



## **NIRB Uuktuutinga Ihivriughikhamut #125631**

### **Clyde River Small Craft Harbour Development**

**Uuktuutinga Qanurittuq:** New

**Havaap Qanurittunia:** Coastal Infrastructure

**Uuktuutinga Ublua:** 8/10/2021 8:28:53 AM

**Period of operation:** from 0001-01-01 to 0001-01-01

**Piumayaat Angirutinga:** from 0001-01-01 to 0001-01-01

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# QANURITTUT

## Tukihinnaqtunik havaariyaumayumik uqauhiuyun

Qablunaatitut: Fisheries and Oceans Canada - Small Craft Harbours (DFO-SCH) Branch is planning to build a small craft harbour in the Hamlet of Clyde River, Nunavut (the Project). The small craft harbour will be built along the shore of Patricia Bay, adjacent to the existing sealift. The beach in this area is currently used by the community as a harbour and offers little to no protection from wind and waves. The use of the existing beach as a fishing harbour has resulted in boat damage, equipment loss, safety concerns, overcrowding, sediment buildup, and conflicts with the sealift operations. The purpose of the Project is to provide safe and accessible facilities for the community to use for fishing and harvesting, as well as infrastructure to develop commercial fisheries. The Project includes the construction of a small craft harbour, which will consist of two large breakwaters that will create a sheltered basin, a revetment (sloped stone embankment) along the shoreline, two strings of floating docks in the basin with room for two more, a community boat launch, a fixed wharf with an access road on the breakwater, and an area for storage of materials and goods. The small craft harbour will have lighting along the breakwater access road, fixed wharf, and floating dock landing area. Electrical service will be installed on the fixed wharf. Navigation aids will be installed along the breakwaters. A new mooring bollard will be installed for vessels offloading fuel to the existing fuel storage facility. The existing sealift will be upgraded. Existing drainage will be diverted to the west of the small craft harbour, which will require a new culvert. To build the Project, rock will be sourced from a local quarry that is approximately 5 km by road from the small craft harbour site. The haul road from the quarry crosses a river and to accommodate loaded rock trucks the existing bridge will require upgrades, or a new crossing will be required. Infilling will be required for the small craft harbour laydown area and revetment. Dredging will be required in the small craft harbour basin. Dredged material will be reused for infilling, if possible. Dredged material that cannot be reused at the site will be disposed of at sea. Approximately 25 to 30 personnel will be required during construction. Commercial accommodations in the community may be limited, and if so, a temporary work camp will be required during construction. Construction personnel will be present during the open-water season and those that are not residents of Clyde River will depart for the winter. Water used at the camp and for the construction site will be from the municipal water supply. Non-hazardous waste will be disposed of at the municipal landfill. Sewage and greywater will be collected in wastewater trucks and transported to the municipal wastewater treatment facility. Hazardous waste will be packaged, sealed, and transported south in shipping containers for disposal in accordance with applicable regulations. Construction equipment will include trucks and heavy equipment, such as excavators, front end loaders, compactor, bulldozer, grader, forklift, crane, pile driver or vibratory hammer, drilling rigs, and rock crusher. Tugs, work boats, scows, and a barge will be used for marine construction. Diesel will be the primary fuel used for the construction vehicles and equipment. Vehicles and equipment will be refuelled at designated areas that have spill prevention measures in place. Environmental mitigation measures, including spill prevention and emergency response, are included in a Construction Environmental Management Plan that has been prepared for this Project. The Project is expected to be a four-year project where physical work will start in 2022. Year one work (2022) may include bringing in materials and equipment, temporary work camp set up, and some blasting at the quarry. Construction will be carried out throughout the open-water seasons to 2025, with construction shut down over the winter seasons. Operation of the small craft harbour is expected to commence at the start of the open water season in 2026. The small craft harbour will become part of the DFO-SCH program, which will operate and maintain the small craft harbour. A local harbour authority may be formed to operate and maintain the harbour on behalf of DFO. The Project will bring potential benefits to the community. During construction, there will be economic benefits through direct local hiring, renting of community facilities, and local purchases. After the Project is completed, benefits will include additional accommodation for fishing and commercial vessels, safe access and protection to boats moored or docked in the small craft harbour basin, better storage on site, and more efficient offloading of goods for the community. The Project overall will provide economic benefit to the community by offering infrastructure necessary to develop commercial fisheries. The intent is to enhance the local facilities for the benefit of both its direct users and the broader community. Community engagement activities were conducted as part of the feasibility study in 2018, 2019, and 2020, and have continued during the design stage in 2020 and 2021. Meetings were held with the Council, the local Hunters and Trappers Association (HTA), the local QIA representatives, Royal Canadian Mounted Police, Conservation Officer, community members and knowledge holders. Feedback was received related to local conditions, water and ice access, existing facilities, design input, the quarry, safety of the haul road and river crossing, effects of blasting on fish in the lakes, impacts of the small craft harbour construction on fishing and harvesting, access to the sealift during construction, and prioritizing local hiring. Based on community feedback, DFO refined the harbour layout. Additional community outreach is planned, including two more meetings with the council and HTA and community Open House meetings. Meetings will include Project updates, details on any upcoming field programs and presentation of design progress. Feedback will be incorporated into the design and construction as the Project progresses.

