

▷<sup>9</sup>ḅ<sub>ḥ</sub>▷<sup>ḥ</sup>ḥ: 3609811704, ḥḅḥ<sup>ḥ</sup>ḥ:

$\text{b}^{\flat}\Delta^{\flat}\dot{\text{c}}\text{n}_{\sigma^{\flat}} \quad \Lambda_{\tau}\text{n}\nabla^{\flat}\text{b}^{\flat}\sigma\nabla\text{n}\nabla^{\flat}\text{l}^{\flat}\sigma^{\flat}$

Far North Digital LLC is developing the Far North Fiber cable project. It is the first submarine fiber optic cable to be laid through the Arctic Ocean and the Northwest Passage connecting Asia and Northern Europe. The 14,000km route extends through Canadian waters entering the Queen Elizabeth Islands from the west through McClure Strait, proceeding through Viscount Melville Sound, Barrow Strait and Lancaster Sound, then exiting into Baffin Bay and south through Davis Strait into the North Atlantic Ocean. The cable will incorporate a number of branching units which will provide for future branches to strategic landing sites in Canada's Arctic Archipelago. This application is made for, and limited to, activities involved in the marine route survey for the future communications corridor. The application covers shipboard marine survey activities that will determine a suitable route for the future installation of the Far North Fiber cable. The work associated with installation of the cable will be the subject of a future, separate permit application. The approximate route length of the cable through Canada's territorial seas is 1,360 kilometers. Of that, roughly 900 km traverses Nunavut waters. The survey corridor will be 500 meters wide along the length of the route. The Marine Survey will be performed along the cable route to 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. The geophysical and geotechnical investigation of the route establishes a detailed profile of the seabed corridor where the cable is to be laid. The survey will include a Burial Assessment Survey (BAS) which consists of Cone Penetrometer Testing (CPT) and measurements to predict the soil type, its relative density and shear strength. The output of this activity enables production of a unique cable profile which is specifically adapted to the nature of the seabed to ensure long-term durability of the cable. Project timeline makes conservative allowance for survey activities over the entire cable route from Japan to Europe for up to two and a half years, affording opportunity for weather and ice dependent effort in the Arctic for up to three summer seasons, 2022-2024. Survey operations will be conducted on a 24-hour basis, weather and sea conditions permitting, and the survey vessel will display the shapes and lights prescribed in the International Rules for the Prevention of Collisions at Sea (COLREGS) Rule 27, to indicate that the survey vessel is restricted in its ability to maneuver. A listening watch will be maintained at all times on VHF Channel 16, and the vessel will actively transmit an AIS signal. Coordinates of the survey area will be broadcast at regular intervals on Channel 16 and appropriate working channels as prescribed Notices to Mariners.

▷ Δ<sub>6</sub> ∩ D<sup>c</sup>: tbd

[illegible]

