



1 Project Overview

1.1 Introduction and Project Location

Dynamic Ocean Consulting Ltd (Dynamic Ocean) has been retained by the Government of Nunavut – Department of Transportation and Infrastructure Nunavut (GN-TIN) as the regulatory specialist to support the permitting for the Kivalliq-Baffin Connector (KBC) Fibre Optic Cable Project (the KBC Project). The KBC Project is approximately 1,066 km in length and has four landings as below (depicted in Figure 1-1):

- Three landings on Baffin Island’s southern coast (Iqaluit, Kimmirut, Kinngait | Qikiqtani Region).
- One Landing on Southampton Island (Salliq [Coral Harbour] | Kivalliq Region).

The KBC Project will connect to a Branching Unit (BU) in Nunavik waters, northwest of Salluit (Nunavik), which was completed as a component of Phase 2 of the Kativik Regional Government (KRG) Eastern Arctic Underwater Fibre Optic Network (EAUFON) Project (hereafter referred to as the KRG Project).

Prior to finalization of the detailed design phase of the Project, a marine survey (the KBC Marine Survey) along the marine fibre cable route will need to be completed (described in Section 3).

Where the KBC Marine Survey will occur in the waters of the Nunavut Settlement Area (NSA) and the Nunavik Marine Region (NMR), approvals as summarized in Table 6-2 will be required from the following Institutions of Public Government (IPGs) and Authorities Having Jurisdiction (AHJ) (collectively referred to as AHJ for the intention of this document).

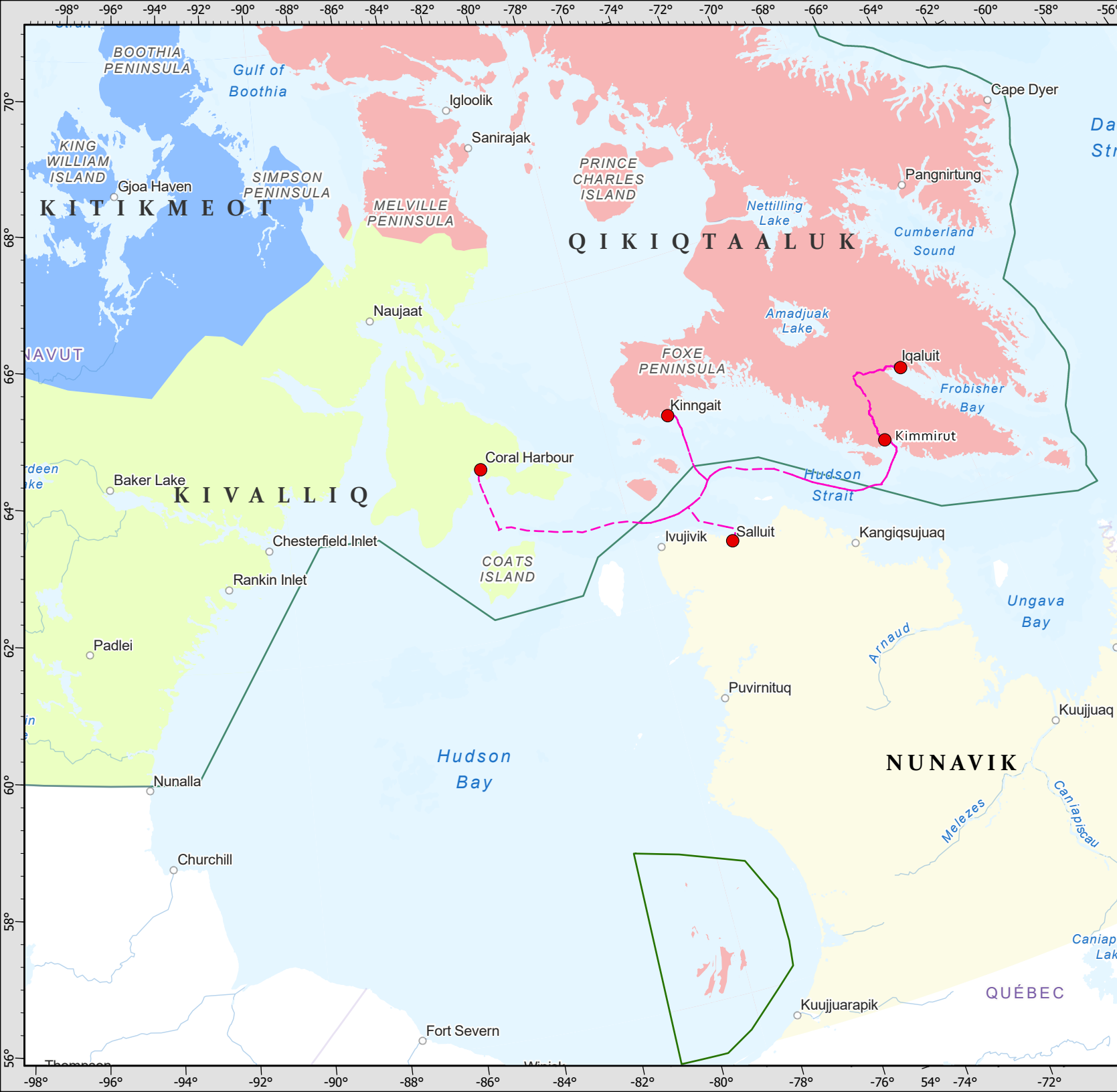
The KBC Marine Survey will be carried out by Seaforth Geosurveys Inc. (Seaforth) who were the successful contractor to complete the survey requirements.

