



Northern Village of Quaqtaq

Community Master Plan 2025-2045

A COMPREHENSIVE COMMUNITY APPROACH
TO LAND USE PLANNING

ADOPTED MAY 20, 2025
BY-LAW NO. 2025-04



The Northern Village of Quaqtak
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By-law No. BL2025 – 04

Concerning the adoption of a new Master Plan for the municipal territory.

Whereas pursuant to subsection 176 (1) of *An Act respecting Northern villages and the Kativik Regional Government* (CQLR, c. V-6.1; hereinafter the Kativik Act), the Municipal Council (hereinafter the Council) may adopt a by-law for the making of a Master Plan for the municipal territory, specifying the purposes for which each portion of the territory included in the plan may be used, and to enact that such a Master Plan become obligatory;

Whereas pursuant to section 167 of the Kativik Act, the Council may provide for the issuing of permits or certificates in relation to the application of a by-law contemplated in section 176 of the Kativik Act;

Whereas pursuant to By-law No. 2007-02 concerning the adoption of the Master Plan for the municipal territory, the Council has adopted a Master Plan for the municipality;

Whereas the continued development and subsequent expansion of the Northern Village within municipal boundaries requires that a new Master Plan be adopted in order to account for the numerous changes that have taken place since the adoption of the previous Master Plan;

Whereas a new Master Plan has been drafted, a copy of which has been appended to and forms an integral part of the present by-law;

Whereas the appended Master Plan is the result of comprehensive community planning exercise, initiated in 2016, aimed at providing the community with a roadmap to achieve its desired vision for the future;

Whereas the Council has reviewed the new Master Plan and deems it necessary to adopt it in order to update the orientations that will guide the harmonious development of the community;

Whereas a notice of motion for this by-law was duly given during the preceding sitting of the Council held on April 29, 2025.

THEREFORE, the Council of the Northern Village of Quaqtak, by this by-law, enacts and decrees as follow:

1. the preamble is an integral part of this by-law;
2. the appended Master Plan for the municipal territory be adopted;
3. the appended Master Plan replaces any previous Master Plan adopted by the Council;
4. this by-law shall come into effect the date of its publication in accordance with section 138 of the Kativik Act;
5. once published, the Secretary-Treasurer shall transmit a copy of the present by-law without delay to the Kativik Regional Government as per section 160 of the Kativik Act.

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In Favour: 5
Opposed: 0
Abstentions: 0
Absent: 2
Date of Adoption: May 13, 2025

Mayors Signature: [Signature]

Sec Treasurers Signature: [Signature]

Date of Publication: May 14, 2025

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List of Acronyms

CLSC	CENTRE LOCAL DE SERVICES COMMUNAUTAIRES	KRG	KATIVIK REGIONAL GOVERNMENT	NAICS	NATIONAL AMERICAN INDUSTRY CLASSIFICATION SYSTEM
CEN	CENTRE D'ÉTUDES NORDIQUES (CENTRE OF NORTHERN STUDIES)	LHC	LANDHOLDING CORPORATION	NHB	NUNAVIK HOUSING BUREAU (FORMERLY KMHB KATIVIK MUNICIPAL HOUSING BUREAU)
FCNQ	FÉDÉRATION DES COOPÉRATIVES DU NOUVEAU-QUÉBEC	LIDAR	LIGHT DETECTION AND RANGING	NRBHSS	NUNAVIK REGIONAL BOARD OF HEALTH AND SOCIAL SERVICES
ISQ	INSTITUT DE LA STATISTIQUE DU QUÉBEC	MELCCFP	MINISTÈRE DE L'ENVIRONNEMENT, DE LA LUTTE CONTRE LES CHANGEMENTS CLIMATIQUES, DE LA FAUNE ET DES PARCS	NV	NORTHERN VILLAGE
JBNQA	JAMES BAY AND NORTHERN QUEBEC AGREEMENT	MRNF	MINISTÈRE DES RESSOURCES NATURELLES ET DES FORÊTS	SHQ	SOCIÉTÉ D'HABITATION DU QUÉBEC
KI	KATIVIK ILISARNILIRINIQ	MTMD	MINISTÈRE DES TRANSPORTS ET DE LA MOBILITÉ DURABLE		



Statement From the Council

◀Δ

We are pleased to present our long-awaited 2025 Quaqtaq Community Master Plan.

This document is an update to our previous Master Plan. As a holistic planning tool, the Community Master Plan will help us guide and manage development projects with a vision for the next 20 years.

The Land Use Plan and proposed new development areas reflect the community needs and wishes expressed during the community consultations. At the same time, we want future projects to respect Inuit values and cultural traditions. The Northern Village is responsible for making sure we, as a community, follow and put into action the new Community Master Plan. We are committed to work in the best interest of our Quaqtaq community.

We dedicate this Community Master Plan to:

all our ancestors and elders for holding and sharing historical and cultural knowledge so we may continue to preserve and pass on Inuit ways of living; to our youth who embody the hopes and dreams for our collective future; and to all Nunavimiut, near and afar.

◻◻

Introduction

This document represents the updated Community Master Plan (“the Plan”) of the northern village of Quaqtqaq, replacing the last master plan adopted by the northern village council in 2006. It provides the opportunity to plan for sustainable growth of the village over the next 20 years.

As Quaqtqaq's population continues to increase and the village expands, it is important that land use planning tools support the development of an economically, environmentally, and socially resilient community that meets the needs of current and future generations. The Community Master Plan represents a contemporary planning approach for the village of Quaqtqaq. Rooted in consultation and a holistic understanding of the community's context, this Plan outlines the preferred direction for growth and development for Quaqtqaq. The Community Master Plan incorporates elements from the 2006 Master Plan and data collection from various local and regional sources, providing updates where necessary and when data was available. This Plan is applicable only within the municipal boundaries of the northern village of Quaqtqaq.