Inuinnaqtun: Far North Digital LLC pivallialiqitut Ungahiktumi Tununnganaq Ivalutut ittut alrujaq havaaq. Hivulliqpaanguuvluni tarjurm iluaniittut umiaqtut qiplariktut ivalutut ittut alrujaq innanganiaqhimaquq uvani Ukiuqtaqtuq Tarjunga unalu Tununngani Uataanit Ikaaruhig katilviujuq Asia unalu Tununnganaq Europemi. Una 14,000 kilamiitastigut ungahingnia uvuuna Kanatamiunut imat itiliqtaa hamna Queen Elizabeth Qikiqtangit uvanngat uataanit uvuuna McClure Ikaangit, Ikaa, pilihaaqhuni uvuuna Viscount Melville Kangiqhua, Barrow Ikaa unlu Lancaster Kangiqhua, ikaaqhuni iluanut Qikiqtaaluk unalu hivuraanit uvuuna Davis Strait iluanut Tununnganaq Atlantic Tarjua. Una alrujaq ilaginiaqtangit amihuujut qupikhimajangit ilagijaujut tunijakhaat hivunikhangit qupikhimajut parnaijajakhaat minnahuaarangat najugaanut iluani Kanatam Ukiuqtaqtuq Qikiqtalinnuit. Una tukhiutijangit hanajauhimajut haffumani, unalu iniqhimaittut, hulidjuhiit ilagijaujut imarmiutaujut iningit nalunaijaijut hivunikhangit tuhagakhaujut tulagvik. Una tukhiutijangit pulahimajangit umiaquqtunut agjaqtut imarmiuttat nalunaijainigut hulijakhangit ihumaliuqtakhaat ajurnaittumik apqutikhangit hivunikhanut iliuraimajangit haffumani Ungahiktumi Tununnganaq Ivalutut ittut alrujaq. Una havaaq ilagijaujut iliurainirnut haffumani alrujaq ihumaginiaqtangit hivunikhangit, ahikkut laisiata ilanganit tukhiutijakhaat. Takiniqhaujungnaqhijuq haffumani alrujaq uvuuna Kanatam nunallaangit tarjuat hamnavlutik 1,360 kilamiitastigut ungahingnia. Haffumani, 900 kilamiitastigut ungahingniqarungnaqhijuq ikaqtut Nunavut imainnit. Una nalunaijaijut tulagvik takiniqhaa 500 miitas hilingnia haniraanit takiniqhaa ikaarninga. Una Imarmiuttaq Nalunaijainigut iniqhimajakhaat hinaanit alrujangit ikaarninga pidjarikhigiami alrujaqarvik iliuraqhimaquq aqittumi tarjum natia, pittailivlugit pijumanngittangit ihuuluutauhimajut qajangnaqtumik inuuhimajut imarmiuttat avataita tutqirnaqtumik hup ilitquhianit ajuqhautihimalaaqtangit hivuuranarningat tiliugarnit inuuhianit haffumani alrujaqarvik. Una nunaliquiningit unalu nuna qaujiharningit qimilruqtaat haffumani inikhangit aulapkaihimajut tukiliuqhimaquq haffumani tarjuq tukinga natia tulagvinga hamna alrujaq nahimaquq. Una nalunaijainigut ilagilaaqtangit lluvirvingat Ihivriurningit Nalunaijainiq (BAS) ilagijaat Takkaq Imarmi Uuktuutigijangit Ihivriurjut (CPT) unalu uuktuutigijangit kangiqhiinnaqtangit marlunga tukiliutaa, ilagijangillu hitingnia hakugingningalu. Una aulavikhaq haffumani hulidjuhiit ikajuutigijangit aulavikhaq haffumani arlingnaqtumik alrujaq ilitturninga taimaa ihuaqhinnaqtuq ilitquhianit haffumani tarjum natia aturaaqtakhaanit hakugiangnia haffumani alrujaq. Havaaq ikaarningit pitquhirijaat atuinnaqhugit nalunaijainigut hulidjuhiit tamainnut alrujaq ikaarningat uvanngat Japan uvunga Europe naahimalugu marluk avvautigillu ukiungat, atulaaqtangit hailijakhangit hila hikungalu qanurinningit akhuuqtangit Ukiuqtaqtuq naahimalugu pingahut aujaq hilaqutitigut, 2022-2024. Nalunaijainiq aulattittijut aulapkailaaqtut uvani 24 nit ikaarnigut kigligutaanit, hila tarjungillu qanurilinganingit pivluni, unalu nalunaijaijuq umiaq takukhauhunnguquq iliktirutaanit qullingillu uqaqhimaquq uvani Hilarjuatigut Maliktangit haffumani Ahijuqtailinahuarniq Tarjumi (COLREGS) Maliktangit 27, naunaiqhiilugillu nalunaijainiq

umiaq iniqpiaqhimajuq pilaaqhutik hanaqigiami. Naalakhimajut tautukhutik munarijauluni qautamaat uvani VHF Qunniarnaqtuq 16, unalu umiaq turaaqhimainnarniaqtangit hamna AIS naunaitkut. Aulapkaqhutik haffumani nalunaijainigit iningit qunniattaqtakhaat akunnganit uvani Qunniarnaqtuq 16 mi nalaumajumik havangnaqtut qunniarnaqtut tukiliuqhimajut Nalunaitkutat uvunga Imarmiutaujut.

#### **Personnel**

Personnel on site: 50

Days on site: 28

Total Person days: 1400

Operations Phase: from 2022-07-16 to 2024-10-15

Operations Phase: from 2022-07-16 to 2024-10-15

Post-Closure Phase: from to

$\Lambda \subset \mathbb{N} \triangleleft \mathbb{N} \hookrightarrow \mathbb{D} \sigma \triangleleft^{\text{fb}} \mathbb{D}^c$ 