1.2 Letter Intention

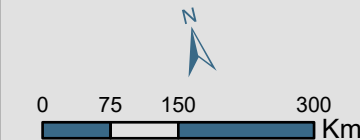
This is the KBC Marine Survey application letter to support the screening process with the Nunavut Impact Review Board (NIRB) and to acquire a Screening Decision Report (SDR).

1.3 Project Name

KBC Marine Survey.



- Landings
 - Route
- Nunavut Regional Boundaries**
- Kitikmeot
 - Kivalliq
 - Qikiqtaaluk
 - Nunavut Settlement Area
 - Nunavik



Spatial Reference
GCS: GCS WGS 1984
Datum: WGS 1984
Projection: Mercator Auxiliary Sphere
Map Units: Meter
Drawn: C. Knight

Figure 1-1

GN Fiber Optic Project & Nunavut Settlement Area Boundaries



2 Proponent and Representative Details

Contact information for the proponent is provided in Table 2-1.

Table 2-1: Proponent and Contact Information

Information Request	Details
Proponent Contact Information: Government of Nunavut	
Name	Victoria Burdett-Coutts, MSc., RPBio. Senior Regulatory Advisor
Address	PO Box 1000 Station 200 Community and Government Services Iqaluit, Nunavut X0A 0H0
Telephone / Fax	1-778-839-2372
Email	Vburdett-coutts@gov.nu.ca

3 Project Description

3.1 Scope

The intention of the KBC Marine Survey is to assess seabed conditions to support the detailed design phase of the KBC Project. The marine component sits entirely in either the NSA or the NMR.

The KBC Marine Survey will be composed of three main survey types as summarized below, with the activities required detailed in Table 3-1. Additional details are provided in Section 2 of the Environmental Management Plan (Dynamic Ocean, 2025):

- Geophysical Program.
- Geotechnical Program.
- Biological Program.

Table 3-1: Kivalliq-Baffin Connector Marine Survey Activities

Activity Type	Description	Surface Cable Lay Route	Buried Cable Route & HDD
Geophysical	• Swath bathymetry using a Multibeam Echosounder (MBES). • Side Scan Sonar (SSS). • Subbottom profiler (SBP). • Magnetometer. • Sound velocity profiling (SVP).	✓	✓
Geotechnical	• Sediment sampler (vibracore, grab sampler). • Cone Penetration Tests (CPTs).	-	✓
Biological	• Potential for Drop Camera requirements to support regulatory requirements.	TBD ¹	✓

Note: 1. The requirement for visual assessment of the seabed is under discussion with Fisheries and Oceans Canada – Fish and Fish Habitat Protection Program (DFO-FFHPP)

3.2 Survey Corridor

The Project footprint for the KBC Marine Survey will encompass the full extent of the marine cable route. Depending on the survey type, the survey corridor will range between 500 m to 900 m with the cable footprint as its centreline. A Study Area of 1 km lineal distance on both sides of the Project footprint (i.e., marine cable) has been defined based on the potential environmental effects that the KBC Marine Survey will generate. The Nunavut landings are described by the location of the Horizontal Direction Drilling (HDD) entry point in the marine environment and exit point on land. The marine entry point is referred to as Punch Out (PO) and the land-based exit point is referred to as Drill Entry Point



(DEP). The Nunavik landing is described by the location of the BU stub, as there is no land-based construction associated with this location.

The location of the landings is provided in Table 3-3.