To facilitate the use of the document, the Community Master Plan is divided in two main sections. The first section provides a comprehensive overview of the Quaqtqaq community context and needs, while the second section defines policies, processes and how they will be implemented. This section also includes the land use map, which summarizes the constraints and potential for community development on a 20-year horizon.

Image 1 — Photograph of the Community of Quaqtqaq¹



¹ Unless otherwise cited, photographs in the Community Master Plan were sourced from the KRG

PLANNING APPROACH

The planning approach used for this Community Master Plan is based on a comprehensive community planning approach, a holistic process that enables a community to build a roadmap to achieve its desired community vision. It is an important tool on the path to sustainable growth. This approach leads to community-driven documents which are adapted to their local contexts. Furthermore, Community Master Plans address a range of important aspects of community life, from governance to infrastructure development, social and, environment and resources, and culture. The Community Master Plan is a planning tool used to integrate these elements into a cohesive planning approach and set objectives for concrete actions. These objectives are presented in detail in Chapter 5.

This Community Master Plan was developed collaboratively with the Kativik Regional Government (KRG)'s land use planning section and the Northern Village (NV) of Quaqtaq to ensure that the community's needs are reflected, and that objectives set are feasible. The Community Master Plan represents not only a planning vision, but a working document that can be adapted to the community's evolving circumstances as new projects and initiatives continue to evolve.

Image 2 — Elements of the Community Master Plan



Inspired by the Comprehensive Community Planning wheel from Indigenous Services Canada

PURPOSE

- > To build a community that is safe, accessible, and vibrant, and where community traditions and culture are respected.
- > To identify opportunities for improvement of services and amenities.
- > To determine objectives for policy and program interventions to support community well-being.
- > To adopt a land use planning approach that is adapted to the community's needs and context.
- > To give Council a tool for making the best use of the space available in the village.
- > To identify appropriate areas for different land uses to ensure that they improve community life and do not conflict with other land uses.
- > To protect significant (cultural or environmental) areas from development and to protect access to the land, the water, and the sea ice.
- > To allocate sufficient land for different land uses in the community and accommodate population growth.
- > To create new neighbourhoods for housing, businesses, and community uses.
- > To encourage construction on existing vacant or underutilized lots within the village core.
- > To identify natural hazards in the village (flood, avalanche zones, erosion, permafrost conditions and unstable grounds).

DOCUMENT STRUCTURE

SECTION A - BACKGROUND INFORMATION

1. Community Context

Provides a brief overview of the community.

2. Cultural Context

Discusses the cultural ties that exist between community members and the land, pointing to the importance of a land management approach that responds to cultural needs and perspectives.

3. Existing Conditions

Details the existing conditions of the community, from environmental to infrastructural.

4. Community Perspectives and Needs

Provides a brief overview of recent community consultations, as well as a needs assessment.

SECTION B - LAND USE

5. Land Use Plan

Presents an impact-based (flexible) zoning approach to planning for the village, and a Development Strategy.

6. Implementation

Provides an overview of the process to implement and amend the Community Master Plan.

Image 3 — Photograph of a Stream in Quaqtaq





Section A

Background Information

01 Community Context

02 Cultural Context

03 Existing Conditions

04 Community Perspectives and Needs

The background features several overlapping, textured shapes. On the left, there are three large, irregular shapes in shades of orange and red. On the right, there are two large, irregular white shapes with a rough, paper-like texture. The overall composition is abstract and modern.

01

Community Context

Map 1 — Location of Quaqtaq Within its Regional Context



1.1 LOCATION

The northern village of Quaqtaq is located in the Nunavik region of the province of Quebec, which begins north of the 55th parallel. Quaqtaq is one of 14 northern villages in the region. The village's coordinates are 61.0333° N and 69.6167° W and its administrative area covers 26.47 square kilometres.

Quaqaq is situated on the northeastern shore of Diana Bay, on a peninsula which protrudes into the northwestern edge of Ungava Bay at the junction of the Hudson Strait.

The peninsula is characterized by mountains to the north, and rocky hills to the southeast. Quaqaq is surrounded by three small coves (Long Cove to the south, Mission Cove beside the village, and Little Lake Cove to the north) as well as multiple lakes, the two biggest being Kingulik to the south and Imirtavik to the southwest. The region in and around the village is considered fertile thanks to the passage of many animal migrations (geese, beluga, caribou and seal notably) and is rich in fish and seafood including scallops, clams, and mussels (Makivvik Corporation, 2021).

Map 2 — Satellite Image of Quaqaq showing municipal boundary



Source: (Google Earth, 2023).

1.2 HISTORY

There are many archaeological sites in and around Quaqtqaq, indicating that the region was used as a base camp for hunting, fishing, and trapping 3,500 to 4,000 years ago, when the Thule arrived in the area. Travelers from the south began establishing permanent settlements towards the middle of the 20th century, but European contact initially began when independent traders installed seasonal trading posts in the mid-1920s. It was also around this time – in 1927 – that the first meteorological station was installed to the northeast end of Quaqtqaq (Cape Hopes Advance), which operated until 1969. Commercial organizations also began arriving around this period: Les Frères Revillon (1922 to 1936), the Hudson Bay Company (1936 to 1940), and the Baffin Commerce Company (1939 to 1949) established bases of operation at Quaqtqaq, before the foundation of a Roman Catholic mission by Father André Steinmann in 1947. Table 1 presents recent history of Quaqtqaq as it relates to changes and development in the community. It should be noted that this table focuses on the steps that led to the creation of the village of Quaqtqaq as we know it today.