[illegible]

Post-Closure Phase: from to

## Hulilukaarutit

Inigiya	Hulilukaarut Qanurittuq	Nunannga Qanurittaakhaanik	Initurlinga qanuritpa	Initurlinga utuqqarnitat unaluuniit Ingilraaqnitat Uyarannuqtut akhuurninnga	Qanitqiyauyuq qanitqiamut nunallaat kitulluuniit ahiruqtaliyainnit nuna
Small Craft Harbour Location	Harbour infrastructure	Crown	The harbour area has been used for fishing, harvesting, transportation of goods for at least 60 years since the community of Clyde River was established in it's current location.	An archaeological Impact Assessment (AIA) was completed by Lifeways of Canada Limited in 2019. The AIA results state that there are no known archaeological or paleontological sites in the project area.	The closest community is Clyde River, which is located within 100 m of the Project area. The closest protected area is Isabella Bay, which is approximately 80 km southwest of the Project area.
Quarry Location	Quarry/Borrow pit	Municipal	There has been a quarry in the area for at least 16 years.	An archaeological Impact Assessment (AIA) was completed by Lifeways of Canada Limited in 2019. The AIA results state that there are no known archaeological or paleontological sites in the project area.	The closest community is Clyde River, which is approximately 1.5 km northwest of the quarry. The closest protected area is Isabella Bay, which is approximately 80 km southwest of the Project area.
Disposal at Sea Location	Marine Based Activities	Crown	Marine environment	No known archaeological resources.	The closest community is Clyde River, which is located within approximately 700 m of the disposal area. The closest protected area is Isabella Bay, which is approximately 80 km southwest of the Project area.
Haul Route	Access Road	Municipal	The road from the harbour location to the Clyde River airport has been in place since at least 1985. The haul route between the quarry and the airport was established in 2019.	No known archaeological resources.	The closest community is Clyde River, which the haul route goes through. The closest protected area is Isabella Bay, which is approximately 80 km southwest of the Project area.

<b>Nunauyuq</b>	<b>Atia</b>	<b>Timiuyuq</b>	<b>Upluani Uqaqatigiyaungmata</b>
Clyde River	Hamlet Council Members - Mayor, Councilors, SAO, etc	Hamlet of Clyde River	2019-05-24
Clyde River	Nangmautaq HTO members	Nangmautaq HTO	2019-05-24
Clyde River	Hamlet Council Members - Mayor, Councilors, SAO, etc	Hamlet of Clyde River	2018-11-08
Clyde River	Nangmautaq HTO members	Nangmautaq HTO	2018-11-08
Clyde River	Hamlet Council Members - Mayor, Councilors, SAO, etc	Hamlet of Clyde River	2019-11-04
Clyde River	Nangmautaq HTO members	Nangmautaq HTO	2019-11-04
Clyde River	Clyde River community members	Community Open House	2020-02-24
Clyde River	Nangmautaq HTO members	Nangmautaq HTO	2020-02-25
Clyde River	Hamlet Council Members - Mayor, Councilors, SAO, etc	Hamlet of Clyde River	2020-02-26
Clyde River	Hamlet Council Members - Mayor, Councilors, SAO, etc.	Hamlet of Clyde River	2020-09-29
Clyde River	Nangmautaq HTO members	Nangmautaq HTO	2020-10-01
Clyde River	Guardian Members	Guardians	2020-10-02
Clyde River	QIA local Members	Qikiqtani Inuit Association	2020-10-02
Clyde River	Hamlet Council Members - Mayor, Councilors, SAO, etc.	Hamlet of Clyde River	2021-02-20
Clyde River	Nangmautaq HTO members	Nangmautaq HTO	2021-02-21
Clyde River	Guardian Members	Guardians	2021-02-22
Clyde River	QIA local Members	Qikiqtani Inuit Association	2021-02-24