Table 3-2: Kivalliq-Baffin Connector Marine Survey Spatial Areas

Spatial Area	Definition
Project footprint	The Project footprint is considered the footprint of the marine cable.
Survey Corridor	Considered the 'swathe' distance required on either side of the Project footprint that will be required during the survey for the Geophysical Program. Using the Project footprint as the centreline, this distance will range between 500 m to 900 m depending on survey type.
Study Area	The Project footprint plus a 1 km lineal distance on either side of it (thus 2 km total). The buffer extent is based on potential environmental effects resulting from the KBC Marine Survey.



Table 3-3: Kivalliq-Baffin Connector Project Marine Landings in Nunavut

Location	Location Description	Punch-Out		Punch-In		Branching Unit Stub		Pertinent Water Bodies ³	Hunter and Trappers Association / Organization
		Latitude	Longitude	Latitude	Longitude	Latitude	Longitude		
Nunavut Settlement Area									
Qikiqtani Region									
Kimmirut	Southern Baffin Island.	62° 50.4840'N	69° 51.6198'W	62° 50.5910'N	69° 52.1321'W	-		Hudson Strait, Glasgow Bay	Mayukalik Hunters and Trappers Organization (HTO).
Kinngait	Dorset Island on southwest coast of Baffin Island.	64° 14.3343'N	76° 32.8946'W	64° 14.1517'N	76° 32.5648'W	-		Foxe Basin, Hudson Strait	Aiviq HTO.
Iqaluit ¹	Frobisher Bay on south end of Baffin Island.	-						-	Amaruq Hunters and Trappers Association (HTA).
Kivalliq Region									
Salliq (Coral Harbour)	Southampton Island.	64° 06.2858 N	83° 13.6779'W	64° 06.8463'N	83° 12.5513'W	-		Hudson Bay	Aiviit HTO.
Nunavik Marine Region									
Makivvik									
Salluit ²	Northern coast of Quebec, Canada.	-				62° 38.8394'N	76° 30.5777'W	Hudson Strait, Sugluk Inlet	Anguvigaq Hunting, Fishing and Trapping Organization (HFTO).

Note:

1. Not applicable as there is no marine component in Iqaluit as the route between Kimmirut and Iqaluit is terrestrial
2. There is limited construction activity for the Nunavik landing, as there is already a BU installed from the KRG Project
3. See Figure 1-1 for pertinent waterbodies



3.3 Marine Survey Intention

The intention of the KBC Marine Survey is to:

- Assess seabed conditions (e.g. bathymetry, substrate, sub-surface geological layers beneath the seafloor to support the detailed design phase of the KBC Project to support the cable route engineering (e.g. confirm or amend the cable route, validate expected cable length estimates, identify seabed exit points, reduce fatal flaw uncertainties), application of cable types (armoring) and burial feasibility assessment.
- Ensure that the cable system is installed on the most benign seabed, avoiding any adverse impacts on sensitive living marine resources and clear of any features which could pose a threat to the design life of the cable system.

3.4 Schedule

The KBC Marine Survey will be undertaken in open-water seasons of 2025 or 2026 and will be expected to require approximately 75 days, however, if Seaforth utilizes a second vessel for the Geotechnical Program, the duration may be shorter. The KBC Marine Survey activities are planned to occur on a 24-hour basis in two 12-hour shifts.

3.5 Personnel

3.5.1 Crew

The crew size will be decided by Seaforth; however, it is expected to be approximately 28 people. The primary Point of Contact (PoC) will be Victoria Burdett-Coutts (see contact details in Table 2-1).

3.6 Opportunities for Local Participation

Seaforth will include Inuit-owned and/or Inuit partnered companies for refuelling, personnel transport, hotel accommodations, and reprovisioning to foster community engagement during the KBC Marine Survey.



4 Consultation

Earlier versions of the KBC Project have been discussed with the hamlets and Hunters and Trappers Organizations (HTOs) of Kinngait, Kimmirut, Kinngait and Salliq (Coral Harbour). Letters of support are provided in Appendix A from the following:

- Iqaluit
 - Iristel and Ice Wireless.
- Kimmirut
 - Kimmirut Hamlet.
- Kinngait
 - Kinngait Hamlet.
- Nunavut Tunngavik Incorporated (NTI).
- KRG.

5 Project Map

See Figure 1-1.



6 Land Use and Licensing

6.1 Land Use

The Land Use summary for the KBC Marine Survey is provided in Table 6-1.

