



NIRB Uuktuutinga Ihivriughikhamut #126022

Chesterfield Inlet Sealift Improvements Project

| | |
|---------------------------------|---|
| Uuktuutinga Qanurittuq: | New |
| Havaap Qanurittunia: | Coastal Infrastructure |
| Uuktuutinga Ublua: | 12/23/2024 1:39:39 PM |
| Period of operation: | from 2025-06-25 to 2055-10-25 |
| Havauhikhaq Ikayuqtinga: | Richard Hoos Tetra Tech Canada Inc. 1000, 885 Dunsmuir Street Vancouver British Columbia V6C 1N5 Canada Hivayautit Nampanga:: 604 813 4952, Kayumiktukkut Nampanga:: |

QANURITTUT

Tukihiannaqtunik havaariyaumayumik uqauhiyun

Qablunaatitut: Chesterfield Inlet is planning improvements to the Community's sealift area. The following improvements are proposed to address the primary issues associated with the current sealift facility:

- 1. Expanded Laydown Area**The improvements will involve the reclamation of land immediately east of the Northern Store and the existing sealift ramp, with an overall increase of approximately 0.5 hectares of laydown space.
- 2. Sealift Ramp Resurfacing**The existing sealift ramp requires some upgrades, including resurfacing the lower part of the ramp with a granular substrate in order to improve traction for the operation of heavy machinery.
- 3. Boulder Clearing**There are many large boulders present in the sealift area that impede the efficient landing of barges and the operation of heavy equipment in the intertidal zone. These boulders will be removed to facilitate barge landings and unloading operations.
- 4. Lighting**Lighting will be installed at both the sealift ramp and laydown area. Components will include standard Quilliq Energy Corporation poles and LED flood lights. Standard road and caution signs will be installed in both Inuktitut and English.

Proposed DesignThe project is located within the municipal boundaries of the Hamlet of Chesterfield Inlet at approximately N63°20' 26", W 90°41' 52". Tetra Tech considered a 30-year design life for the proposed laydown area pad and shoreline protection works. To reduce the chance (probability) of a storm event with a return period of once in 50 years, to occur during the assumed design lifetime of the laydown area, the pad will be built to a +4.5 m GD crest elevation. Aggregate material for the project will be taken from the municipality's existing quarry, west of the community and within municipal boundaries, or from other sources further west that have already been approved for use. Approximately 0.5 hectares of new laydown space will be created in the upper intertidal zone of the small embayment. The intertidal zone in this area is typically relatively unproductive due to annual freezing and ice scouring conditions. It should also be noted that the new riprap shoreline area to be constructed to protect the expanded sealift laydown area will provide new rocky marine habitat and provide sheltered habitat between the rocks for marine invertebrates such as amphipods, isopods and marine worms.

Uviititut: Chesterfield Inlet prévoit des améliorations à la zone de transport maritime de la communauté. Les améliorations suivantes sont proposées pour régler les principaux problèmes associés à l'installation actuelle de transport maritime :

- 1. Zone de dépôt élargie**Les améliorations comprendront la remise en état de terrains immédiatement à l'est du magasin nord et de la rampe de transport maritime existante, avec une augmentation globale d'environ 0,5 hectare de l'espace de dépôt.
- 2. Resurfacement de la rampe Sealift**La rampe de transport maritime existante nécessite quelques améliorations, notamment le resurfacement de la partie inférieure de la rampe avec un substrat granulaire afin d'améliorer la traction pour le fonctionnement de la machinerie lourde.
- 3. Dégagement de rochers**Il y a beaucoup de gros rochers présents dans la zone de transport maritime qui entravent l'atterrissage efficace des barges et le fonctionnement de l'équipement lourd dans la zone intertidale. Ces rochers seront enlevés pour faciliter les opérations d'accostage et de déchargement des barges.
- 4. Éclairage**L'éclairage sera installé à la fois à la rampe de transport maritime et à la zone de dépôt. Les composantes comprendront des poteaux standard de la Société d'énergie Quilliq et des projecteurs à DEL. Des panneaux routiers et d'avertissement seront installés en inuktitut et en anglais.