# Angiuttauvaktunik

Naunaiqlugu nunanga talvani havauhikhaq ittuq:

North Baffin

## Angiuttauvaktunik

Munariniqmut Ayuittiaqtuq	Angirutinga Qanurittuq	Tadja Qanurittaakhaanik	Ublua Tuniyauyuq/Uuktuqtuq	Umikvikhaa Ublua
Environment and Climate Change Canada	Disposal at Sea (DAS) is not considered likely, however if required a DAS application will be submitted to Environment and Climate Change Canada (ECCC). A sample analysis plan (SAP) was submitted to and approved by ECCC for sediment analysis in the dredge footprint of the SCH. ECCC has been engaged from an early stage in project planning as the proponent (DFO-SCH) is a federal agency.	Not Yet Applied		
Tingmiliqiyiitkut Kaanatami	A Notice of Works (NoW) is expected to be required from Transport Canada due to the potential for interferences to navigation during construction, and to confirm navigational markers required during operations of the SCH. TC has been engaged from an early stage in project planning as the proponent (DFO-SCH) is a federal agency. Maintaining access for harvesters to the marine environment during construction has been a key part of consultation and measures will be in place during construction to confirm there are no access restrictions for hunters.	Not Yet Applied		
Anguhikiyiit	A permit from	Not Yet Applied		

Kanatami	NRCan is expected to be required for the transportation and storage of explosives (required for blasting). NRCan compliance requirements will be the responsibility of the contractor and will be applied for after contract award and before the start of construction.			
Nunavut Imaligiyyit Katimayit	A Type B license may be required if the haul road upgrades requires culverts to be installed or if stream alteration is required for the Project. The haul route will cross a river close to Clyde River. Any temporary structures used to cross the river may require review and licensing from NWB. NWB compliance requirements will be the responsibility of the contractor and will be applied for after contract award and before the start of construction.	Not Yet Applied		
Iqalukhiurniqmut Tariuqmilu Kaanata	A Fisheries Act Authorization (FAA) will be required due to the permanent loss of seabed habitat due to the construction of the Small Craft Harbour. Any impacts resulting from a haul road river crossing structure will also be recognized by DFO-Fish and Fish Habitat Protection Program (FFHPP). DFO-FFHPP has been engaged from an early stage in project planning as the proponent (DFO-SCH) is a federal agency.	Not Yet Applied		

#### Project transportation types

Transportation	Qanuq Atuqtauniarmangaa	Length of Use
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Type		
Air	During construction, the Project will use commercially scheduled flights, with the potential for use of chartered flights but may need to use chartered flights if the existing service cannot support the additional throughput. In addition, the Project will confirm that if commercial flights are used, that there is no effect to availability of flight service to locals	
Water	During construction, the Project will use the existing scheduled sealift deliveries	
Land	Heavy Equipment, and contractor light vehicles (pick-up trucks) will be used during construction.	