ᐱᑦᑭᓂᓄᓇᑦᑕᓂᓄᓇᑦ ᐱᑦᑭᓂᓄᓇᑦᑕᓂᓄᓇᑦ	ᑭᓂᓄᓇᑦᑕᓂᓄᓇᑦ ᐱᑦᑭᓂᓄᓇᑦᑕᓂᓄᓇᑦ	ᑭᓂᓄᓇᑦᑕᓂᓄᓇᑦ ᐱᑦᑭᓂᓄᓇᑦᑕᓂᓄᓇᑦ	ᑭᓂᓄᓇᑦᑕᓂᓄᓇᑦᑕᓂᓄᓇᑦ ᐱᑦᑭᓂᓄᓇᑦᑕᓂᓄᓇᑦ	ᑭᓂᓄᓇᑦᑕᓂᓄᓇᑦᑕᓂᓄᓇᑦ ᐱᑦᑭᓂᓄᓇᑦᑕᓂᓄᓇᑦ	ᑭᓂᓄᓇᑦᑕᓂᓄᓇᑦᑕᓂᓄᓇᑦ ᐱᑦᑭᓂᓄᓇᑦᑕᓂᓄᓇᑦ
waters of Northwest Passage	Marine Based Activities	Marine	Marine waters comprising part of Northern Canada's Northwest Passage between Beaufort Sea and Baffin Bay.	Traditional subsistence hunting and fishing waters of Canada Indigenous Peoples. Human occupation and use of the Tallurutiup Imanga region can be traced back to the Dorset (500 BC–1500 AD) and Thule (about 1000 AD until approximately 1500 AD) cultures that preceded the Inuit who live in the area today.	Cable route passes through portion of Tallurutiup Imanga National Marine Conservation Area.

မေတ္တဝါ အသိပညာတို့၏ အကျိုးအမြတ်ကို အသိပညာတို့၏ အကျိုးအမြတ်ကို

ደረጃ ስኬት	ፋክ	ፎካል ፕላንና ስኬት	ፍጥነት ጋራ በርዕሰ ስራ
Information is not available			

[illegible]

$a^{\dagger}r_4^{\alpha}r^{\alpha}\sigma^b \wedge c_{\mu}n_4^{\mu}n^{\mu}\delta\sigma_4^{\dagger b}D^c$   $\cap\cap\eta^{\dagger}\omega r^c:$

## Transboundary

## Kitikmeot

North Baffin

[illegible]

ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ	ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ	ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ	ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ / ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ	ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ
ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ	Authorizing foreign ship or non-duty paid ship to conduct commercial activity in Canadian waters, including cable-laying operations	Not Yet Applied		
ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ	Project components below the high water level	Not Yet Applied		
Environment and Climate Change Canada	Project components in Migratory Bird Sanctuaries	Not Yet Applied		
ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ, ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ	Project components on land or water that infringes on the habitat of Arctic species	Not Yet Applied		
ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ ᐱᑦᓴᐅᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇᓂᓄᓇ	Project components on land in an NMCA	Not Yet Applied		

## Project transportation types

Transportation Type	Estimated Annual Fuel Consumption (Gallons)	Length of Use
Water		

### Project accomodation types

◁ ୨୦୧୬,

**Λ<sup>9</sup>D<sup>c</sup> Δ<sup>a</sup>R<sup>d</sup>Δ<sup>b</sup> ΔD<sup>b</sup>C DσD<sup>e</sup>L<sup>d</sup>Δ<sup>b</sup> Δc<sup>b</sup>P DΠ<sup>c</sup>R<sup>c</sup> ΔjCΔ<sup>c</sup>, Γ<sup>c</sup>ΔPΔ<sup>c</sup>, Δ<sup>b</sup>L Cj<sup>b</sup>, ΔeP D<sup>c</sup> ΔP<sup>a</sup>R<sup>c</sup>Δ**

<b>ᐃᓕᑦᑭᔪᓗ ᐱᓖᑐ ᐋᑲᑯᑳᐅᐅᐂᐊᓖᑲ ᓖᑲᐁᐃᑦᑎᐂᓚ</b>	<b>ᓖᑲᑦᒫᑳᑦᑰᑦ</b>	<b>ᐊᓖᑦᑭᐂᓚᑦ - &gt;ᓖᑲᑲᐂᓚᑦ</b>	<b>ᑭᐁᑯᑦ ᐋᑲᑯᑳᐅᐅᐂᐊᓖᑲ</b>
marine survey vessel	1	approx. 75m	geophysical and geotechnical cable route survey

ፖሊሳ ፖሊሳህገፍ ፈጋጠሙፋፍረ	ፍጠራጋረጠረ ፖሊሳህገፍ	ፍጠረረ ፖሊሳህገፍ	ጎሳረ ፈጠሳጠረፍጠረ	ጠረፍ	ጎሳረ ፈጠሳጠረ	ፖሊሳ ፈጋጠሙፋፍረ
Diesel	fuel	6	60	360	Cubic Meters	vessel main engine propulsion, shipboard generators