Conception proposéeLe projet est situé à l'intérieur des limites municipales du hameau de Chesterfield Inlet, à environ N63°20' 26 », W 90°41' 52 ». Tetra Tech a envisagé une durée de vie nominale de 30 ans pour la zone de dépôt proposée, la plate-forme et les travaux de protection des rives. Afin de réduire le risque (probabilité) qu'une tempête dont la période de retour est d'une fois tous les 50 ans, se produise pendant la durée de vie prévue de la zone de dépôt, la plateforme sera construite à une élévation de crête GD de +4,5 m. Les agrégats du projet proviendront de la carrière existante de la municipalité, à l'ouest de la collectivité et à l'intérieur des limites municipales, ou d'autres sources plus à l'ouest dont l'utilisation a déjà été approuvée. Environ 0,5 hectare de nouvel espace de dépôt sera créé dans la zone intertidale supérieure de la petite baie. La zone intertidale de cette zone est généralement relativement improductive en raison du gel annuel et de l'affouillement par la glace. Il convient également de noter que la nouvelle zone riveraine d'enrochement qui sera construite pour protéger la zone de dépôt de transport maritime élargie fournira un nouvel habitat marin rocheux et un habitat abrité entre les rochers pour les invertébrés marins tels que les amphipodes, les isopodes et les vers marins.

[illegible]

Personnel on site: 15

Total Person days: 2700

Operations Phase: from 2024-05-26 to 2026-10-25

Operations Phase: from 2025-06-25 to 2055-10-25

Post-Closure Phase: from to

Hulilukaarutit

| Inigiya | Hulilukaarut Qanurittuq | Nunannga Qanurittaakhaanik | Initurlinga qanuritpa | Initurlinga utuqqarnitat unaluuniit Ingilraaqnitat Uyaranguqtut akhuurninnga | Qanitqiyauyuq qanitqiamut nunallaat kitulluuniit ahiruqtaliyainnit nuna |
|--|-------------------------|----------------------------|---|--|---|
| Chesterfield permitting contact footprints | Harbour infrastructure | Municipal | Site of the original Sealift infrastructure at Chesterfield Inlet | Historically disturbed area, no known archaeological sites | community marine infrastructure |

Nunaliin Ilauyun, Aviktuqhimayuniitunullu Ikayuuhiarunguyun

| Nunauyuq | Atia | Timiuyuq | Upluani Uqaqatigiyaungmata |
|---------------|--------------------------|---|----------------------------|
| Igluligaaryuk | Paul Basetti SAO | Hamlet of Chesterfield Inlet | 2024-10-24 |
| Igluligaaryuk | Paul Basetti, SAO | Hamlet of Chesterfield Inlet | 2024-10-12 |
| Igluligaaryuk | Venissa Mimialik Manager | Aqigiq Hunters and Trappers Association | 2023-09-13 |

Angiuttauvaktunik

Naunaiqlugu nunanga talvani havauhikhaq ittuq:

Angiuttauvaktunik

| Munariniqmut Ayuittiaqtuq | Angirutinga Qanurittuq | Tadja Qanurittaakhaanik | Ublua Tuniyauyuq/Uuktuqtuq | Umikvikhaa Ublua |
|--|--|----------------------------|-------------------------------|---------------------|
| Iqalukhiurniqmut Tariuqmilu Kaanata | DFO Authorization or Letter of Advice | Not Yet Applied | | |
| Tingmiliqiyiitkut Kaanatami | Approval | Not Yet Applied | | |

Project transportation types

| Transportation Type | Qanuq Atuqtauniarmangaa | Length of Use |
|------------------------|-------------------------|---------------|
| Land | | |