Table 6-1: Land Use Summary for the KBC Marine Survey

Region	Category	Description
Nunavut (NSA)	Administrative Boundary	Qikiqtaaluk and Kivalliq Region
	Planning Region	North Baffin
	Land Use	Field activities most closely categorized as scientific research
	Land Ownership	Crown
Nunavik (NMR)	Land access and entry – Makivvik Corporation	

6.2 Approvals

Approvals expected to be required for the KBC Marine Survey are summarized in Table 6-2.

Table 6-2: Approvals Required for the KBC Marine Survey

Region	Authority Having Jurisdiction	Approval Type	Permit Status	Permit Number
Nunavut	Nunavut Planning Commission (NPC)	Conformity Determination	Issued on 20 May 2025	150741
	NIRB	SDR	Pending submission	-
	Nunavut Research Institute (NRI)	Research License	Pending submission	-
Nunavik	Nunavik Marine Regional Planning Commission (NMRPC)	Conformity Determination	Issued on 22 May 2025	125755
	Nunavik Marine Regional Impact Review Board (NMRIRB)	SDR	Pending submission	N/A



Region	Authority Having Jurisdiction	Approval Type	Permit Status	Permit Number
	Makivvik Corporation	Entry and Land Access Approval	Pending submission	N/A
Federal	DFO-FFHPP	Letter of Advice	Pending submission	N/A
	Crown Indigenous Relations and Northern Affairs Canada (CIRNAC) ¹	Land Use Permit (LUP)	Pending submission	N/A
	Transport Canada (TC)	Minor Works Order, no permit required	N/A	N/A

Note: 1. CIRNAC LUP is only pertinent to activities within the NSA as there is no requirement for sediment cores to be taken in the NMR as the fibre cable will connect to an existing BU.



7 Material Use & Waste Management

7.1 Equipment

Equipment expected to be required for the KBC Marine Survey is summarized in Table 7-1. Exact specifications of equipment will be a Seaforth led decision, but the types of equipment used is not expected to change potential environmental effects outlined in Section 8.

Table 7-1: Equipment Requirements for the KBC Marine Survey

Equipment Used	Quantity	Size & Dimensions	Proposed Use
Geophysical Program			
MEBS	1	1 m x 50 cm	Bathymetry with an approximately 500 m wide survey corridor.
SVP	1	8 cm x 27 cm	To measure the speed of sound at different water column depths.
SSS	1	2 m x 50 cm	Seabed type / conditions with an approximately 500 m wide survey corridor.
SBP	1	1 m x 1 m	Ground conditions below seabed with an approximately 500 m wide survey corridor.
Magnetometer	1	2 m x 50 cm	Identification of the Salluit BU.
Geotechnical Program			
Sediment sampler (ponar and or vibecore)	2	3 m x 50 cm	Seaforth will determine the frequency of samples required, with a minimum interval of every 10 km (buried cable route only). Not required to Salluit (Nunavik).
CPT	1	1.6 m x 1.6 m	To support determination of simultaneous laying and burial of the cable.
Biological Program			
Drop camera	1	2.5 m x 1.5 m	Visual observation of seabed conditions to support regulatory and environmental requirements.

7.2 Fuel Use

Refuelling during the KBC Marine Survey is planned to occur in Iqaluit. The vessel will have appropriately safe and secured fuel storage tanks, which will be equipped with vents, overflow protection and shut-off valves for safety.



7.3 Water Consumption

Water consumption requirements for the KBC Marine Survey are expected to be up to 125 litres/day, but final requirements will be confirmed by Seaforth. It is likely that Seaforth will have the ability to utilize a reverse osmosis desalination system to produce freshwater, as storage of freshwater may not be logistically achievable. If yes, Seaforth will be required to confirm that the water intakes for withdrawal of water from the marine environment will be of an appropriate mesh size to not impinge fish on the screen, while being in compliance with DFO Standards and Codes of Practice (SCOPs) for end-of-pipe fish screens (DFO, 2024).

7.4 Hazardous Materials

Hazardous materials that may be required for the KBC Marine Survey are not known at this time, as it will be a Seaforth led decision. However, any hazardous materials required will be appropriately stored on the survey vessel. Storage and handling procedures designed to prevent harm to personnel and the environment from hazardous materials will be as per the appropriate Safety Data Sheets (SDS). SDS will be kept on site.

7.5 Waste

Waste types expected to be required for the KBC Marine Survey are not known at this time, as it will be a Seaforth led decision. All waste during the KBC Marine Survey will be appropriately stored on the survey vessel and disposed of at an appropriate facility either in Nunavut or Southern Canada. Seaforth will be required to maintain a waste manifest to document appropriate storage. There will be no waste disposed at sea.



8 Environmental Management

Negative effects to the environment are not expected to result from the KBC Marine Survey. Mitigation measures, as described in Table 8-1, will be followed to provide effective environmental management in compliance with the legislation of pertinent AHJs and Best Management Practices (BMPs).

Table 8-1: KBC Marine Survey Environmental Effects and Mitigation

Environmental Effect	Mitigation
Disturbance to marine mammals & Fish	• A Marine Mammal Observer (MMO) will be present during the KBC Marine Survey to monitor for the presence of marine mammals. • A 1,000 m Exclusion Zone (EZ) will be monitored during survey activities as described in Section 3.1. Marine mammal behaviours will be observed and if animal display disturbance behaviours, the marine survey will be stopped until the marine mammal has left the EZ. • Marine mammal observations will be documented and maintained a data sheet that can be shared with AHJs if required. • Minimum approach distances and best practices, as outlined in the Marine Mammal Regulations (MMR), must be adhered to, and protected areas, as outlined within the most recent Notice to Mariners published by the Canadian Coast Guard (CCG) at the time of construction, will be followed. • Should water withdrawal be required from the ocean, water intake will be in compliance with DFO- FFHPP SCOPs for end-of-pipe fish protection screens (DFO, 2024). • If species at risk are reported or observed, the MMO will record, document, and monitor their presence (including time, date, location, activity, and proximity to survey vessel), determine potential impacts to species at risk, and any modification to activities that may be required to protect species at risk.
Temporary sediment suspension	• The footprint of the sediment samples is not expected to be impactful to the seabed, and turbidity is not expected to result in exceedances of the federal Canadian Council of Ministers of the Environment (CCME) Water Quality Guidelines (WQG) (CCME, 1999).
Accidental spill	• Seaforth will have a Contractor Spill Response Plan (CSRP) in place.



Environmental Effect	Mitigation
	• All spills will be reported in accordance with the <i>Spill Contingency Planning and Reporting Regulations</i> by calling the 24-hour Spill Report Line at 867-920-8130. • Vessel fuel storage will be accompanied with spill prevention, containment, and clean-up materials that are suitable for the volume of fuels carried.



9 References

- CCME. (1999). Turbidity. Water Quality Guidelines for the Protection of Aquatic Life - Marine. Available at: https://ccme.ca/en/chemical/219#_aql_marine_concentration. Accessed: May 2025.
- DFO. (2024). Standards and Codes of Practice. Available at: <https://www.dfo-mpo.gc.ca/pnw-ppe/practice-pratique-eng.html>. Accessed November 2024.
- Dynamic Ocean. (2025). Kivalliq-Baffin Connector Project Marine Survey: Environmental Management Plan. Prepared for the Government of Nunavut. Doc No: PLN-GN-01.1-GN Fibre Optic Project EMP-0001-25. in-prep. Rev 2.

Appendix A: Letters of Support



Iristel and Ice Wireless



[Delivered by email]

Jean-François Dumoulin
675 Cochrane Drive, East Tower, 6th Floor
Markham, ON
514-800-1577
regulatory@iristel.com

3 May 2023

Mehdi Tahuri
Project Director, GN Fiber Commercialization
Government of Nunavut
Information Management / Information Technology
Community and Government Services
P.O. Box 1000 STN 660
Iqaluit, Nunavut X0A 0H0
MTAHURI@GOV.NU.CA

Dear Mr. Tahuri,

Re: The GN Phase 3 Fibre Project [Kivalliq – Baffin Connector Fibre Project]

I have received your letter dated 2 May 2023 regarding the consultation for your project to install fibre optic cable infrastructure for telecommunications in Iqaluit, Kimmirut, Kinngait, and Coral Harbour.

Iristel and its affiliate Ice Wireless strongly support this project.

Ice Wireless is a mobile wireless service provider in Iqaluit. Ice Wireless was the first service provider to offer data services over mobile wireless technology in Iqaluit through our 3G/HSPA system. Ice Wireless now offers services over 4G/LTE to residents and businesses in Iqaluit. Our number one obstacle to providing faster, more affordable, and more reliable mobile wireless services in Iqaluit is the lack of affordable high-capacity transport networks linking Iqaluit to the rest of the world. Iristel and Ice Wireless have acquired 600 MHz and 3500MHz spectrum in Nunavut for the express purpose of upgrading our mobile wireless services to 5G technology. However, unless affordable, high-capacity network transport becomes available, there is little point in investing in 5G technology for Iqaluit as the current GEO and LEO satellite-based transport networks will not support 5G speeds.