### **Project accomodation types**

Temporary Camp

# Ihuaqutivaluin Atuqtauyukhan

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

Hanalrutit Qanurittuq	Qaffiuyut	Aktikkulaanga – Qanurittullu	Qanuq Atuqtauniarmangaa
Drill Rig	2	5.5 x 2.3.m	Quarrying
Excavator	5	4 x 3.4m	Quarrying, material handling, excavating
Rock Truck 35 ton - Articulating	4	11.1 x 4.2 m	Transporting quarried rock
Front end loader 966 - 988	3	7.5 x 2.5 m	Material loading & handling
Compactor - 20 ton	1	6.2 x 2.5m	Work surface and road compaction
Bulldozer D8	1	3.2 x 2.7m	Work surface and road levelling
Grader 140 ton	1	10.1 x 2.5m	Work surface and road grading
Spud Bard/derrick with 150 ton crane	1	20 x 50m	Dredging, transporting material and equipment
Material Scow 500 cubic meter	2	47 x 11m	Dredging and disposal of dredged material
Tug 1000 - 1500 hp	1	14.85 x 5.8m	Transport and movement of marine equipment
Work boat - 50-500ho	2	9.75 x 2.9m	Transport and movement of marine equipment and personnel
Pick -up truck 3/4 ton	3	4.8 x 1.9m	Material and personnel transport
Fuel/service truck 10 ton	1	13 x 2.5m	Transport fuel from GN PPD dispensers to construction equipment
Water truck 10 ton	1	9.5 x 2.5m	Transport water from municipal water supply to work camp and construction site
Wastewater truck 10 ton	1	9.5 x 2.5m	Transport wastewater from work camp and construction site to municipal treatment facility
Telehandler/forklifts	1	6.2 x 2.6m	Material and equipment handling
Rough terrain crane 250 ton	1	14.5 x 7.9 m	Material and equipment loading/handling/movement
Rock crusher for quarry 125 ton	1	14.6 x 4.2 m; 14.3 x 4.2 m; 17 x 3.6 m	Portable jaw crusher, cone and screening plant for the manufacturing of aggregate

## Qanurittuq Urhuqyuaq unalu Qayangnaqtut Hunavaluit Aturninnga

Qanurittuq urhuqyuaq hunavaluit aturninnga:	Urhuqyuaq Qanurittuq	Qaffiuyut qattaryut	Qattaryuk Aktikkulaanga	Atauttimut Qaffiuyut	Ilanga	Qanuq Atuqtauniarmangaa
Diesel	fuel	1	3800	3800	Cubic Meters	Fuel for equipment, generators, heaters. Fuel will be dispensed on a daily basis from existing facilities in Clyde River. Container capacity field contains estimated total value.
Gasoline	fuel	1	140	140	Cubic	Fuel for small

					Meters	equipment, trucks, work boats. Fuel will be dispensed on a daily basis from existing facilities in Clyde River. Container capacity field contains estimated total volume
Propane	fuel	10	100	1000	Lbs	Camp use - heating, refrigeration, cooking
Other	fuel	10	4	40	Cubic Meters	Acetylene - metal cutting and welding torches
Oils & Lubricants	hazardous	10	5	50	Gallons	Equipment maintenance
Paint	hazardous	10	1	10	Gallons	Painting wharf hardware & mics. components
Explosives	hazardous	1	1	1	Cubic ft	ANFO explosives for quarrying. Quantity to be determined. Storage and handling will be in accordance with license/cert/permit issued under the Explosives Act and Regulations

#### Imaqmik Aturninnga

Ubluq qanuraaluk (m3)	Aturumayain imavaluin utiqittagaani qanuq	Atulirumayain imavaluin utiqittagani humi
6	Water truck.	Community water supply.

# Iqqakuq

## Ikkakunik Munakgiyauyunik

Havauhikhaq Hulilukaarut	Qanurittuq Iqqakut	Ihumagiyauyuq Qanuraaluktut Atuqtait	Qanuq Iqqakuurniarmangaa	Halummaqtirarnirutikhan piyutin
Camp	Ikulalaaqtun iqqakuuvaluin	2 tonnes	Deposit in municipal landfill.	n/a
Camp	Qimarivyaktuq imaq	800 m <sup>3</sup>	Collected in wastewater truck and transported to municipal wastewater treatment facility.	n/a
Harbour infrastructure	Qayangnaqtut	100 L	Package, sealed and transported south in shipping containers for disposal in accordance with applicable regulations.	n/a
Camp	Ikulalimanngittun iqqakuuvaluin	0.5 tonnes	Deposit in municipal landfill.	n/a
Quarry/Borrow pit	Atakuin (halumaiqtun nunan, iqqakuuvaluillu uyaqqiqivingmin)	Negligible	Stockpiled at quarry.	n/a
Dredging	Atakuin (halumaiqtun nunan, iqqakuuvaluillu uyaqqiqivingmin)	12, 000 m <sup>3</sup>	Infilling and/or disposal at sea	n/a
Camp	Anaagun (inuin anaaguin)	1,500 m <sup>3</sup>	Collected in wastewater truck and transported to municipal wastewater treatment facility.	n/a

