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NPC 150251: Bursting the Banks: Dealing with Flooding due to Climate Change in the Arctic Hamlet of Pangnirtung
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Proposal Status: **Conformity Determination Issued**

Overview Documents
Project Overview

Type of application: New

Proponent name:

Bhabesh Roy

Proponent company:

Municipality of Pangnirtung

Project Description:

Name of the Project: Bursting the Banks: Dealing with flooding due to climate change in the Arctic Municipality of Pangnirtung, Nunavut. Introduction: The Municipality of Pangnirtung is located in the Canadian Territory of Nunavut and lies on the South-eastern shore of the Pangnirtung Fiord, which itself is located at latitude 69.1675o N and Longitude 65.6917o W on the eastern side of Baffin Island. In total, the community covers an area of 7.5 km2 with a population of about 1850 in 2024. The Duval River is the only potable water source. A steel bridge over this river connects the eastern and Western parts of the town. In 2008, the old bridge was washed out and in 2023, a road containing a set of culverts failed due to flash flooding of Duval River. The fact that Pangnirtung is a remote area with underlying permafrost entails unique risks with respect to climate warming and altered hydrology. The Municipality of Pangnirtung has recently received funding from CIRNAC under the Climate Change Preparedness in the North program to conduct Scientific Research. The proposed Research aims to better characterize the hydrology of Pangnirtung, especially the role of the snow regime and its impact on flash flooding and drainage in the Duval River watershed and the community of Pangnirtung as climate changes. The project also seeks to learn more about the ground thermal/hydraulic regime at select points near the river and bridge. It builds on an existing NRC-funded project, which involves water flow and quality monitoring of the Duval River including assessing the resilience of Hamlet's water

supply. The proposed scientific Research involves mathematical modeling of the local hydrology in the Duval River watershed. This will be closely supported by field measurements, including snow depth at select locations, weather data, ground temperature at specific locations, and possible aerial imageries of the watershed. Historical data collection The research team will collect available historical data, including temperature, precipitation, and snow from different sources, and identify the data gaps. Field Monitoring A preliminary search of data sources reveals there is no sufficient information on snowfall. We are proposing to install a weather monitoring station including snowfall depths in the mid to upper reaches of the Duval River. In order to supplement this information, we are proposing to examine satellite data from sources, such as RADARSAT. In order to verify the RADARSAT data, we are proposing to measure the snow depths towards the end of winter season. Sensors will be deployed at select locations to record ground temperatures at different depths (permafrost conditions). The goal of this is to obtain a sense of how the active layer is changing, and, in turn, the potential for infiltration and groundwater contribution to surface flow. This entails consequences for both the amount of water available for flooding as well as drinking water supplies. Mathematical modeling The Duval watershed will be modeled via a selection of an appropriate control volume and treating the problem as a hydrologic routing formulation, with particular emphasis on snowpack characterization and snowmelt contribution to flow. The control volume will focus on the Hamlet; however, it will likely encompass both the Duval watershed as well as some areas outside of it. This requires establishing a snow monitoring station. As mentioned, the proposed research will make use of flow monitoring data currently being recorded by Hamlet under the project funded by NRC. These datasets will enable the development of a snowmelt-runoff model and improved understanding of snowmelt physics. The models will be key in assessing the effects of climate change, particularly the shifts in the peak and/or flash flood occurrence, magnitude, and frequency in the drainage area and drainage problems in the inhabited areas of the Hamlet. This understanding will help Pangnirtung in designing various infrastructure facilities, such as a new bridge to connect two parts of the town separated by the Duval River and other road arteries in the community in such a way that we can minimize drainage challenges and reduce maintenance costs. Expected deliverables and outcomes of your project: •Snow monitoring station and permafrost monitoring using thermistors which would be continued beyond the project period. •Mathematical model (calibrated and validated) to simulate the snowmelt runoff. •Relationship between temperature increases, precipitation events, and the phase shift and magnitude of flood events •Workshops to identify the Traditional Knowledge that could be embedded into the study •Training local college/school students on the use of and reading the data from the snow monitoring station. •Planning to collect Indigenous Knowledge/Inuit Qaujimajatuqangit

