SCOPE OF WORK

Date	January 16, 2024
Job Name	Transport Canada OPP Funded Sealift Infrastructure
Municipality	Cambridge Bay
Client Name	Municipality of Cambridge Bay

Project Methodology

This project will be a joint project with the Municipality of Cambridge Bay; the customer, Qillaq Innovations; the civil contractor and project manager, and Asher Engineering; the technical team. This group will work together to maximize the funding to ensure the funding is used in the best manner possible to get the greatest benefit for the community. With a collaborative effort, the Municipality of Cambridge Bay will be in control of the finished product, and will be able to make informed decisions from the information provided by Qillaq Innovations and Asher Engineering. Asher Engineering is the company selected for the new QEC Power plant which will be constructed in this same industrial area. They are familiar with the area, they have in depth information on the future power plant and the existing fuel tank farm, so this project is just an extension of the work they have already completed on the new power plant.

In addition to this team, Sub- Arctic Surveyors who have work with the Municipality in the past 10 years will assist with the survey needs of this project.

The project team will be comprised of Dana Langille and Sandi Gillis from Qillaq Innovations, Jim MacEachern from the Municipality of Cambridge Bay, and Brent Taylor from Asher Engineering.

The Municipality of Cambridge Bay received confirmation of funding for this project in 2021, but due to the COVID restrictions the work did not commence yet. The Municipality is requesting an extension to the end of 2024 for get this project completed, or the funding will need to be returned back to the Government.

Project Description

A new sealift laydown yard, boat ramp, pushout, new access road and signage will be developed adjacent to the existing tank farm.

New Sealift Laydown Yard

A new laydown yard will be constructed adjacent to the existing tank farm. The yard will measure 100 meters x 150 meters. The ground is relatively flat, and will be developed by adding .3 meters of 150 mm subbase. This will be covered by an additional .3 meters of processed 25 mm crushed aggregate.

New Boat Ramp

A new concrete boat ramp will be constructed. This ramp will be 15 meters wide by 25 meters long with 50% of this area place in the water and 50% of this area will be above the high water mark. Leading up to the concrete boat ramp will be a gravel access area built up of ¾" gravel.

Pushout/breakwater

Adjacent to the new concrete boat ramp will be a pushout. This pushout will be 15 meters wide by 25 meters long with 50% of this area place in the water and 50% of this area will be above the high water mark. Leading up to the concrete boat ramp will be a gravel access area built up of 100mm crushed gravel topped off with 19mm crushed gravel.

Laydown Access Road

A new laydown access road will be constructed. The road will be approximately 500 meters long and 10 meters wide, to allow for heavy equipment hauling sea cans to meet and pass each other with ease. This road will be constructed with a height of 1 meter comprised of 100mm crushed gravel and topped with 19mm crushed gravel.

Power and Lighting

New power poles with street lighting will be installed along the laydown access road, with some additional poles in the laydown area. If there is a power requirement for a portable office in the future, a pole will be located for this purpose.

Security & Fencing

A security office is optional, but it is more feasible to have security patrolling the area when required rather than sitting in an office. There will be power available for future expansion if desired.

Fencing seems like the logical component to keeping the sealift cargo secure, but the reality is that this causes additional drifting of snow in the winter months, and the fence creates a hazard for snowmobilers. For the 2 weeks that items are in the laydown area, it is more feasible to have a security guard patrolling the laydown area.

Signage – English/Innuinuqtun/French

There will be a sign directing traffic to the laydown area, caution signs at the entrance of the road to caution people of the heavy equipment hauling on the road, signage in the water to direct the ships and boats to the appropriate areas, and emergency contact for the water traffic.

Project Location

A new sealift laydown yard will be located within the municipal boundaries of Cambridge Bay. The map attached shows the proposed area which is adjacent to the Fuel Tank Farm. The municipality is currently re-zoning the area to industrial use which a for this type of project.

Project Background

The ships begin arriving around mid-August and have arrived as late as mid-October.

The annual sealift cargo delivered to Cambridge Bay is transported by ship by Nunavut Sealink and Supply Inc. and Nunavut Eastern Arctic Shipping Inc. These ships originate from Quebec and are only able to make one delivery through the Northwest Passage each year.

In the past the annual sealift cargo was delivered to Cambridge Bay by barge and tug from NTCL which is now MTS out of Hay River, but with the change of ownership, and the uncertain water levels, this

barge and tug service is now unreliable for Cambridge Bay. Fathome Marine is another new and upcoming barge and tug company that started shipping to Cambridge Bay about 8 years ago. They do not guarantee shipments each year, and they have not established a set schedule or route.

Once the ships arrive, they shuttle the dry cargo to the highwater mark using small tugs and barges they bring with them. Some years the bay gets very congested if the sealift ships and fuel ships all arrive at the same time. This creates an unorganized laydown area as each ship tries to maneuver around the other ships unloading their cargo.

As the cargo is unloaded, customers begin loading up their cargo, or contractors in Cambridge Bay begin moving their cargo from the high water mark to the customers locations. If the fuel ship arrives the same time as the cargo ships, the current laydown area becomes quite congested and there is a high risk of the dry cargo operations interfering with the fuel re-supply at the fuel tank farm.

Project Benefits

The community of Cambridge Bay is a fast paced growing community and with the increase of water traffic and construction, it is imperative that this laydown area be created for the safety of all those involved in delivering the communities annual supplies and fuel. The flow and organization of the new area will create efficiencies in the flow of cargo, and the safety of residents accessing their cargo.

The old dock in town is primarily used for the visiting sail boats and the landing area in front of the Heritage Park is used as a landing area for the Cruise Ships in their zodiacs. The MTS barge still uses the old dock to moor to, when loading and unloading the small amount of cargo they bring to town, but with the new pushout area, they will have a safer area to unload and tie off to.

Currently the old dock in town is collapsing, and if it is not repaired soon, it will be too dangerous for the fuel trucks to fuel up the boats requiring fuel. This new pushout/breakwater will allow accessibility for fuel deliveries in the future if the dock is no longer safe to access.

CHARS has their research vessel, the Martin Bergmann ship, stationed in Cambridge Bay. Each year they struggle to launch and remove their ship because of the heavy silt in the water where they dock for the winter. The new concrete ramp will make this process much easier.

With a pushout/breakwater, it give the community the option of attaching a floating dock for small craft use prior to the sealift ships arriving.

Permits and Impact Reviews

There will need to be some information gathered from Fisheries and Oceans Canada about the process to pushing the concrete ramp onto the water, and the effect of creating a pushout/breakwater. Special

permitting may need to be obtained.