### Avatiliriniqmut Ayurhautingit:

Potential environmental impacts and mitigation measures are described in the Project Proposal (Chapter 7 and Chapter 8) and Construction Environmental Management Plan. There may be some negative residual environmental effects that will remain despite mitigation measures, predominantly with respect to ambient light, air quality, noise, marine water and sediments, marine fish and fish habitat and marine mammals, however, no residual effects are predicted to be significant.

# **Additional Information**

## **SECTION A1: Project Info**

Details can be found in the Project Proposal sections: Chapter 1 and 4

## **SECTION A2: Allweather Road**

An existing road is planned to be used to support the transportation of rock materials from the quarry to the SCH. Upgrades to the road will occur prior to construction and will be described in the Project Proposal document. In required, the contractor will be responsible for necessary permits from the NWB. Measures to manage traffic interactions with the community will be described in the CEMP, and the contractor will be required to develop a Traffic Management Plan (TMP) to detail methodologies (e.g. use of dust suppressants, speed limits, training requirements) to be undertaken to support CEMP requirements.

## **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**

Details can be found in the Project Proposal sections: 4.5.3

## **SECTION D1: Facility**

Details can be found in the Project Proposal sections: Chapter 4

## **SECTION D2: Facility Construction**

Details can be found in the Project Proposal sections: Chapter 4

## **SECTION D3: Facility Operation**

The SCH once operational will remain the responsibility of DFO-SCH. An Operations Environmental Management Plan (OEMP) will be prepared prior to operations of the SCH. There are not expected to be any differences in vessel use before and after the construction of the SCH. Details can be found in the Project Proposal sections: Chapter 4.4

## **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**

There is no shipping associated with the project construction as all materials will arrive under existing scheduled sealift deliveries. It is anticipated that small vessels related to the construction of the Harbour

## **SECTION H2: Disposal At Sea**

It has not been determined if disposal at sea is required, however the preferred DAS site is shown in the Project Proposal.

## **SECTION I1: Municipal Development**

### **Qanurittuq Ittunik Avatinga: Avatingalluanga**

Details can be found in the Environmental and Socio-Economic Baseline Report sections: 2, 4-5. Details can be found in the Project Proposal sections: Chapter 5

### **Qanurittuq Ittunik Avatinga: Inuuhimayunut Avatinga**

Details can be found in the Environmental and Socio-Economic Baseline Report sections: 2, 6-10. Details can be found in the Project Proposal sections: Chapter 5

### **Qanurittuq Ittunik Avatinga: Inungit-maniliurutingit Avatinga**

Details can be found in the Environmental and Socio-Economic Baseline Report sections: 11. Details can be found in the Project Proposal sections: Chapter 6

## **Miscellaneous Project Information**

## **Naunaiyainiq ukuninnga Ayurhautingit unalu Piumayaat Ikikliyuumiutinahuarutit**

Details can be found in the Project Proposal sections: Chapter 7. Additional mitigations will be found in the Construction Environmental Management Plan (CEMP)

## **Tamatkiumayunik Ihuikgutivaktunik**

There may be some negative residual environmental effects that will remain despite mitigation measures, predominantly with respect to ambient light, air quality, noise, marine water and sediments, marine fish and fish habitat and marine mammals, however, no residual effects are predicted to be significant. Details can be found in the Project Proposal sections: Chapter 8