during the project. The Municipality of Pangnirtung is seeking a Scientific Research Licence in order to conduct this Study from April 01, 2024, for three years. Inuktitut Version ᐱᓕᕆᐊ�ퟹ< ᐊᑎᖓ: ᓄᓇᒥᒃ ᐊᐅᓚᓯᖕᐃᓇᖅ: ᑲᒪᒋᖅᕼᓯᓂᖅ ᐅᓴᓗᐊᓕᖅᑐᖕ ᓯᕐ ᐊᒃᖅᐸᓚᕐᐊᓲᖕᐱ ᐱᕐᒃᑎᒥᓐᓛᒍ ᐅᖅᐅᖅᑕᖅᑐᒥ ᕼᐊᒪᓚᒃᖅᐊᒃ ᐸᐧᖃᖃᑑᖅ, ᓄᓇᖅᒥ ᐱᕐᐊᖅᑎᖓᓕᒃ: ᕼᐊᒪᓚᒃᖅᐊᒃ ᐸᐧᖃᖃᑑᒥ ᑲᓇᑕᕼᕿᖅᖕ ᓄᓇᖅᒥ ᐊᒃᓗᓗ ᓂᕐᖅᐸᕿᐊᕿᐧᕐᖅ ᑲᓇᖃᖅᒥ ᐃᓚᐅᕐ ᕿᐊᓯ ᐸᐧᖃᖃᑑᕐ ᑲᕐᒃᖅᑎᖓᓚᓂ, ᓄᓇᖅᒍᐧᐊᒥ ᐊᓪᓄᐊᐸᑯᑕᕐᕐᒥ ᐃᓗᐃᖓᓕᖅᖕᕐᓴᓯᖅᓗᒃ 69.1675ᐤ N ᑐᕽᒍᓚ 65.6917ᐤ W ᖅᕿᖅᐱᓚᕿ ᑲᓇᖃᖕᓕᓂ. ᑲᓐᐅᑐᒍ, ᓄᓇᓯᖅ ᐅᖕᓕᕿᓯᖃᖃᕿᖕᒃ 7.5-ᕿᐧᒻᒥᒥᕐ ᒥᕿᐊᑎᖕᓚᒍ ᐊᒃᓗᓗ ᐃᓄᐃᐧ ᐊᕐᔾᖕᕿᖕᖕ 1850-ᖕᒃ 2024-ᖕᒍᑎᓚᒍ. ᐊᓚᓯᐅᐧ ᒃᕼᓚ ᐃᓪᖃᐅᑐᐊᖿᓗᓯ. ᓴᐅᕿᖕᒥ ᐃᑲᐅᓐᕿ ᒃᕿᒃ ᑲᓇᖃᒻᕿᖕ ᐅᐊᕿᓇᖕᓂᖕᒃ ᓄᓇᓚᐅᐧ ᐃᓗᐊᐧᖓ. 