Table 1 — Historical Timeline of Quaqtqaq

2000 BCE	Indigenous occupation of the site as a camp for hunting, fishing, and trapping ¹ .
1920s	The first trading post and meteorological station are established in Quaqtqaq ¹ .
1922-1936	Commercial organizations arrive in the village ¹ .
1947	The community builds the first runway, with the help of the Catholic mission ¹ .
1960-1965	The first prefabricated houses (“matchboxes”) are built by the Federal Government ¹ .
1962	A dispensary and nursing station are built, and a post office is commissioned by the Federal Government.
1964	The village starts to take shape with the establishment of a general store by the Provincial Government, as well as the construction of an office building, the installation of the first diesel electric generator, and the building of a school by the Federal Government ¹ .
1966	Fuel tanks are installed by the Shell Canada company in order to supply the electric generator.
1967	A second school is built by the Federal Government, while the first one is converted into a residence for teachers.
1969-1971	The Cape Hopes Advance meteorological station is closed and rebuilt at Quaqtqaq. The Roman Catholic mission builds a church, while the post office is converted into a community centre ¹ .
1972-1975	The village experiences rapid growth, as more three-bedroom houses are built by the Federal Government and a new dispensary is built by the Provincial Government, while the first one is converted into a transit apartment building, which allows the first school to be itself converted to house the Council’s office. The landfill is relocated ¹ .
1978-1980	This period is marked by the departure of the Roman Catholic mission and the arrival of the Pentecostal mission, which builds a new church and transforms the old one into a women’s help centre. More houses are built and Telesat, the satellite phone service, is implemented. The Shell fuel tanks are relocated ¹ .
1980	The Société d’habitation du Québec (SHQ) takes charge of housing in the NVs and starts implementing yet another major housing program with an emphasis on larger and better-quality units. The village is officially incorporated by the Provincial Government ² .

1980	The village is officially incorporated by the Provincial Government ³ .
1981-1982	Another period of rapid growth, as more houses are built or renovated by the SHQ and the community centre is retrofitted into another transit apartment building, aimed mainly at accommodating construction workers. Many services are added to the community. KRG 1982 Master plan. Also in 1981: The airstrip is enlarged and the Sureté du Québec establishes a police station.
1982	Preparation and adoption of Quaqtqaq’s first Master Plan
1983-1985	Major infrastructure and community service projects are realized, such as a wastewater treatment system and the municipal office. The sill plate for the planned municipal garage is laid down ⁴ .
1986-1987	The street grid is expanded with the building of two bridges and some roads are resurfaced with gravel material. The landfill is relocated.
1993-1995	More than 10 years after its sill plate was installed, the municipal garage is finally built. Plans and specifications are agreed upon for the building of the potable water supply system and the street grid is again expanded. The SHQ also constructs a CLSC in 1995 ⁵
1996	The potable supply system is approved and built ⁵ .
2000	The road network is renovated and expanded ⁵ .
2001	The drinking water supply system is upgraded, and the community purchased a new water truck.
2006	Preparation and adoption of the second Master Plan
2007	Permafrost mapping work is done by the CEN identifying construction potential for the expansion of the village.
2015	Makivvik Construction builds pilot project houses on pile foundations.
2016	Case study of a new two-bedroom duplex pilot project in Quaqtqaq
2016	Renovation and expansion of Quaqtqaq Airport Terminal
2019	Ice Wireless launches 3G service in first Nunavik community. Ice Wireless launched its new 3G LTE mobile service on March 19 in Quaqtqaq. It’s the first of Nunavik’s 14 communities to get on the new network.
2020	Permafrost mapping work is done by the CEN identifying construction potential for the expansion of the village.
2021	Tarquti’s team installed a wind measurement tower in collaboration with the Tuvaaluk Landholding Corporation to undertake a wind resource assessment and evaluate the region’s wind potential. Given the significant interest of some of its members, the community decided to initiate environmental impact study that include bird and bat assessments, and geo-tech and geomatic studies for a potential wind turbine project.
2021	The enumerated population of Quaqtqaq, was 453, which represents a change of 12.4% from 2016.
2021	There were 144 private dwellings occupied in Quaqtqaq, which represents a change of 9.9% from 2016. (14 new dwellings)
2022	Quaqtqaq receive 7.2 million for arena renovation
2022-2023	Project to Widen the Quaqtqaq Airport Access Road and Install Safety Barriers
2023	\$4 million granted to Tuvaaluk LHC to build an hotel complex near the community’s airport
2023	Project to Develop a Storage Site for End-of-life Vehicles in Quaqtqaq
2024	Production Innu Assi will document the skills and know-how of the elders in the Inuit village of Quaqtqaq, collecting testimonials to preserve this intangible heritage for future generations. (\$100,000)

Source: (KRG, 1982 : Corporation of the Northern Village of Quaqtqaq Master Plan)¹, (Housing in Nunavik, SHQ)², (Modernity and Identity in an Inuit Community)³, (PGAMR (mamh))⁴, (KRG, 2004 : programmes d’infrastructures municipales)⁵, (Ministère des Affaires municipales et Occupation du territoire (MAMOT))

Image 4 — Historical Photograph of Hunters Eating Seal After Hunting



Source: (Bernard Saladin d'Anglure, 1963).

Image 5 — Quaqtaq man coming ashore in his kayak



Source: (Father Jules Dion, 1950).