We strongly advocate for public ownership of the transport network infrastructure and recommend that the Government of Nunavut adopt a commercial model like the Government of Northwest Territories' model for the Mackenzie Valley Fibre Link. Using this model, Ice Wireless is able to acquire abundant network transport capacity in Inuvik, NT and Norman Wells, NT at approximately one twentieth of the cost of Northwestel's regulated rate for Wholesale Connect. A similar arrangement in Iqaluit and other Nunavut communities would ensure that non-incumbent service providers like Ice Wireless can continue to provide



healthy competition for mobile wireless services, and open new markets in Nunavut, which will stimulate innovation and discipline pricing to the benefit of the consumers and business that we serve.

I hope that the CRTC will move ahead with funding for your fibre optic transport project and that construction will begin as soon as possible.

Sincerely,

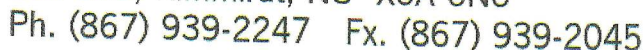
A handwritten signature in blue ink that reads 'JF Dumoulin'.

Jean-François Dumoulin
VP, Regulatory and Government Affairs

cc: IMIT@GOV.NU.CA

Hamlet of Kimmirut





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Hamlet of Kinngait





Municipality of Kinngait

P.O. BOX 30; KINNGAIT, NUNAVUT; X0A 0C0

TELEPHONE: (867) 897-8943

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May 5, 2023

Via email: MTAHURI@gov.nu.ca, IMIT@gov.nu.ca

Dean Wells, CIO
Government of Nunavut
Community and Governance Services, IM/IT
P.O.Box 1000 STN 660
Iqaluit, Nunavut
X0A 0H0

Re: Letter of Support for The Government of Nunavut Application to the CRTC Broadband Fund, 3rd Call

Dear Mr. Wells,

I was pleased to learn about the Government of Nunavut's plans for the GN Phase 3 Terrestrial/Subsea Fibre (Kivalliq-Baffin Connector) project.

My community has been underserved with respect to high-speed, reliable, and affordable telecommunication services, for as long as I remember. As I understand a resilient fiber optic network access will be the major step forward toward removing the gap in availability of digital services between our territory and the rest of Canada.

This project has the potential to create the infrastructure allowing further cultural, educational, and business relationship between the residents of my community and the rest of the world.

Therefore, I fully support your application to the CRTC Broadband fund for funding of the GN Phase 3 Terrestrial/Subsea fibre (Kivalliq-Baffin connector), intended to bring affordable high-speed broadband services to Kinngait and three other Nunavut communities.

Regards

A handwritten signature in blue ink, appearing to read "Jimmy Manning".

Jimmy Manning
Mayor of the Hamlet of Kinngait

Nunavut Tunngavik Incorporated



Bouchard, Jean-Francois

Subject: FW: Support for Broadband

From: James T. Arreak <JTArreak@tunngavik.com>

Sent: May 25, 2018 11:12 AM

To: Kimball, Lori <Lori.Kimball@GOV.NU.CA>

Cc: Hannah Uniuqsaraq <HUniuqsaraq@tunngavik.com>; Taqialuk Peter <TPeter@tunngavik.com>

Subject: Support for Broadband

Hi Lori,

As you are aware, NTI is very interested in the development of broadband in the Territory and the significant benefits it can offer Nunavummiut. Please accept this e-mail as confirmation of NTI's support for the negotiated contracts for both Northwestel (satellite) and the Undersea Fibre Optic Network Design.

We appreciate the fact that you have been engaging with NTI, the Nunavut Economic Forum, and Nunasi as you work towards advancing broadband for the Territory, and look forward to continued collaboration.

NTI supports the GN's effort to undertake the first phase of the marine survey this summer and to utilize opportunities to proceed with direct contract negotiations with the successful proponent of the tender to be issued by the Kativik Regional Government. NTI supports the Government of Nunavut's request to exercise sec. 3.1 of the Nunavummi Nangminiaqtunik Ikajuuti (NNI Policy) where it states .."Cabinet may, where warranted by the public interest, depart from the provisions of the NNI Policy in exceptional circumstances". In this particular case, NTI also supports GN's rationale that this is in the best interest of the public as this timing allows the GN to save costs on the specialized study and expedite this phase for the summer of 2018.

NTI looks forward to periodic updates on the status of this project.



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Atanguyak
Munagiyit Atanguyait Ikayuktiit

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Kativik Regional Government





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