2008-ᖕᒍᑎᓚᒍ, ᐃᑲᑐᖕ ᒥᑮᕿᕐᐅᓚᐅᐧᐧᖕ ᐊᒃᓗᓗ 2023-ᒥ, ᐊᖕᒃᑎ ᒥᖕᐋᓚᕿ ᕿᕿᓚᐅᑎᖀᓗᓯ ᒥᓗᐧᐊᒥᖐᒃ ᐊᓚᓯᐅᐧ ᒃᕼᓚ. Ċᖃ ᐸᖕᓄᖅᑐᖕ ᐅᖕᕿᕐᕿᐅᒥᖀ ᐊᕐᕐᖕᕿᓄᖕ ᓄᓇᓚᕿᖕ ᓄᓇᐅᐧ ᐆᑎᐊᕿ ᕿᒃᐊᖃᒋᖃᕐᑐᖕ ᐊᕐᖕᐅᕿᑐᓯᓚ ᐊᕆᖃᕐᑐᖅᑐᐃᓴᕌᖏᐊᖕᕿᓯᓂ ᓯᕐ ᐅᖅᕿᕿᐧᓚᐊᑎᓂᒍ ᐊᒃᓗᓗ ᐊᕐᖕᐱᖅᑎᐅᕿᖅ ᐃᓗᓯᖕᓄᖕ. ᕼᐊᒪᓚᒃᖕᒃ ᐅᖅᖕᑑᒥ ᑐᓯᕽᐅᖕᑯᖃᕐᒥᓗᖀ ᒊᖃᐅᔾᖕᒃ ᑲᓚᖕᓯᓇᒃᖕᖔᓯᓚ ᑲᓇᒥ ᐃᓚᕿᓂ ᓯᕐ ᐊᕐᕐᖕᕿᓄᖕᓯᖅ ᐊᑐᐃᓇᐅᕿ ᐅᖅᐅᖅᑐᒥ ᐱᓕᕿᐊᕿᒃ ᐊᐅᓚᑕᐅᕿᖀᓚ ᖃᐅᓯᖅᑐᖏᓂᖃᖕ ᖃᐅᓯᖅᕿᑕᐅᕿᓯ ᕿᓪᖃᖕᖕᖕᕐᖅᑐᖕ ᐃᓯᓯᕿᖃᓂᕿᐧᓗᖃ ᐃᓗᓯᓂᒥᖃ ᐅᖅᖕᖅᑑᒥ, ᐱᓯᐊᕐᑯᒥᖃ ᐊᐅᑎᐅᐧ ᐱᓯᓂᖕᕿᖕᐅ ᐊᒃᓗᓗ ᐊᕿᑐᐃᓇᖕᓗ ᒊᓗᐊᕿᑎᖃᕐᓗᓯᓂ ᐊᓚᓯᐅᐧ ᒃᕼᓚᓂᖕ ᒊᖃᕿᖕᓚᓗ ᓄᓇᓂ ᐅᖅᖕᑑᖕ ᕿᓯ ᐊᕐᖕᕿᖅᑎᓚᒍ. Ċᖃ ᐱᓕᕿᐊᕿᖕ ᖀᒥᖀᐧᓕᓇᐊᖃ ᓄᓇᓚᐧ ᐆᖃᖕᓗᖃᖕᐃᓕᐧ ᕿᓚᐃᓚᐅᖕᓯᓇᖕ ᐱᓕᕿᕐᖕᕿᓯ ᓂᖅᐊᖅᑕᐅᕿᒃᕿᖕ ᒊ ᖃᓂᕽᓇ ᐃᑲᖀᑎᖅᓚᒍ. ᐃᓚᒥᐊᖅᑎᖃᕿᖕᑐ ᓄᓇᖅᒥ ᒃᕿᖕᓯᖅᑐᖃᓇᕽᒃᖕ ᑲᑎᓚᕿᕐᒃ- ᖀᒥᖀᑐᒍᖃ ᐃᑲᕿᕿᐅᖃᐅᐧᖕ, ᐃᓚᕿᖕᓗᖃ ᐃᓗᐧ ᐃᖕᕿᖕᖕᖕᖃ ᐊᒃᓗᓗ ᐃᐅᐧᖃᑯᖃ ᒃᕿᖃᕿᓇᕽᕿᖕᖕ ᐊᓚᓯᐅᐧ ᒊᖃᓂᖕᖃ ᐃᖃᐧᑎᐅᑎᖕᖃ ᒃᕿᖃᕿᓇᕽᕿᖕᖕ ᑲᔾᕽᓇᐅᕿᓚᖕᓯᓇᖃ ᕼᐊᒪᓚᒃᖕᒃ ᐃᓪᖃᕿᐊᕿᖕᓯᓇᖀ. ᑐᕽᕿᐅᑎᐅᕐᖕ ᒃᕿᖃᖀᐅᖃᓇᓇᖀᒍᖀ ᒃᕿᖃᖀᕿᑎᐧᖕ ᐃᑲᕿᖃᖃᐧᖀ ᑎ ᓯᐊᖀᕽᑯᖃᒃᖕᐅᖕᖃ ᖀᒥᖀᑐᐧ ᓄᓇᓚᓂ ᐃᓗᕿᓂᖕ ᐊᐅᓚᐧ ᒊᖀᖀᖃ ᓄᖕᑯᕿᒃᕿᓇᖕᓯᓇᖀ ᐃᒥᕐᕐᖕ. ᑕᖃ ᐃᑲᕿᖅᑐᖕᑕᐅᕿᖕᖕ ᒃᕿᖃᖀᖀᖃ ᓄᓇᒥ, ᐱᕽᕿᐅᑎᓇ ᐊᐅᑎᕐᖕᖕᖕᐃᓯᓇᖕᖃ ᓂᖅᐊᕿᖃᖀᖃᕿᖀᓯᕿᖕ, ᕿᓚᐅᐧ ᖀᖃᐃᖕᖕᖕᖃ ᑎᑎᖀ ᑐᕽᕿᕼᕿᖕᐅᕐᕿᑎᓚ, ᓄᓇᐅᐧ ᐆᖀᖕᖃ ᓂᖅᐊᕿᖃᖀᖃᕿᕿᖕᖃ ᒃᕿᖃᖃᕼᖃᕿᐅᕿᓚᐧᒃᐸ ᐊᒃᓗᓗ ᐊᕿᖀᐱᖀᖀᓇᕽᒃᖃ ᓄᓇᐅᐧ ᖀᒧᖃ ᐃᒥᖕ ᓄᖕᑯᕿᒃᕿᓇᖕᓯᓇᖀ. ᐊᑐᖕᑕᐅᖃᖕᖕᑎᖀ ᑎᑎᕿᒃᕿᖕᖕᖃ ᑲᓇᕽᒊᐃᓇᖕ ᖀᒥᖀᖕᐅᖀ ᓄᐊᑎᓇᖕᑐ ᑎᑎᕿᒃᕿᖕᒥᖀᖀᖃ ᐊᑐᖕᑐᖀᖃᓇᖕᖃ ᑲᓇᕽᕿᖀᕿᖀᖀᓇᖀ, ᐱᕽᕿᐅᑎᓗᒍ ᕿᓚᐅᐧ ᐅᖕᖀᖀᖀᖕᓂᖕᖃ, ᕿᓚᐧ ᒃᕿᖕᕽᖕᖕᖃᖕᖃ, ᐊᒃᓗᓗ ᐊᐅᖃᖕ ᓄᖀᑎᐃᓇᒃ ᓄᖕᐊᖕᑕᐅᕿᒃᕿᓂᖀ ᓄᓇᐃᖕᖕᖃᖕᕐᖕᖀᓗ ᓄᖕᐊᖕᑕᐅᕿᒃᕿᖀᖀᖃ ᐱᑕᖃᖕᕿᖀᓂᖀᖀ. ᓄᓇᒥ ᒃᕿᖃᖀᖕᖕ ᕿᖃᖕᕿᖕᖀᖀᖅᐅᒥᒥ ᖀᕿᖕᕿᖕ ᑎᑎᕿᒃᕿᖀᖕᖃ ᑕᑯᓐᑎᖕᓚᑕ ᐱᓕᕿᖀᕿᓗᐊᖕᖕᖃᖕ ᑐᕽᐅᓚᑎᖕᑎᖀᑎᖕᕽᐅᓚᐊᖕᖃ ᖀᓄᑎ ᖃᖕᓇᕽᒪᖀᖀ. ᑐᕽᕽᕽᖃᑕᖃ ᐊᖕᖃᕿᕽᒐᓚᐧᖃ ᕿᓚᒥ ᒃᕿᖃᖀᖕᖕᖀᐅᓇᖃᖀᑐᒥ ᐱᕽᕿᐅᑎᓄᖃ ᐊᐅᑎᕐᖕᖕᖃᖕᖃ ᐊᐅᑎᕐᖕᖕᖕᐃᓯᓇᖃ ᐊᐅᓚᐧ ᒊᖀᓚ ᖀᑎᖕᖀᖀᖃ ᖀᖃᕽᖃᕽ<ᖕᓇᖃᖀᖃ. ᑕᖃ ᑐᖕᖀᖃᐧᕽᖕᖃ ᐃᑲᕿᐊᖀᖃᐧᒃᕿᖀᓚᒍ, ᑐᕽᕿᓇᑘᒍ ᒃᕿᖃᖀᖀᖀᖃᐧᖕᑎᒍ ᒃᕿᖀᑕᖀᖀᖕᑎᖕᖃᕿᖕᕿᖀᖀ ᓄᐊᖕᑕᖀᖀᖀ ᓄᖕᖀᖀᕿᖀᖀᖃ, ᐅᖀᑐᑎᕿᒍ RADARSAT. ᓇᓗᓇᐃᖀᖕᖕᖀᖀ<ᖀᓚᖀ Ċᖃ ᖀᖀᖀᖀᖀᖀᖀᖀᖃᕿᖀᖀ RADARSAT-ᒍᖀ ᓄᖀᖀᖀᖀᓇᖀᒃᖃ, ᑐᕽᕿᖀᖀᖀ ᖀᖃᕽᖀᖀᖀ<ᓚᐧᖀᖀᖀᖀ<ᐅᐧ ᓄᖕᖀᖀᖃᕿᖀᖀᖀᐧᖀᖀᖀᖃᕿᖀᖀᐧᐊᖀᖀᐅᖃᖀᖀᖃ<ᖕᖀᖕᖕᖃᓂ ᕿᖕ. ᐊᖀᖀ<ᖀᖀᖀᖃᕿᖃᖀᖃᖀ ᒃᕿᖃᖀᖀᖀᖀᖀ ᓄᖀᖀᖃᕿᖀᖃᕿᖀ ᒃᕿᖃᖀᖃᕿᖀᖀᖀᐧᖀᖀᖀᖃᖀᖀ ᓄᓇᒥ ᓄᓇᐅᐧ ᐅᖀᖀᐃᓯᓇᖀᖃ ᒃᕿᖃᖀᖀᖀᖕᖕ ᐃᑎᓂᖕᖕᖀᓚ ᒃᕿᖃᖀᖃᖃᖀᖕᖕ ᑎᖀᖕᖀᖕᖕᖃ (ᓄᓇᐅᐧ ᐊᕿᐊᖕᖃᕿ ᖃᖀᖕᖀᖀᓇᖀᖃᖕ ᖃᖀᖀᖀᓇᖀᖃ). ᐱᓇᕿᐧᐃᓇᖀᐊᖕᑕᐊᖃ ᓄᖀᖃᐧᖀᓚᖀᓚᖀᖀ ᓄᓇᐅᐧ ᒃᕿᖃ ᐊᕐᖕᖕᖀᖀᖀᐊᒪᖀᖕᖀᖀ, ᐊᒃᓗᓗ, ᖀᖕᓇ<ᒍᖀ, ᕽᕿᐊᕽᐅᑎᖕᖃ ᐱᑕᖃᒃᓚᖀᖀᖀ ᐊᒃᓗᓗ ᐃᒥᖀᖃ ᐃᑲᕿᕽᖕᖕᑐᖕ ᒊᖀᖀᖕᖕᖕᖃ. ᑕᖃ ᐃᑲᕿᖅᑐᖕ