1.3 GOVERNANCE

1.3.1 Territorial Framework of the Kativik Region

The *James Bay and Northern Quebec Agreement* (1975, JBNQA) established the first modern land claims settlement for Inuit communities north of the 55th parallel within the province of Quebec (the Kativik region)¹. Section 7 of the JBNQA divides the territory into land categories and defines ownership and hunting, fishing, and trapping exclusivity for each category.

- › **Category I lands** are under the ownership of the Landholding Corporation of each Inuit community, except for subsurface rights, which belong to the Quebec Government.
- › **Category II lands** refers to lands in the public domain on which Inuit retain exclusive hunting, fishing, and trapping rights, and the right to establish and operate outfitting facilities.
- › **Category III lands** are publicly owned lands, on which Inuit, Naskapi, Cree, and non-Indigenous people share uses.

Beyond the establishment of land categories, the JBNQA includes provisions for environmental and social impact assessments and review procedures applicable in the Kativik region for projects under the jurisdiction of Quebec and Canadian governments. Section 23 of the Agreement further outlines a series of guiding principles that must be taken into consideration during project planning and analysis. These are responsive to the need for protecting Indigenous societies and economies, mitigating impacts on Indigenous peoples, protecting hunting, fishing, and trapping rights, and ensuring the participation of Indigenous peoples and regional residents.

Furthermore, the JBNQA (Section 12) and the Act respecting Northern Villages and the Kativik Regional Government (Kativik Act, 1978) (Section 13) permitted the establishment of a municipal system in the Kativik Region. Today, the 14 villages (except for the village of Puvirnituq) are located within Category I lands. Map 3 illustrates the municipal boundaries of the village of Quaqtaq in relation to Category lands.

1.3.2 Kativik Regional Government

The Kativik Regional Government (KRG) was created in 1978 pursuant to the James Bay and Northern Québec Agreement to deliver public services to Nunavimmiut. Many of the KRG's responsibilities are stipulated in the Act respecting Northern Villages and the Kativik Regional Government (Kativik Act), such as transportation, police, sustainable employment, renewable resources, municipal public works and civil security. Other mandates have been delegated to the KRG by the region's municipalities and the Québec government. The KRG is also mandated to provide technical assistance on land use planning matters for the region's 14 northern villages. This role includes support for the production of maps and the creation of planning decision-making tools for the villages (master plan, zoning by-law, basemaps, etc.).

1.3.3 Northern Villages

Nunavik's 14 northern villages operate as municipalities, each being governed by an elected Mayor and Municipal Council. The powers and responsibilities of the NVs are stipulated in the *Kativik Act*. Pursuant to Section 176 of the *Kativik Act*, the roles and responsibilities of the NV include the following:

- › The creation and adoption of a Master Plan and zoning bylaw covering the municipal territory.
- › Regulating land use within the municipal territory.
- › Granting permits for development.
- › Review permit applications for development

1.3.4 Landholding Corporations

Landholding Corporations (LHCs) are governed by the Act respecting the Land Regime in the James Bay and New Québec Territories. LHCs are non-profit entities which, pursuant to this Act, receive and hold Category I lands. LHCs are composed of the Inuit beneficiaries affiliated to their respective community.

The purpose of LHCs is to administer lands on behalf of community members and promote the cultural, environmental, and social well-being of beneficiaries. In Quaqtaq, Category I lands are held by the Tuvaaluk LHC. It is governed by a Board of Directors

As landowners, LHC responsibilities include the following:

- › Establish and administer policies and guidelines for the development of Category I lands.
- › Identify and allocate Category I lands for use and occupancy purposes.
- › Grant easements, usufruct rights, leases, as well as other use and occupancy rights, on Category I lands.