Project accomodation types

Nunauyuq

Ihuaqutivaluin Atuqtauyukhan

Hanalrutit atuqtaunahuat (ukuallu ikuutat, pampiutainnik, tingmitinik, akhaluutinik, hunaluuniit)

| Hanalrutit Qanurittuq | Qaffiuyut | Aktikkulaanga – Qanurittullu | Qanuq Atuqtauniarmangaa |
|---|-----------|------------------------------|--|
| Dump Truck | 3 | 15-30 tons | Haul and dump aggregate from existing Hamlet quarry to construction site |
| Excavator with additional rock drill attachment | 1 | 35 tons | excavate rock/aggregate material at existing quarry and load dump trucks |
| Crawler Dozer with tilting Blade | 1 | 25 tons | push and spread rock/aggregate material at construction site |
| Grader | 1 | 20 tons | spread rock/aggregate material at construction site |
| Front End Loader | 1 | 20 tons | Load and spread rock/aggregate material at construction site |
| Vibratory Soil compactor | 1 | 19 tons | compact rock/aggregate material at construction site |

Qanurittuq Urhuqyuaq unalu Qayangnaqtut Hunavaluit Aturninnga

| Qanurittuq urhuqyuaq hunavaluit aturninnga: | Urhuqyuaq Qanurittuq | Qaffiuyut qattaryut | Qattaryuk Aktikkulaanga | Atauttimut Qaffiuyut | Ilanga | Qanuq Atuqtauniarmangaa |
|---|----------------------|---------------------|-------------------------|----------------------|--------|--|
| Diesel | fuel | 1 | 10000 | 10000 | Liters | all fuel will be supplied from the Hamlet fuel dispensing station. Fuel will be loaded into the built in fuel tanks of each of the construction equipment units used for this project |
| Diesel fuel | hazardous | 8 | 200 | 1600 | Liters | The only hazardous material used for the construction of this project is the diesel fuel. Diesel fuel will be stored in each of the built in fuel tanks of the construction equipment to be used |
| Diesel fuel | hazardous | 8 | 200 | 1600 | Liters | The only hazardous material used for the construction of this project is the diesel fuel. Diesel fuel will be stored in each of the built in fuel tanks of the construction equipment to be used |

Imaqmik Aturninnga

| Ubluq qanuraaluk (m3) | Aturumayain imavaluin utiqtittagaani qanuq | Atulirumayain imavaluin utiqtittagani humi |
|-----------------------|--|--|
| 0 | Not Applicable | Not Applicable |

Iqqakuq

Ikkakunik Munakgiyauyunik

| Havauhikhaq Hulilukaarut | Qanurittuq Iqqakut | Ihumagiyauyuq Qanuraaluktut Atuqtait | Qanuq Iqqakuurniarmangaa | Halummaqtirarnirutikhan piyutin |
|-----------------------------|-----------------------------|--|-----------------------------|------------------------------------|
| Harbour infrastructure | Anaagun (inuin anaaguin) | 100 litres | Community facilities | Not Applicable |

Avatiliriniqmut Ayurhautingit:

Positive impacts will be achieved for the residents of the Hamlet of Chesterfield Inlet as the sealift improvements project will permit an increase in the volume and variety of cargos that can be offloaded on an annual basis. A locally negative/non mitigable impact will occur to the 0.5 hectares of benthic intertidal marine habitat to be permanently buried by fill and aggregate materials that will be placed and compacted in this area for construction of the expanded sealift ramp. Negative/mitigable potential impacts on fish will be mitigated by conducting all potential in-water work "in the dry" during low tide conditions .

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

the main project components are the expanded sealift storage area (0.5 ha) and the upgraded barge ramp

SECTION D2: Facility Construction

The proposed sealift improvement components will be constructed utilizing aggregate and rock materials obtained from the community quarry and hauled by truck to the project area for placement and compaction to construct the expanded sealift laydown area and the upgraded barge ramp. Construction will occur during the open water periods of 2025 and 2026.

SECTION D3: Facility Operation

the expanded sealift laydown area and upgraded barge ramp will be used on a seasonal basis during the open water period. some cargo (container) may be stored in the sealift storage area for extended periods of time.

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

No vessels will be used for this construction project. all work will be conducted by land based construction equipment such as trucks, grader, excavator, dozer and water truck.

SECTION H2: Disposal At Sea

There will be no disposal at sea. the placement of fill in the upper intertidal zone of the small bay at Chesterfield Inlet is a marine infrastructure construction project

SECTION I1: Municipal Development

Qanurittuq Ittunik Avatinga: Avatingalluanga

Chesterfield Inlet is a narrow, fiord-like arm of the northwest coast of Hudson Bay that stretches 160 km inland to the Thelon River. It marks a physiographic divide along the Bay, separating a narrow, rocky coastal plain backing onto a plain and hilly area to the north, from an enormous area of low relief, with poorly developed drainage farther south. Chesterfield Inlet's climate is noteworthy for its windiness, since the inlet is aligned with prevailing winds from the northwest, which are remarkably strong in winter (mean velocity 8.7 m/s, reaching 36 m/s) and constant, blowing on average 20% of the time. The mean annual temperature is approximately -11°C, with a summer mean of 4.5°C and a winter mean of -26.5°C. The mean annual precipitation ranges between 200-300 mm.

Qanurittuq Ittunik Avatinga: Inuuhimayunut Avatinga

The area is characterized by a discontinuous cover of tundra vegetation, consisting of dwarf birch, willow, northern Labrador tea, *Dryas* spp., and *Vaccinium* spp. Taller dwarf birch, willow and alder occur on warm sites; wet sites are dominated by willow and sedge. Lichen-covered rock outcroppings are prominent throughout the ecoregion, and towards the south the vegetation becomes a mix of tundra vegetation and open, dwarf coniferous forest. Chesterfield Inlet is located on the western shore of Hudson Bay, Kivalliq Region, at the mouth of Chesterfield Inlet, which extends from Hudson Bay to Baker Lake. The shore area of the Hamlet of Chesterfield Inlet becomes landfast during winter and the intertidal zone is frozen throughout the long winter period. In this area, ice scour and temperature extremes render the upper few metres of the seabed (2-5 m) to be uninhabitable to marine plants and infaunal animals (Ellis 1960). Amphipods are the only common species found in the intertidal zone. Shells of softshell clams, cockles and

Icelandic Scallop are commonly found washed up on the local beaches. The beach area in the vicinity of the existing sealift facilities is a typical sandy, gravelly beach with cobbles and scattered boulders. Tides at Chesterfield Inlet are diurnal (2 x per day) and have a typical range of approximately 4 m typically extending from about 0.5 m (low tide) to 4.5 m (high tide). Arctic Char, Arctic Cod, Capelin and several flounder species occur in the area around Chesterfield Inlet and, are considered to be of particular cultural and economic importance to the community of Chesterfield Inlet (NCRI 2015) and are discussed further in the following sections.

Qanurittuq Ittunik Avatinga: Inungit-maniliurutingit Avatinga

Chesterfield Inlet, or Igluligaarjuk, is located on the western shore of Hudson Bay, Kivalliq Region, in Nunavut Canada at the mouth of Chesterfield Inlet. Located at 63° 20° N and 90° 42° W, it is 1,096 km west of Iqaluit and 1,200 km northeast of Yellowknife. Igluligaarjuk is the Inuktitut word for place with few houses. It is the oldest community in Nunavut. Historically, Chesterfield Inlet began as a meeting place for Inuit seal hunters to carry out an annual hunt in the late spring and early summer. After 1912, Chesterfield Inlet became an important religious, medical and educational centre for the region. The community's population grew when several groups of Netsilik Inuit migrated there from Foxe Basin, joining the Qairnilirmeot group who were the area's traditional inhabitants. The economy of the Hamlet remains traditional and includes hunting, trapping and carving. Some commercial fishing and limited tourism are also carried out.

