life. The facilities are designed as semi-permanent and there are no plans for closure and reclamation of the infrastructure.

b. Project Components

i) All Weather Road

Activities and Facilities would include construction and operations of an approximately 230 kilometre (km), permanent year-round, all-weather road, managed through a tolling regime, specifically:

- Road design: crest between 8.7 and 10 metres (m) wide, maximum vertical slope of 6%, and maximum cross-slope of 2.5%, and appropriate navigation aids.
- Truck turnouts established every 50 m to meet safety requirements during construction, with possible reuse of the gravel if turnouts are removed for operations.

- Up to 230 drainage areas would be required: approximately 18 single or multi-span bridges, up to 50 culverts of diameters between 1.5 m and 5 m, in addition to numerous culverts less than 1.5 m in diameter.
- Up to four (4) temporary camps used during construction of the road, relocated every three (3) months as construction progresses, with each camp to accommodate up to 80 personnel per year. Additional camp infrastructure would include: offices, maintenance shops, equipment and material storage, fuel storage (up to 20,000 litres (L) diesel stored in enviro-tanks, in addition to limited amounts of propane and gasoline), water use, and temporary waste and wastewater storage facilities.
- Wastewater and sewage transported to Grays Bay Port or Jericho Station for treatment, incineration or backhaul and disposal at accredited facility until permanent solid waste and sewage facilities are commissioned.

ii) Grays Bay Port Facility

Activities and Facilities would include construction and operations of a Grays Bay Port, open annually during the open-water season (July to October), managed through port fees, specifically:

- Initial development of one (1) wharf, designed based on the potential docking size of a 75,000 deadweight tonnes Ore-Bulk-Oil class 1A vessel, and a second wharf when demand warrants.
- Dredging of sea floor to reach appropriate depths in the development of the wharf.
- Installation of a small craft harbour to provide safe moorage for up to 50 vessels, including floating docks, launching ramp, refueling station containing approximately 5,000 L of gasoline, tent and refuge area, light vehicle parking for the public, and optional breakwater to reduce wave height within the harbour.
- Installation of appropriate navigation aids.
- Transport, temporary storage, and staging of materials and equipment including:
    - Mobilization of construction materials and equipment via two (2) ocean freighters and barges, lightering and delivering to the Grays Bay shore, followed by annual sealift deliveries during construction and operations.
    - During construction, staging and laydown areas established to store and maintain equipment and supplies, provide loading and unloading facilities, stockpile granular material, store fuel, and provide helicopter landing sites.
    - During operations, laydown and container storage area would support the receipt, handling, and storage of any materials or supplies required for any exploration and mining projects as well as community resupply.
- Establishment of a camp and associated port facilities: temporary accommodations of up to 60 personnel during construction, and permanent, seasonal accommodations for up to 20 personnel per year during operations; offices and support buildings; maintenance shops; generators; water management and waste water treatment facilities; solid waste and wastewater storage facilities including landfill and incinerator; and helicopter pad.
- Establishment of fuel storage facilities within secondary containment to initially contain 25 million litres (ML) of diesel with the potential to expand to 100 ML of diesel.

- Establishment of an up to 1,800 m airstrip constructed initially at either the proposed location of the permanent strip or at a widened section of the embankment along Grays Bay Road at a suitable location. The permanent 1,800 m gravel airstrip and access road would be constructed and operated year round and involve support infrastructure including air traffic control, fuel storage facilities to hold up to 90,000 L of jet fuel, a shelter building, a cargo shelter, and maintenance garage for storage of snowplowing and airfield grading equipment.
- Progressive development of facilities for third party users, including accommodations, hotel, and commercial facilities which may require site grading.

iii) Jericho Station

Activities and Facilities would include the establishment of the Jericho Station located at or near the existing Jericho Mine Site for maintenance crew and truck drivers, including:

- Construction and operations of a vehicle parking area, three (3) person camp, offices, refuelling facilities, refuge station, and associated water, waste, and power facilities. Wastes backhauled to accredited facility or disposed of at Jericho station if incinerator or permanent waste storage location established.
- Optional use of the existing airstrip associated with the Jericho Mine during construction to mobilize the workforce and to bring in supplies. During operations, potential use of the existing airstrip at Jericho for emergency response.
- Up to 5,000 L fuel stored at the airstrip in drums or enviro-tanks.
- Tank farm established within secondary containment to hold up to 20 ML of fuel.
- Staging areas constructed to store materials in transit from Grays Bay until winter road established.

iv) Winter Road

Activities and Facilities would include the construction and operation of a winter road to connect various sites including:

- During construction, winter road sections would be constructed to access quarries and mobile camps along the all-weather road route.
- During pre-construction and annually thereafter, a winter road would connect the Jericho Station to Contwoyto Lake and the Tibbitt-Contwoyto Winter Road to transport supplies.
- During construction, approximately 1,000 trucks each winter season would transport supplies, with yearly amounts of traffic expected to decrease significantly during operations.

v) Quarrying

Activities and Facilities would include quarrying of up to 40 temporary and permanent sites to supply up to 8,000,000 cubic metres (m^3) of rock for construction of the road and port, with up to 100,000 m^3 required annually during operations for road maintenance. Locations approximately every seven (7) km and ideally within 500 metres of the proposed all-season road; every third quarry potentially a permanent quarry used for the life of the Project. Blasting may be required from some if not all quarries during construction; explosives would be stored in accordance with regulations.

vi) Water Use

Activities and facilities would include water use of up to 600 m^3 per day (100,000 m^3 per year) during construction, and less than 100 m^3 per day during operations; sources yet to be determined.