ᖃᓄᐃᑦᑐᖃᕈᓐᓇᕐᓂᖓᓂᒃ ᐃᒥᐅᑉ ᐊᖏᓂᖓ ᑰᓗᐊᓕᖅᑎᑦᑎᔪᓐᓇᕐᓂᖓ ᐊᒻᒪᓗ ᐃᒪᒃᓴᖅᑎᑦᑎᓂᖓ. ᓈᓴᐅᓯᕆᓂᕐᒧᑦ ᐋᖅᑭᐅᒪᔪᓕᐅᕆᓂᖅ ᐊᓚᓂᐅᑉ ᑰᖓ ᓇᑭᙶᖅᓯᒪᓂᖓᓗ ᐃᒥᖅ ᓴᖅᑮᖅᑎᑕᐅᒐᔭᖅᑐᖅ ᓈᒻᒪᑦᑐᒥᒃ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᒥᒃ ᐊᑲᐅᙱᓕᐅᕈᑎᖓᓗ ᑲᒪᒋᔭᐅᓗᓂ ᐃᒪᐅᑉ ᐃᖅᑲᖓᒍᑦ ᑰᓐᓂᖓᓂᒃ, ᓇᒧᙵᕐᓂᖓᓂᒃ, ᐱᓗᐊᖅᑐᒥᒃ ᕿᒥᕐᕈᔭᐅᓗᓂ ᐊᐳᑎᖃᕐᓂᖓ ᓇᓗᓇᐃᖅᓯᔪᓐᓇᕐᓂᖓᓂᒃ ᐊᒻᒪᓗ ᐊᐅᑉᐸᓐᓂᖓᓂᒃ ᐃᑲᔪᖅᓯᒻᒪᑦ ᑰᒍᓐᓇᕐᓂᖓᓂᒃ. ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᖓ ᐊᖏᓂᖓᓂᒃ Hᐊᒻᒪᓚᒃᑯᓐᓄᑦ ᑲᒪᒋᔭᐅᓂᐊᖅᑐᖅ; ᑭᓯᐊᓂᓗ, ᐊᑕᖐᓂᐊᖅᑐᖅ ᑕᒪᒃᑮᓐᓂᒃ ᐊᓚᓂᐅᑉ ᑰᖓ ᓇᑭᙶᖅᓯᒪᓂᖓ ᐃᒥᐅᑉ ᐊᒻᒪᓗ ᓯᓚᑖᒎᖓᔪᓂᒃ. ᑕᒪᓐᓇᓗ ᓴᖅᑭᑎᑦᑎᒻᒪᑦ ᐊᐳᒻᒥᒃ ᖃᐅᔨᓴᕝᕕᒃᓴᒥᒃ. ᐅᖃᖅᑲᐅᒐᑦᑕ, ᑐᒃᓯᕋᐅᑎᐅᔪᒪᔪᖅ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᐊᑐᖅᑎᑦᑎᓂᐊᕐᒪᑦ ᑰᓐᓂᖓᑕ ᖃᐅᔨᓴᖅᑕᐅᓂᖓᓂᒃ ᒫᓐᓇᓗ ᑎᑎᕋᖅᑕᐅᕙᑦᑐᖅ Hᐊᒻᒪᓚᒃᑯᓐᓄᑦ ᐱᓕᕆᐊᖑᔪᒧᑦ ᑮᓇᐅᔭᖃᖅᑎᑕᐅᔪᖅ ᓄᓇᕘᒥ ᖃᐅᔨᓴᖅᑐᓕᕆᔩᒃᑯᓐᓄᑦ. ᓈᓴᐅᑎᑎᒨᖅᑐᑦ ᖃᐅᔨᓵᑦ ᐱᕙᓪᓕᐊᑎᑦᑎᔪᓐᓇᕐᒪᑕ ᐊᐳᑎᐅᑉ ᐊᐅᑉᐸᓪᓕᐊᓂᖓ ᐃᑲᔪᕐᓂᖓᓂᒃ ᐱᕚᓪᓕᑎᑦᑎᓗᓂᓗ ᑐᑭᓯᐅᒪᑎᑦᑎᑲᓐᓂᓂᒃᑯᑦ ᐊᐅᑉᐸᓪᓕᐊᔫᑉ ᐊᐳᑎᐅᑉ ᓇᒧᙶᕐᓂᖓᓂᒃ. ᐊᐳᑦ ᐊᐅᑉᐸᓪᓕᐊᓂᖓ ᖃᐅᔨᓵᖑᑎᓪᓗᒍ ᐱᒻᒪᕆᐅᓂᐊᖅᑐᖅ ᖃᐅᔨᓴᖅᑕᐅᔾᔪᑎᖏᓂᑦ ᐊᒻᒪᓗ ᐊᑦᑐᐃᒻᒪᖒᑦ ᓯᓚᐅᑉ ᐊᓯᔾᔨᐸᓪᓕᐊᓂᖓᓂᒃ, ᐱᓗᐊᖅᑐᒥᒃ ᐊᐅᓚᔾᔭᐃᓂᖓ ᐊᐳᑦ ᓇᒧᙵᓂᖓᓄᑦ ᐊᒻᒪᓗᐅᒃᐸᓗ ᑰᓗᐊᓕᖅᑐᖃᖅᓂᐊᖅᐸᑦ, ᐊᖏᑎᒋᓂᖓᓂᒃ, ᐊᑯᓚᐃᑦᑕᕐᓂᖓ ᑰᕝᕕᒻᒧᑦ ᐱᔭᕆᐊᑐᓂᖏᓐᓂᓗ ᓄᓇᖃᖅᑐᓄᑦ ᐸᓐᓂᖅᑑᒥᐅᓄᑦ. ᑕᒪᓐᓇ ᑐᑭᓯᔭᐅᓂᖓ ᐃᑲᔪᖅᑐᐃᓂᐊᖅᑐᖅ ᐸᓐᓂᖅᑑᒥᐅᑕᓄᑦ ᐋᖅᑭᒃᓯᔪᒪᔪᖅᓯᓂᐊᕈᓂ ᐃᓪᓗᖅᑯᑎᒃᓴᓂᒃ, ᐆᑦᑑᑎᒋᓗᒍ ᐃᑳᕈᑎᐅᓂᐊᖅᑐᒥᒃ ᓄᑖᒥᒃ ᑲᓰᑎᔪᒥᒃ ᒪᖀᓐᓂᒃ ᓄᓇᓕᓐᓂᒃ ᐊᑯᓐᓂᖓᓂ ᐊᓚᓂᐅᑉ ᑰᖓᓂ ᐊᒻᒪᓗ ᐊᖅᑯᑎᐅᔪᑦ ᓄᓇᓕᖓ ᓄᖅᑲᐅᒪᑎᑦᑎᑲᓐᓂᕈᓐᓇᒐᔭᖅᑕᑦ ᑰᕝᕕᐅᔪᓂ ᐱᔭᕆᐊᑐᐊᑦᑐᓂᑦ ᐊᒻᒪᓗ ᒥᑭᓪᓕᕚᓪᓕᑎᑦᑎᒐᔭᕐᒪᑦ ᓴᓇᒋᐊᓇᐊᓕᖓᑦ ᐊᑭᖏᓐᓂᒃ. ᓂᕆᐅᒋᔭᐅᔪᑦ ᑲᔪᓯᑎᑕᐅᔪᓐᓇᖅᑐᑦ ᓴᖅᑭᑐᓪᓗ ᐱᓕᕆᐊᖑᔪᒧᑦ: •ᐊᐳᒻᒥᒃ ᖃᐅᔨᓴᖅᕕᑕᖃᖅᑐᓂ ᐊᒻᒪᓗ ᓄᓇᐅᑉ ᐃᑭᐊᖓᓂ ᖁᐊᖑᐃᓇᖅᑐᖅ ᖃᐅᔨᓴᖅᑕᐅᓗᓂ ᖃᐅᔨᓴᐅᑎᓄᑦ ᑲᔪᓰᓐᓇᖅᑎᑕᐅᓗᓂᓗ ᐱᓕᕆᐊᒃᓴᖅ ᐱᔭᕇᖅᓯᒪᓕᖅᑐᐊᖅᑎᓪᓗᒍ •ᓈᓴᐅᓯᕆᔾᔪᑎᓄᑦ (ᕿᒥᕐᕈᓂᒃᑯᑦ ᓇᓗᓇᐃᖅᓯᓂᒃᑯᑦ) ᐊᐳᑦ ᐊᐅᑉᐸᓪᓕᐊᓂᖓᓂᒃ ᖃᐅᔨᓴᕐᓂᖅ •ᓯᓚᐅᑉ ᐅᖅᑰᓯᕙᓪᓕᐊᓂᖓ, ᖃᐅᓯᖅᓇᓂᕐᒧᑦ ᑎᑭᓪᓗᒍ, ᐊᒻᒪᓗ ᐊᐅᓚᔾᔭᑦᑕᐅᓂᖓ ᑰᓗᐊᓕᕐᓂᕐᒧᑦ •ᐃᓕᓐᓂᐊᑎᑦᑎᔭᖅᐸᓪᓗᓂ ᓇᓗᓇᐃᖅᓯᔪᓐᓇᖅᑐᓂᑦ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᖏᑦ ᐃᓚᓕᐅᔾᔭᐅᓯᒪᓪᓗᑕ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ •ᐃᓕᓐᓂᐊᑎᑦᑎᓂᖅ ᐃᓄᓐᓂᖅᓄᑦ ᐃᓕᓐᓂᐊᑎᑦᑎᓂᖅᑲᑦᐃᓕᓴᕕᒻᒥ ᐃᓕᓐᓂᐊᖅᑎᓄᑦ ᐊᑐᖅᑕᐅᔾᔪᓐᓇᖏᖅᑐᓂᒃ ᖃᐅᔨᓴᐅᑏᓪᓗ ᐃᓗᓕᖅᑲᖅᓂᖅ ᐊᐳᑦ ᖃᐅᔨᓵᖑᑎᓪᓗᒍ ᖃᐅᔨᓴᕝᕕᖏᓐᓂ. •ᐸᕐᓇᑦᑐᑦ ᓄᐊᑦᑎᓯᒪᓪᓗᑎᒃ ᓄᓇᖃᖅᑳᖅᓯᒪᔪᑦ ᖃᐅᔨᒪᔭᖏᓐᓂᒃᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᖏᓐᓂᒃ ᐱᓕᕆᐊᖑᔪᒥ. Hᐊᒻᒪᓚᒃᑯᑦ ᐸᓐᓂᖅᑑᒥ ᕿᓂᖅᑐᑦ ᖃᐅᔨᓴᖅᑎᓄᑦ ᖃᐅᔨᓴᕐᓂᒧ

