



New

## Coastal Infrastructure

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**ᐅᓂᓕᑦᑎᓪᑭᓐ:** 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 AreaThe 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 ResurfacingThe 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 ClearingThere 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.LightingLighting will be installed at both the sealift ramp and laydown area. Components will include standard Quill Energy Corporation poles and LED flood lights. Standard road and caution signs will be installed in both Inuktitut and English.

**Proposed Design**The 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.

► ᐃᐱᓂᑦ: 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. Resurfaçage de la rampe Sealift La rampe de transport maritime existante nécessite quelques améliorations, notamment le resurfaçage 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 Qulliq et des projecteurs à DEL. Des panneaux routiers et d'avertissement seront installés en inuktitut et en anglais. Conception proposée Le 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]

Post-Closure Phase: from to



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## Project transportation types

### Project accomodation types

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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 diesel fuel. Diesel fuel will be stored in each of the built-in

						fuel tanks of the construction equipment to be used
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0	Not Applicable	Not Applicable





# **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

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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.

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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.

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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

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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

## Cumulative Effects

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

## Impacts

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