

NIRB Project Application Form 125720, 22YN034  
Far North Fiber Marine Route Survey  
July 28, 2022

Additional requested information:

1. Please include the types of survey equipment that will be used.

Survey vessel – typical survey vessel and specs attached separately: [survey vessel](#)  
[Ridley Thomas Specs Rev15.pdf](#)

Typical equipment includes:

- Veripos LD2/LD6 DGPS with Qinsy Navigation Package
- Kongsberg EM122 Multibeam Echosounder with CARIS HIPS/SIPS Processing package
- Reson Seabat 7101 Multibeam Echosounder
- Kongsberg EA400 Single-beam Echosounder
- GeoAcoustics GeoPulse 4x4 Hull mounted Pingler Sub bottom Profiler
- EdgeTech 4200 Side-Scan Sonar & EdgeTech 2000-DSS dual frequency CHIRP/Side-Scan Sonar Combined System and 6,000m deployment winch
- Kongsberg HiPAP 352 USBL System
- Geometrics G-882 Magnetometer
- Datem Neptune 3000 Seabed CPT with winch for deployment to 2,000m water depth
- 3m Gravity Core capable of deployment in 2,000m water depth

Data returns along the route survey corridor include:

- Bathymetry, Multibeam Echo Sounder (MBES) 500m corridor
- Side Scan Sonar (SSS) & Sub-bottom Profiling (SBP)
- Seabed Sampling 10km average spacing in shallow water (SW)
- Burial assessment survey (BAS) - CPT (Cone Penetrometer Testing) on average every 4km of the buried route; Cone penetration tests up to 5m. Measurements allow prediction of soil type, relative density (sands) or shear strength (clays)

2. What type of surveying operations will Far North Digital will be carrying out?

Geophysical Survey - deep-water surveys to generate an end-to-end assessment of the cable route design, and characterization of the seafloor along the intended cable corridor. Tasks associated with the marine survey through Canada's Northwest Passage include the following:

- Topographical Survey
- Bathymetry Collection (Side Scan, Multi-Beam, Sub-Bottom Profiling)
- Sub-Surface Sampling
- Geological Interpretation
- 3D Model Route Simulation

Geotechnical Burial Assessment - accurate burial assessment and feasibility.

- Seabed Depth
- Evaluate slope, erosion, seismic profiles, sediment and other seafloor characteristics.
- Cone Penetrometer Testing (CPT): Penetration, Relative Density, Shear Strength
- Interpreted Sediment Lithology
- Geotechnical Coring
- Route Obstacles
- Geotechnical Interpretation/Engineering

3. Please include the disposal of waste including wastewater

The marine survey vessel will operate in full compliance with the **Canadian Environmental Protection Act, as amended**.

The marine survey vessel will not dispose of solid waste within the territorial seas of Canada.

Wastewater will be treated in accordance with the applicable Canada standards in **Vessel Pollution and Dangerous Chemicals Regulations (SOR/2012-69)**. This includes compliance with requirements of Subdivision 4 – Shipboard Documents, and Subdivision 5 - Discharges of Sewage or Sewage Sludge.

4. Please include the dates of operations:

Survey vessel operations in the Canadian Arctic are planned to take place during one or more summer seasonal sea ice openings in 2022, 2023, and 2024. Potential openings are anticipated to occur in the period between mid-August and mid-October, and a specific plan of work will be fixed in close consultation and coordination with the Canada and U.S. National Weather Services, the Canadian Coast Guard, the Canadian Ice Service and U.S. National Snow and Ice Center, as well as other ice forecasting and observation services.

5. Once your translations are received, please include in the non-technical summary text boxes.

The Far North Fiber Project Application 125720 has been amended in the online NIRB portal to include Inuktitut and Inuinnaqtun translations of the Non-Technical Project Proposal Description.