Project Schedule

Start Date:

2024-04-01

End Date:

2027-03-31

Project Map

List of project geometries:

Id	Geometry	Location Name
11859		

point

Hamlet of Pangnirtiung

[11896](11896)

point

Weather station is proposed to be installed at 2.4km away from the Town.

NPC Planning regions:

No Approved Plan

Project Land Use and Authorizations

Project Land Use:

All-Weather Road Access

Scientific Research

Licensing Agencies:

Nunavut Water Board

Nunavut Impact Review Board

Nunavut Research Institute

Material Use

Equipment:

Type	Quantity	Type	Use
Excavator	1	medium size	Making trench for installing the stands of Solar panel
Excavator	1	medium size	Making trench for installing the stands of Solar panel

Fuel Use:

Type	Container	Capacity	Use
Diesel	1		

200

Digging trench for installing Solar panel stands

Hazardous Material and Chemical Use:

Type
Container
Capacity
Use

nil

0

0

nil

Water Consumption:

Daily Amount (m^2)
Retrieval Method
Retrieval Location

2

Duval River

pumping

Waste and Impacts

Environmental Impacts:

No impact

Waste Management:

Waste Type
Quantity Generated
Treatement Method
Disposal Method

Non-Combustible wastes

unknown

Place in the Municipal dump

Truck