Miscellaneous Project Information

Miscellaneous information is provided in the documents section of the application

Naunaiyainiq ukuninnga Ayurhautingit unalu Piumayaat Ikikliyuumiutinahuarutit

Positive impacts will be achieved for the residents of the Hamlet of Chesterfield Inlet as the sealift improvements project will permit an increase in the volume and variety of cargos that can be offloaded on an annual basis. A locally negative/non mitigable impact will occur to the 0.5 ha area of benthic upper intertidal marine habitat to be buried by the fill and rip rap rock to be placed to allow expansion of the existing sealift area into the adjacent bay. Negative/mitigable potential impacts on fish will be mitigated by conducting all potential in-water work in the dry during low tide conditions

Tamatkiumayunik Ihuikgativaktunik

No cumulative environmental effects are expected to occur in relation to this marine infrastructure improvements project

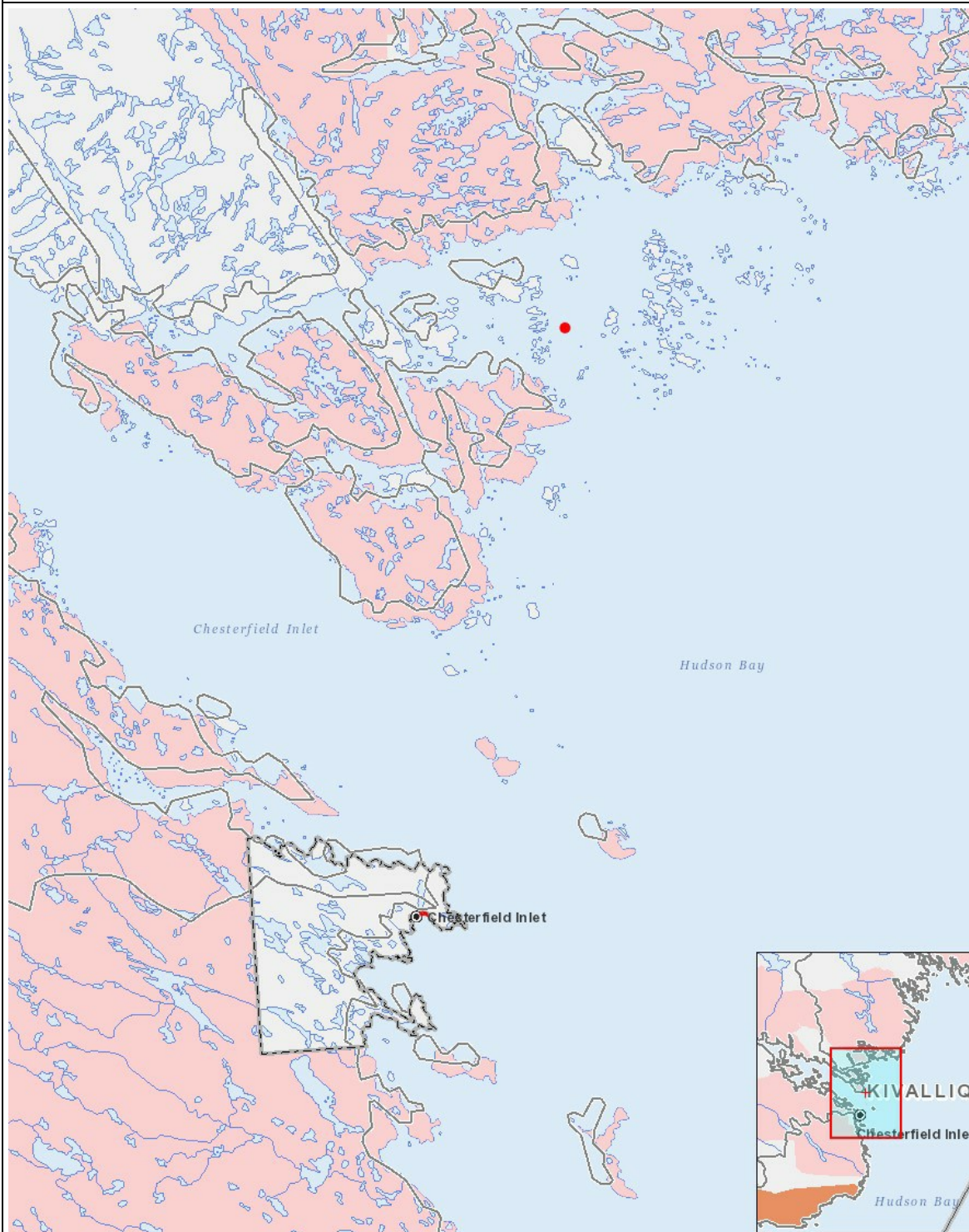
Impacts

Ilitariyauniq Avatiliriniqmut Ayurhautingit

| | PHYSICAL | | | | | | | | | | | | | | | | | | | | | | | | BIOLOGICAL | | | | | | | | | | SOCIO-ECONOMIC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|--------------------------------|---|---|---|---|---|---|---|---|---|------------------|---|---|---|--|---|---|---|---|---|------------|---|---|---|------------|---|--|--|--|--|-----------------------|--|--|--|----------------|--|--|--|--|--|---------------|--|--|--|--|--|--|--|--|--|--------------------|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|-----------------------------|--|--|--|--|--|--|--|--|--|---------------------------|--|--|--|--|--|--|--|--|--|--------------------------------|--|--|--|--|--|--|--|--|--|-------------|--|--|--|--|--|--|--|--|--|--------------|--|--|--|--|--|--|--|--|--|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|--------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|------------|--|--|--|--|--|--|--|--|--|--------------------|--|--|--|--|--|--|--|--|--|--------------------------|--|--|--|--|--|--|--|--|--|--------------|--|--|--|--|--|--|--|--|--|