SCOPE OF THE ASSESSMENT

1) Anticipated Effects of the Environment on the Project

The scope of the assessment will include the potential for the Arctic environment to exert effects on the Project throughout the Project's life, including the following specific factors:

a. Climate and meteorology including climate change
b. Permafrost
c. Geotechnical hazards including slope movement, differential or thaw settlement, frost heave, and ice scour
d. Subsidence
e. Flooding
f. Unfavorable geological conditions
g. Sea level change

The scope of the assessment will include the potential for conditions in Nunavut's unique socio-economic environment, including the following specific factors:

a. Limited availability of labour and capacity
b. Limitations on physical infrastructure

2) Anticipated ecosystemic and socio-economic impacts of the Project

The assessment of the potential for ecosystemic and socio-economic impacts to result from the proposed project components and activities as outlined in the section above will be inclusive of the factors listed below. The assessment of impacts to each valued ecosystemic or socio-economic component shall take into account appropriate temporal and spatial boundaries and draw upon relevant information from scientific sources, Inuit Qaujimaningit[1], traditional and community knowledge.

a. Air quality including greenhouse gases
b. Climate and meteorology
c. Noise and vibration
d. Terrestrial environment, including:
    i) Terrestrial ecology
    ii) Landforms and soils
    iii) Permafrost and ground stability
e. Geological features including discussion of geology and geochemistry
f. Hydrological features and surface water quality
g. Hydrogeology and groundwater
h. Sediment quality

[1] Inuit Qaujimaningit encompasses Inuit traditional knowledge (and variations thereof) as well as Inuit epistemology as it relates to Inuit Societal Values and Inuit Knowledge (both contemporary and traditional).

i. Freshwater aquatic environment, including:
    i) Aquatic ecology
    ii) Aquatic biota including representative fish as defined in the *Fisheries Act*, aquatic macrophytes, benthic invertebrates and other aquatic organisms
    iii) Habitat including fish habitat as defined in the *Fisheries Act*
    iv) Commercial, recreational, and Aboriginal fisheries as defined in the *Fisheries Act*
j. Terrestrial vegetation
k. Terrestrial wildlife and wildlife habitat, including:
    i) Representative terrestrial mammals to include caribou, caribou habitat, migration and behavior, muskoxen, wolverine, grizzly bears, Polar Bears, wolves and less conspicuous species that may be maximally exposed to contaminants, with specific consideration of effects on caribou of the Bathurst and Dolphin and Union herds
    ii) Wildlife migration routes and crossings, with specific consideration of potential effects on migration of the Bathurst caribou herd
l. Birds and bird habitat, including:
    i) Raptors
    ii) Migratory birds
    iii) Seabirds
m. Marine environment, including:
    i) Marine ecology
    ii) Marine water and sediment quality
    iii) Marine biota including fish and benthic flora and fauna
    iv) Marine habitat
    v) Commercial, recreational, and Aboriginal fisheries as defined in the *Fisheries Act*
n. Marine wildlife
o. Terrestrial and marine Species at Risk, including
    i) Species under consideration for listing on the *Species at Risk Act*
    ii) Species designated “at risk” by the Committee on the Status of Endangered Wildlife in Canada
p. Socio-economic factors, including:
    i) Economic development opportunities
    ii) Employment
    iii) Education and training
    iv) Contracting and business opportunities
    v) Population demographics
    vi) Benefits and revenues (tax, royalties, etc.)
q. Traditional activity and knowledge and community knowledge including:
    i) Land use
    ii) Food security
    iii) Language
    iv) Cultural and commercial harvesting
r. Non-traditional land use and resource use
s. Heritage resources
    i) Archaeology

ii) Paleontology
iii) Cultural

t. Health and well being
   i) Individual and community wellness
   ii) Family and community cohesion
u. Community infrastructure and public services
v. Health and safety including employee and public safety
w. Cumulative effects, giving specific consideration to the project in terms of existing, proposed, and reasonably foreseeable future mining and transportation infrastructure projects, with specific consideration of advanced mineral projects such as Izok Lake, Ulu, High Lake, the Tibbetts-Contwoyto Winter Road, and an all-weather road from the Northwest Territories
x. Residual effects
y. Transboundary effects