1.3.5 Nunavik Housing Bureau

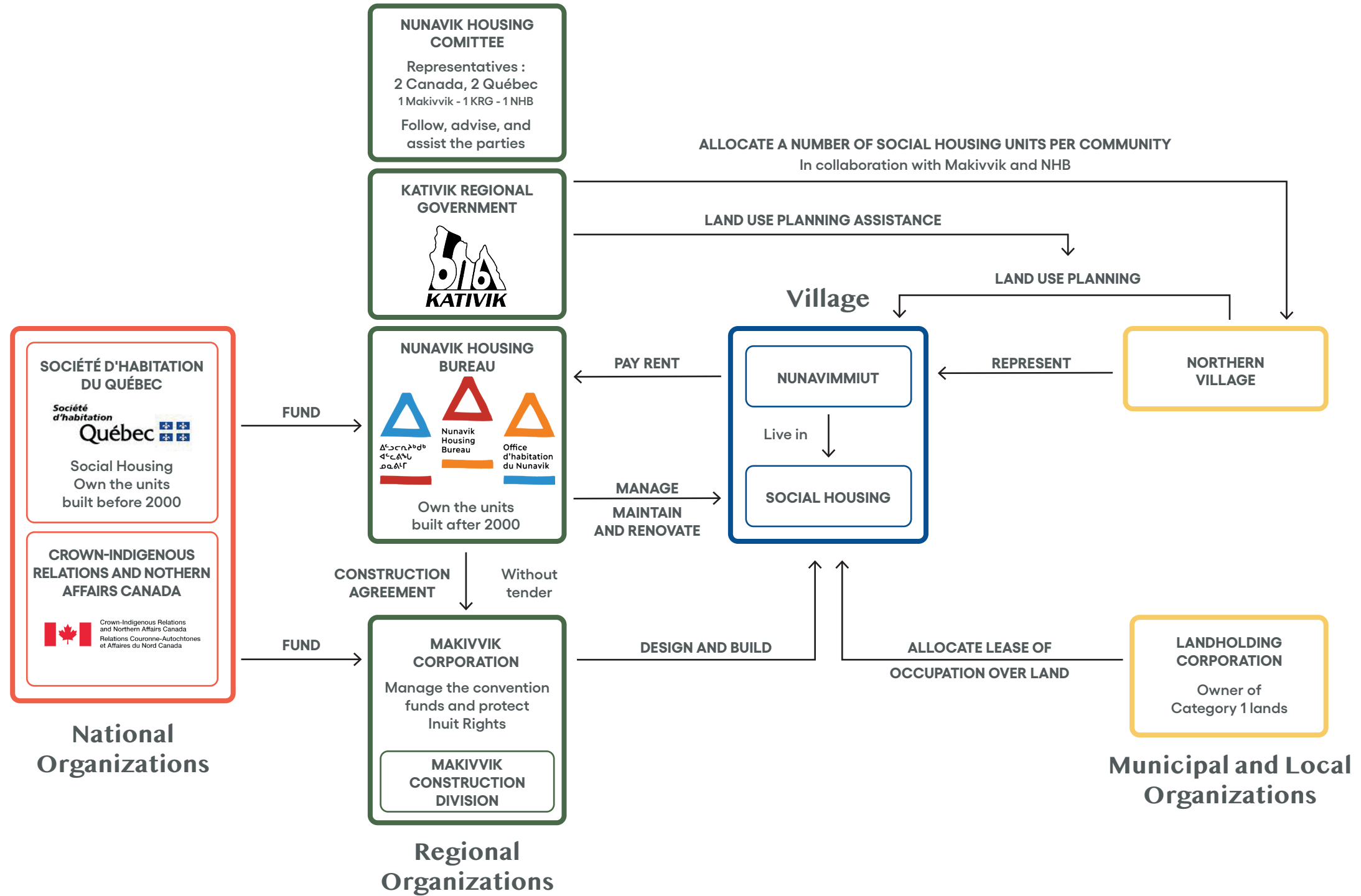
The Nunavik Housing Bureau (NHB), established under Article 57 of the SHQ Act (S-8 – Act respecting the Société d'habitation du Québec), was created in 1999 at the request of the Kativik Regional Government to manage and maintain the social housing in the Northern Villages of the Kativik region. It became operational in 2000. Today, the NHB acts as the designated representative of the Société d'habitation du Québec to ensure the management of the social housing stock and its maintenance. Housing stock consists of 3550 housing units spread over the 14 communities of Nunavik. NHB houses 98% of the population of Nunavik, a total of nearly 14,000 people.

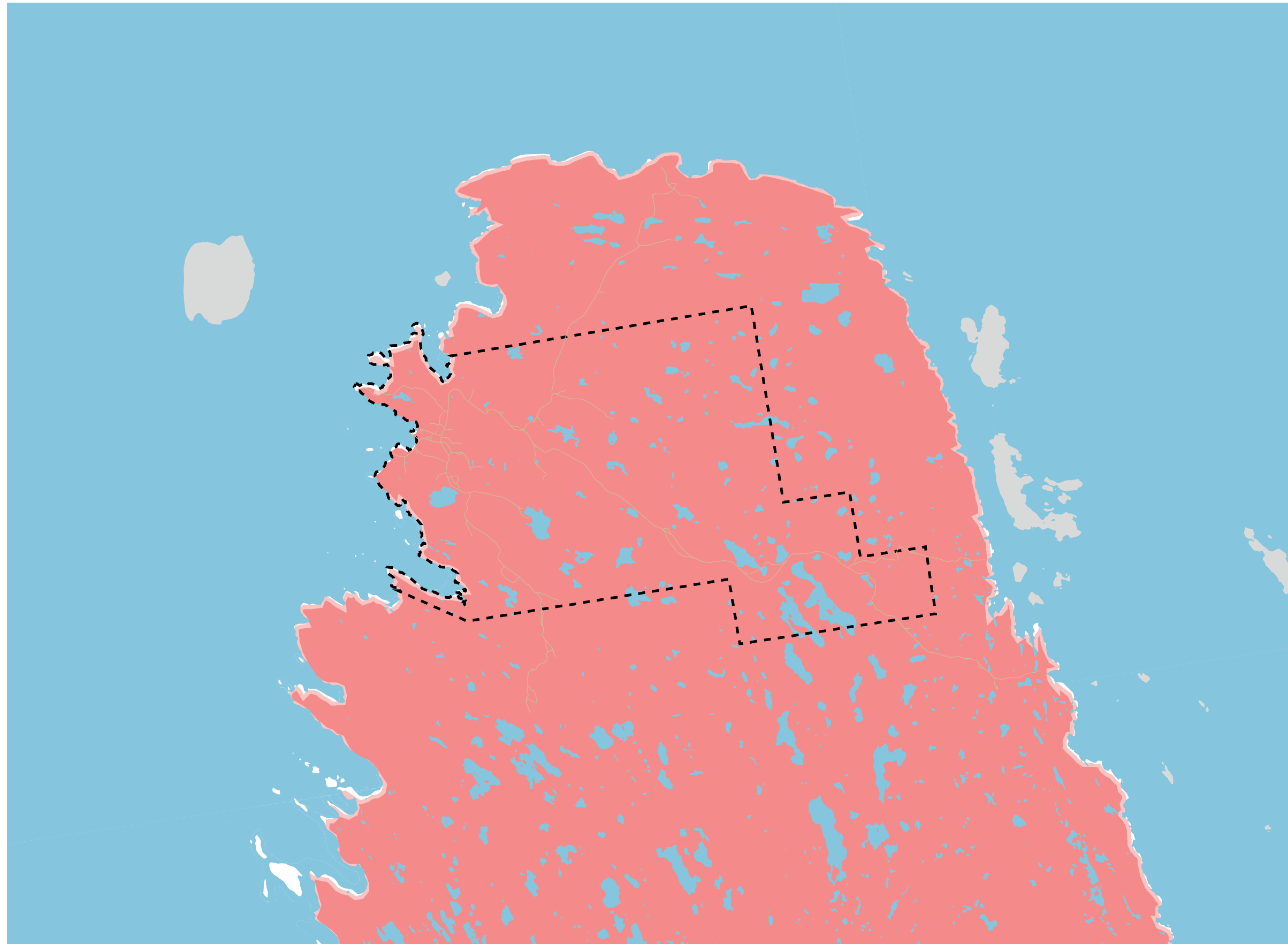
The NHB is managed by a board of directors. It has seven members, three selected by the KRG, two by NHB tenants and two by the Ministère des Affaires municipales et de l'Habitation du Québec (Québec Ministry of Municipal Affairs and Housing).

The organisation also manages a Program Promoting Home Ownership and Residential renovation in the Kativik region that allow Inuit families to benefit from a Québec government subsidy covering 75% of the cost of building a private home (non social-housing).

² The Kativik Region refers specifically to the Territory made of portions of the Nunavik region within the Province of Quebec, as defined in the *Kativik Act* (Section 2(v)). It excludes all offshore areas, islands, and the land areas under the jurisdiction of Nations, the Government of Canada, the Government of Nunavut or the Government of Newfoundland and Labrador.

Image 6 — Inuit Housing Governance Schematics Diagram





LEGEND

-  Municipal Limits
-  Category I
-  Category II

NOTES

Data Source: MRNF (2024)



The background features several overlapping, textured shapes. On the left, there are three large, irregular shapes in shades of orange and red. On the right, there are two large, irregular white shapes with a rough, paper-like texture. The overall composition is abstract and modern.

02

Cultural Context

2.1 APPROACH

In the development of the Community Master Plan, the KRG worked closely with the community of Quaqtaq to better understand the cultural context through research, consultations, and interviews. As part of this process, the NV was approached in order to determine which persons may be most appropriate to interview. Potential participants received information relating to the Community Master Plan project and examples of questions they would be asked. Participants were compensated for their time and knowledge. Interviews took place in person where a representative from the KRG confirmed the interview details with all participants before proceeding with the formal interview. Interviews were recorded and transcribed. The following summarises the information shared by interview participants.

2.2 UNDERSTANDING OF LAND AND LAND USE

Local understandings of land and land use surrounding northern villages are strongly shaped by traditional knowledge, particularly in relation to subsistence activities such as hunting and harvesting. These practices have allowed community members to develop a close relationship with and deep knowledge of the land and its resources. This knowledge influences the timing of certain hunts. For instance, belugas and walrus are hunted more in the spring, because their oil and meat can be fermented. Additionally, community members prefer harvesting mussels in the fall, even if they can be picked starting in the summer, because they are fatter in the fall.

During interviews, participants discussed the seasonality of hunting, fishing, and harvesting. Each participant spoke of the importance of various marine and terrestrial species in their community. These species include, but are not limited to seals (ring seals, square flipper seals, and harp seals), fish, polar bears, muskox, beluga whales, caribou, geese, and ptarmigans. Interview participants highlighted various key methods used for hunting and fishing (which are largely season-dependent) as well as preservation methods, such as drying or fermenting meat and fish.

Certain aspects of these practices have evolved over time with changing technologies and tools. Hunting habits have also changed, with one interviewee highlighting that people used to spend all summer hunting on a nearby island, whereas now, they only visit it for hunting. Interviewees also mentioned the harvesting of important food sources. In general, wildlife is understood as a key resource, not only for food, but also a multitude of other purposes. The use of seal skin to make pualuk (mittens) and anorak (parkas) is one notable example that is still visible today. Animal skins were also traditionally used in trades for other important items.

Map 4 displays significant traditional hunting routes identified by Quaqtaq community members. Traditional knowledge of the land allows community members to access its rich resources and continue to carry out important cultural practices.

2.3 UNDERSTANDING OF COMMUNITY AND WELL-BEING

Interviewees spoke of the important role of elders in community life. Caring for the needs of elders is a priority, as demonstrated by the habit of sharing fresh country food with them. In turn, elders share important traditional knowledge and stories with younger generations, often via the FM radio. Furthermore, when discussing community well-being, interview participants emphasized that physical activity and country food play a role in ensuring the wellness of community members.

When leveraged appropriately, land use planning tools have the potential to support community well-being, including their efforts to preserve their traditional knowledge and cultural practices as Quaqtaq continues to grow. Traditional knowledge, cultural practices, and cultural understandings of the land should be central considerations in the land use planning process.