| | Designated environmental areas | | | | | | | | | | Ground stability | | | | | | | | | | Permafrost | | | | | | | | | | Hydrology / Limnology | | | | | | | | | | Water quality | | | | | | | | | | Climate conditions | | | | | | | | | | Eskers and other unique or fragile landscapes | | | | | | | | | | Surface and bedrock geology | | | | | | | | | | Sediment and soil quality | | | | | | | | | | Tidal processes and bathymetry | | | | | | | | | | Air quality | | | | | | | | | | Noise levels | | | | | | | | | | Vegetation | | | | | | | | | | Wildlife, including habitat and migration patterns | | | | | | | | | | Birds, including habitat and migration patterns | | | | | | | | | | Aquatic species, incl. habitat and migration/spawning | | | | | | | | | | Wildlife protected areas | | | | | | | | | | Archaeological and cultural historic sites | | | | | | | | | | Employment | | | | | | | | | | Community wellness | | | | | | | | | | Community infrastructure | | | | | | | | | | Human health | | | | | | | | | |
| Havakvinga | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Harbour infrastructure | | - | M | - | - | M | - | - | - | - | - | N | M | M | | - | - | - | M | - | | - | P | P | P | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aulapkaininnga | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Harbour infrastructure | | - | - | - | - | - | - | - | - | - | - | - | M | - | | - | - | - | M | - | | P | P | P | P | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Piiqtauniq | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | | - | - | - | - | - | - | - | - | - | - | - | - | - | | - | - | - | - | - | | - | - | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

(P = Nakuuyuq, N = Nakuungittut unalu mikhilimaittuq, M = Nakuungittut unalu mikhittaaqtuq, U = Naluyauyuq)

Havaariyauyukhamut Nayugaa



List of Project Geometries

- | | | |
|---|----------|--|
| 1 | polyline | Chesterfield permitting contact footprints |
| 2 | polyline | Chesterfield permitting contact footprints |
| 3 | point | Existing Sealift area at Chesterfield inlet which requires expansion |