3) Measures proposed by the Proponent to avoid and mitigate adverse ecosystemic and socio-economic impacts, including contingency plans

The scope of the assessment will include any contingency plans or risk management plans to avoid and mitigate adverse impacts caused by the proposed project components and activities. These plans must extend, where relevant, through all project phases. These plans shall take into account the appropriate temporal and spatial boundaries and are expected to draw upon relevant information from scientific sources, best practice as well as traditional and community knowledge and are to include, but not be limited to:

a. Avoidance, Mitigation and Offsetting Measures specifically related to fisheries offsetting for the Grays Bay Road and Port Project
b. Emergency response
c. Spill response
d. Hazardous materials management
e. Accidents and malfunctions
f. Regulatory requirements
g. Monitoring and Adaptive Management
h. Mitigation measures

4) Steps which the Proponent proposes to take to optimize benefits of the Project, with specific consideration being given to expressed community and regional preferences as to benefits

The scope of the assessment will include steps that the Proponent proposes to take to optimize benefits of the project, and should include, but not be limited to:

a. Compensation and benefits
b. Health benefits
c. Human health and well-being
d. Employment
e. Education and training
f. Land use

g. Contracting and business opportunities, and
h. Any non-confidential details from an Inuit Impact and Benefit Agreement.

5) Measures proposed by the Proponent to compensate persons whose interests are adversely affected by the Project

The scope of the assessment will include the steps that the Proponent proposes to take to compensate interests of parties adversely affected by the Project including all non-confidential details pertaining to any Inuit Impact and Benefit Agreement pursued in connection with the Project.

6) Measures proposed by the Proponent to restore ecosystemic integrity after the permanent closure of the project

The scope of the assessment will include any closure and reclamation plans to ensure that issues associated with the effective closure and reclamation of all Project components are considered at the earliest possible stage in the development process, thereby influencing design to take into account environmental issues related to closure and reclamation. These plans must extend, where relevant, through all project phases. These plans shall take into account the appropriate temporal and spatial boundaries and are expected to draw upon relevant information from scientific sources, best practice as well as traditional and community knowledge and are to include, but not be limited to:

a. Care and Maintenance
b. Closure and Reclamation

7) Any monitoring programs that the Proponent proposes to establish and to manage the ecosystemic and socio-economic interests potentially affected by the Project

The scope of the assessment will include any programs that would be established to monitor the potential ecosystemic and socio-economic impacts caused by the proposed project components and activities.

8) The interests in lands, waters and other resources which the Proponent has acquired or seeks to acquire

The scope of the assessment will include consideration for any interests in lands, waters and other resources which the Proponent has secured or seeks to secure based on the proposed works and activities or undertakings that constitute the Grays Bay Road and Port project proposal.

Organization	***Requirement***
Nunavut Impact Review Board	Project Certificate
Nunavut Water Board	Type 'A' Water Licence
Kitikmeot Inuit Association	Land Use Licences, leases, easements, right-of-ways, and Quarry Concession Permit(s)
Government of Nunavut – Department of Culture and Heritage	Archaeology Permit(s) and Palaeontology Permit(s)

Organization	***Requirement***
Government of Nunavut – Department of Environment	Wildlife Research Permit, Spill Contingency Plan approval
Nunavut Research Institute	Scientific Research Licence
Indigenous and Northern Affairs Canada	Class A Land Use Permit, Quarry Permits, and Land Use Lease(s)
Environment and Climate Change Canada	Approval for dredging, Environmental Emergency Plan approval
Fisheries and Oceans Canada	Section 35 authorization under the *Fisheries Act*
Natural Resources Canada	Licence for a Factory and Magazine
Transport Canada	Navigable Waters Approval(s) and/or Exemption(s) and Oil Pollution Prevention/Emergency Plan as per the *Canada Shipping Act*, Approval under the *Navigation Protection Act*
Workers Safety & Compensation Commission	Permit to Store Detonators, Explosives Use Permit

9) Options for carrying out the Project that are technically and economically feasible and the anticipated ecosystemic and socio-economic impacts of those options

The scope of the assessment will include consideration for alternative means of carrying out the Project that might be economically and technically feasible and the environmental effects of those alternative means. This assessment will include alternate timing and development options, as well as presenting the "no-go" or "no-build" alternative, and the "preferred" alternative. The "no-go" alternative is not only a potentially stand-alone option; it also serves as a baseline for comparison with other development alternatives that might reasonably be proposed in the circumstances.

10) Any other relevant information or matters

The scope of the assessment will include any other matters that the NIRB considers relevant, including:

a. Technical innovations previously untested in the Arctic including new technology for port and road design and operations
b. Inuit Qaujimaningit, traditional and community knowledge
c. Statement of consultation principles and practices
d. Significant effects analysis
e. Sustainability analysis
f. Interactions with Valued Ecosystem Components and Valued Socio-Economic Components
g. Discussion of similar resource development projects in other jurisdictions
h. Planned future development and the associated level of uncertainty