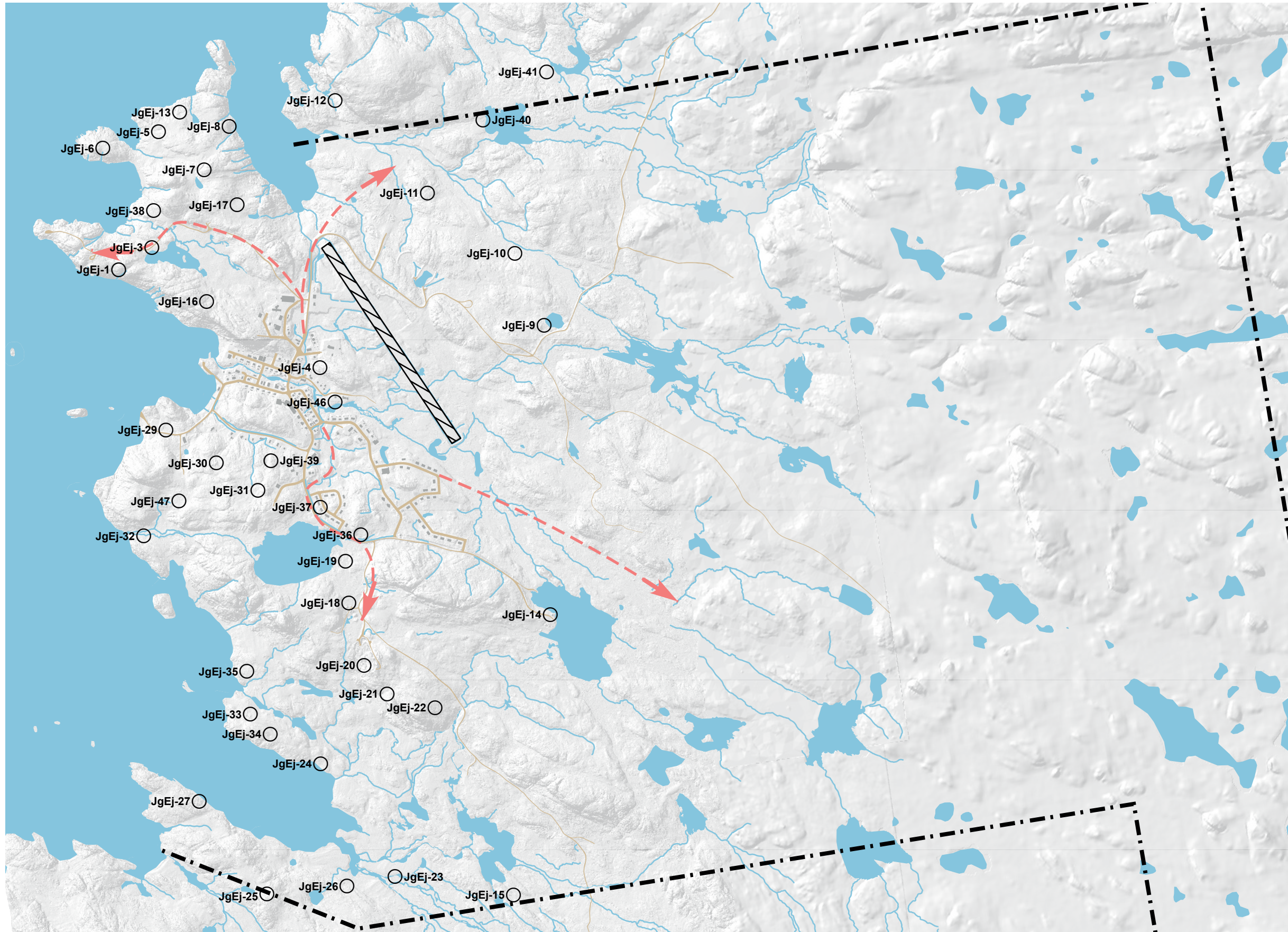
Image 7 — Photograph of Community Member in a Hunting Cabin



Image 8 — Photograph of Cape Hopes Advance, a Beluga Hunting Area



Map 4 — Map of Cultural Heritage Sites in Quaqtaq



LEGEND

- · — Municipal Boundary
- Archaeological Site
- Traditional Hunting Routes

NOTES

Note: The archaeological sites in this map are presented for informational purposes only. Their location is therefore approximate. Anyone interested in building near an archaeological site should communicate with the Avataq Cultural Institute
 Data Source: MCC (2024), KRG (2024), CRGH AG(2024), MERN (2021)
 Date: 2025-05-05





03

Existing Conditions

3.1 DEMOGRAPHICS

3.1.1 Population Overview

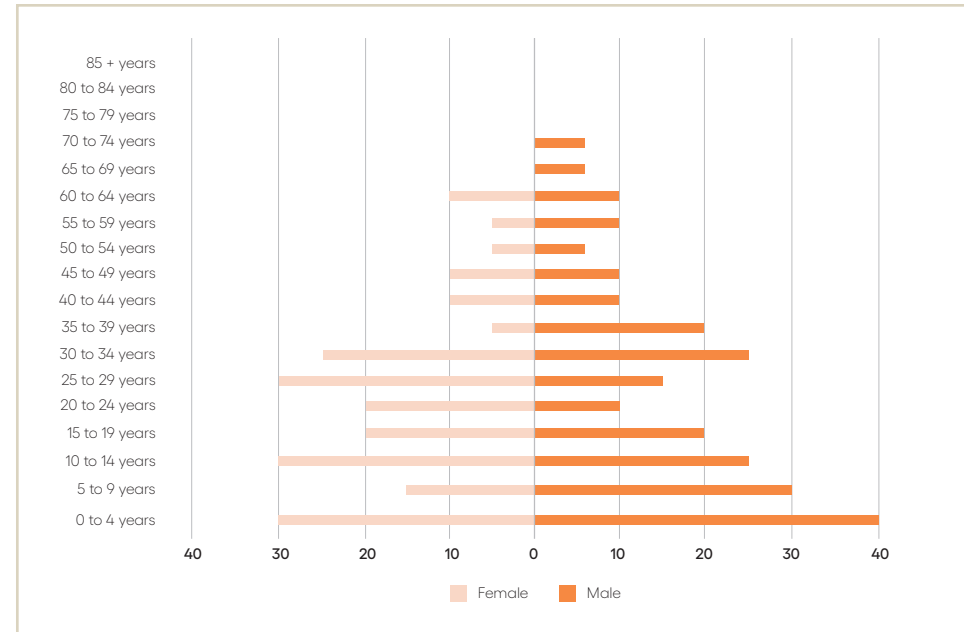
As per the Statistics Canada 2021 Census, the population of Quaqtaq is comprised of approximately 453 people. The population of Quaqtaq is relatively young (Graph 1), with more than half of the population under the age of 25. The median age of Quaqtaq is 22, which is significantly lower than the median age of the province of Quebec, 43.2 (Statistics Canada, 2021a). The median age for Quaqtaq is in line with the median age of other villages, such as Inukjuak (22.2), Ivujivik (23), and Kangiqsujuaq (23.9). The discrepancy between the percentage of men and women is also notable (Graph 1). While these statistics illustrate the village's relatively young population, projections conducted at the regional level show a significant increase in the senior population of Kativik Region (Ministère des Ressources naturelles et de la Forêt, 2022). This is further discussed in Section 4.2.