ᐅᑦᓂ ᑕᐱᑦᓂ ᐱᐅᑦᓂᑕᐅᑦᓂᐱᑦᓂᑦ	ᑦᓂᓂᑦ ᐱᐅᑦᓂᑕᑦᓂᑦᑕᑦᓂᐱᑦᓂᑦ	ᓇᐅᑦ ᐱᐅᑦᓂᑕᑦᓂᑦᑕᑦᓂᐱᑦᓂᑦ
0		

$$\Delta^b C d_{\sigma} \sim \Delta^q \sigma^q$$
[illegible]







# **Additional Information**

**SECTION A1: Project Info**

**SECTION A2: Allweather Road**

**SECTION A3: Winter Road**

**SECTION B1: Project Info**

**SECTION B2: Exploration Activity**

**SECTION B3: Geosciences**

**SECTION B4: Drilling**

**SECTION B5: Stripping**

**SECTION B6: Underground Activity**

**SECTION B7: Waste Rock**

**SECTION B8: Stockpiles**

**SECTION B9: Mine Development**

**SECTION B10: Geology**

**SECTION B11: Mine**

**SECTION B12: Mill**

**SECTION C1: Pits**

**SECTION D1: Facility**

**SECTION D2: Facility Construction**

**SECTION D3: Facility Operation**

**SECTION D4: Vessel Use**

**SECTION E1: Offshore Survey**

**SECTION E2: Nearshore Survey**

### SECTION E3: Vessel Use

## SECTION F1: Site Cleanup

## SECTION G1: Well Authorization

## SECTION G2: Onland Exploration

## SECTION G3: Offshore Exploration

## SECTION G4: Rig

## SECTION H1: Vessel Use

## SECTION H2: Disposal At Sea

## SECTION 11: Municipal Development

$\dot{L}^{\infty}_x \nabla \varphi \cap D^{1,p}_{\sigma}(\mathbb{R}^d) \subset L^{\infty}_x D^{1,p}_{\sigma}(\mathbb{R}^d)$ :  $\text{meas } D^{1,p}_{\sigma}(\mathbb{R}^d)$

Canadian waters entering the Queen Elizabeth Islands from the west through McClure Strait, through Viscount Melville Sound, Barrow Strait and Lancaster Sound, then exiting into Baffin Bay

**ᐱᓪᑦ ᐃᑦᐅᑦ ᖃᓄᐃᑦᑐᓚᓂᐅᓂᖅ: ᐅᐭᐳᖃᑕᖃᓂᖅ**

The Tallurutiup Imanga region is a major east-west migratory corridor leading from Baffin Bay into the Arctic Archipelago and linking wintering and summering areas. Most species present are migratory and they all depend on this region as they move from one essential habitat to another. The area provides essential habitat for narwhal (up to 75% of the global population); beluga (20% of the Canadian population); polar bears (largest subpopulation in Canada); and several seabird species (some of the largest colonies in the Canadian Arctic).

$\dot{L}^{\infty}_{\omega} \cap L^{p(\cdot)}_{\omega} \hookrightarrow b_{\omega} A^{p(\cdot), \lambda}_{\omega} \subset L^{q(\cdot)}_{\omega} : A_{\omega} p(\cdot) \sigma' j^{\omega}_L \leq \Lambda \leq A q(\cdot) \sigma' j^{\omega}_L$

### Miscellaneous Project Information

[illegible]

## Cumulative Effects

## Impacts

$\omega \rightarrow \omega \Delta^{\epsilon_b} C D \sigma^{\epsilon_c} \Gamma^c$      $\Delta^c \cap \Gamma D C \dot{\sigma}^c \dot{\gamma}^c$      $\Delta^b \dot{\gamma}^b C D \Gamma L \dot{\gamma}^c$

[illegible]
$$(P = \langle b \rangle \Delta \langle p \rangle \cap \langle a \rangle \langle b \rangle^c, N = \langle b \rangle \langle p \rangle \langle \Delta \rangle \langle a \rangle \langle b \rangle^c \langle \Delta \rangle \langle p \rangle \langle p \rangle^c \langle \Delta \rangle \langle a \rangle \langle p \rangle^c, M = \langle b \rangle \langle p \rangle \langle \Delta \rangle \langle a \rangle \langle b \rangle^c \langle \Delta \rangle \langle p \rangle \langle p \rangle^c \langle \Delta \rangle \langle a \rangle \langle b \rangle^c, U = \langle b \rangle \langle \Delta \rangle \langle a \rangle \langle p \rangle^c \langle b \rangle)$$



## List of Project Geometries

1     polyline                waters of Northwest Passage