# Impacts

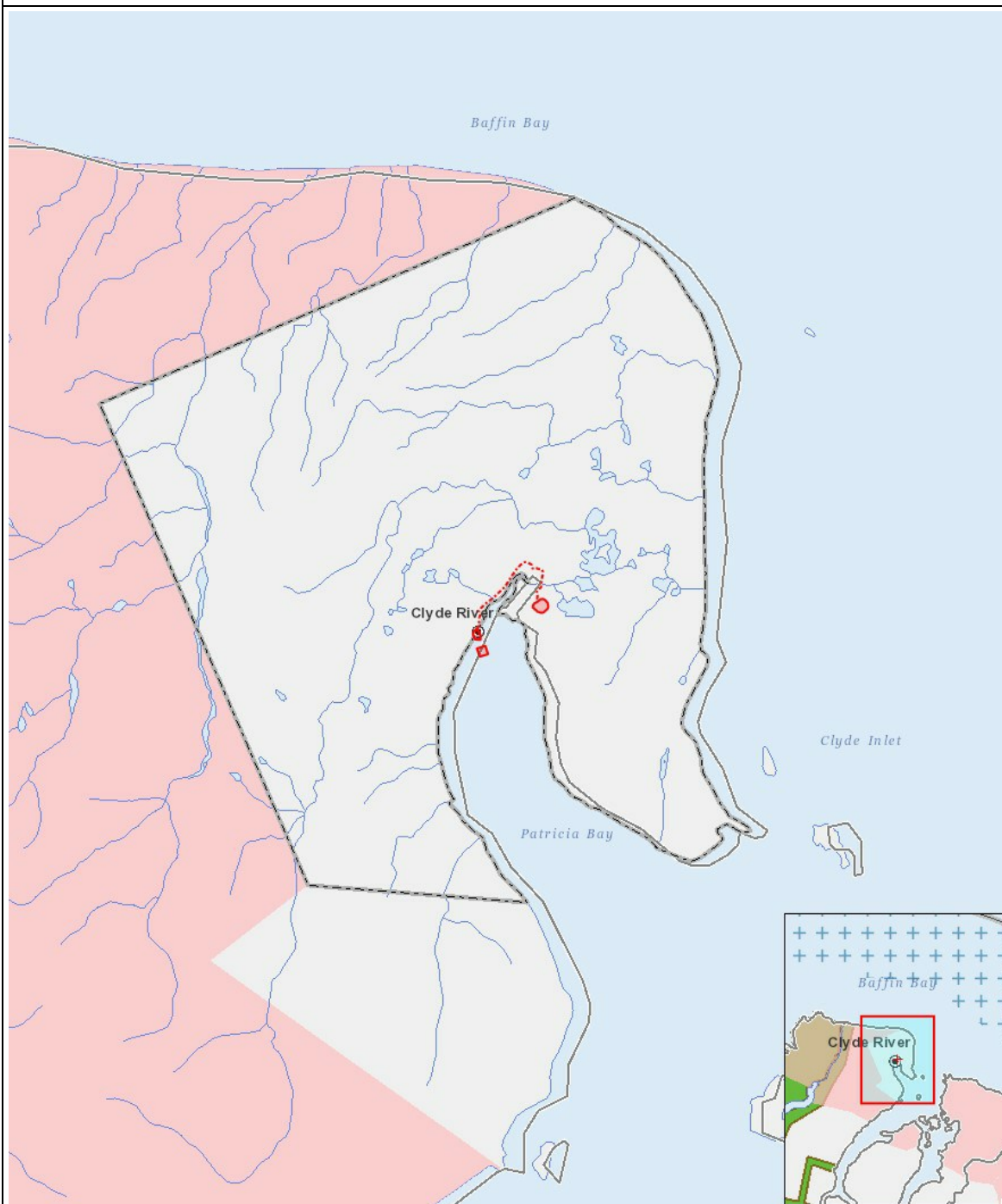
## Ilitariyauniq Avatiliriniqmut Ayurhautingit

	PHYSICAL														BIOLOGICAL										SOCIO-ECONOMIC				
	Designated environmental areas														Vegetation										Archaeological and cultural historic sites				
	Ground stability														Wildlife, including habitat and migration patterns										Employment				
	Permafrost														Birds, including habitat and migration patterns										Community wellness				
	Hydrology / Limnology														Aquatic species, incl. habitat and migration/spawning										Community infrastructure				
	Water quality														Wildlife protected areas										Human health				
	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																												

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



## Havaariyauyukhamut Nayugaa



### List of Project Geometries

1	polygon	Small Craft Harbour Location
2	polygon	Quarry Location
3	polygon	Disposal at Sea Location
4	polyline	Haul Route