The average size of a census family in Quaqtaq is four persons, with 35% of families in private households being five or more persons (Graph 2).

3.1.2 Population Growth

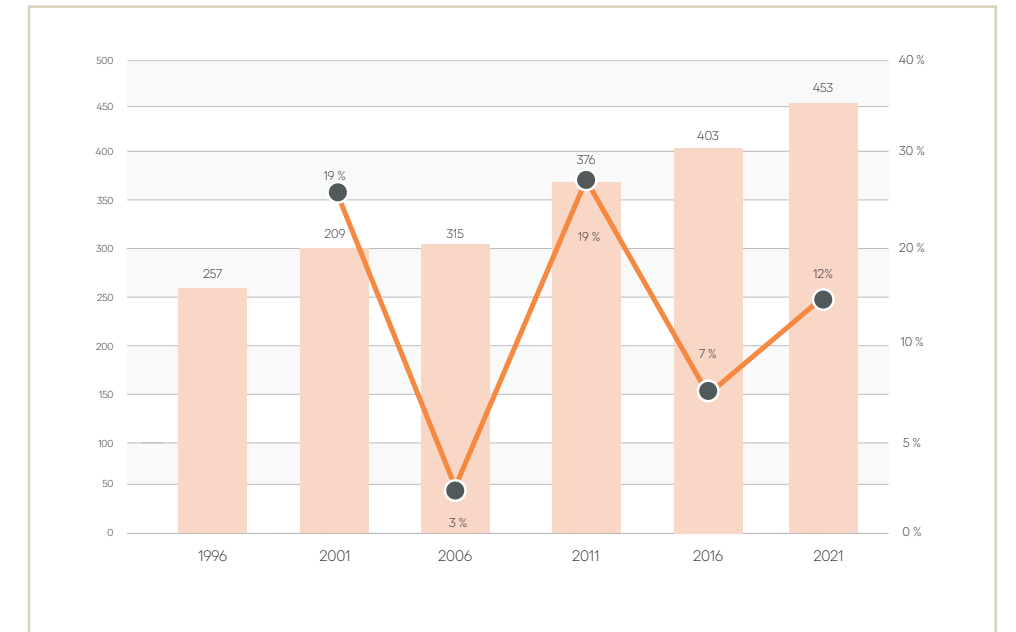
Between 1996 and 2021, the population of Quaqtaq grew by 76%. As illustrated in the Graph 3, growth in the community has been fairly constant since the 1996 census, with a more significant increase observed between 1996 and 2001, and 2006 to 2011. This is significantly higher than the rate of growth for the province of Québec during the same period (18.7%) (Institut de la statistique du Québec, 2022). This rate is also quite high compared to Nunavik as a whole (65.1% between 1996 and 2021).

Graph 1 — Population Pyramid, 2021 Census



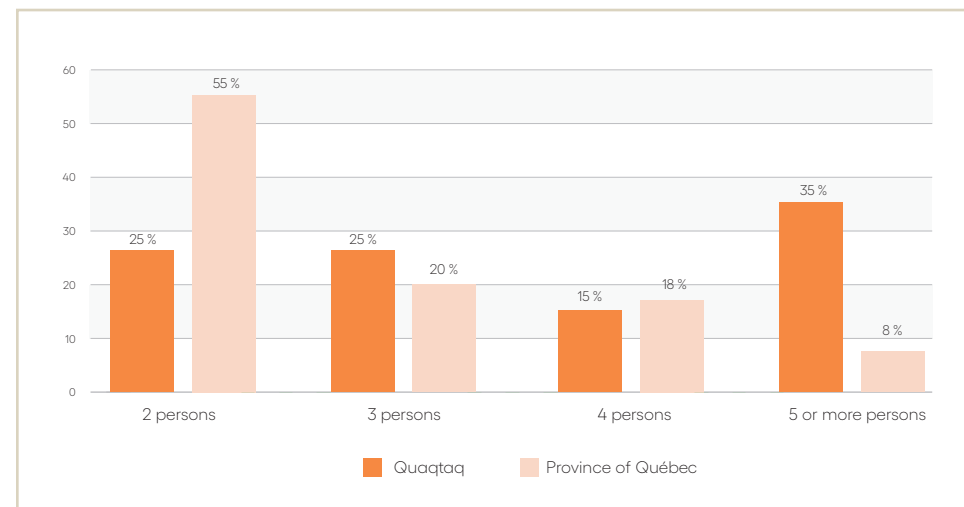
Source: (Statistics Canada, 2021a).

Graph 3 — Population Growth, 1996 to 2021



Source:(Statistics Canada, 2001a, 2006, 2011, 2016, 2021a)

Graph 2 — Families in Private Households, 2021 Census



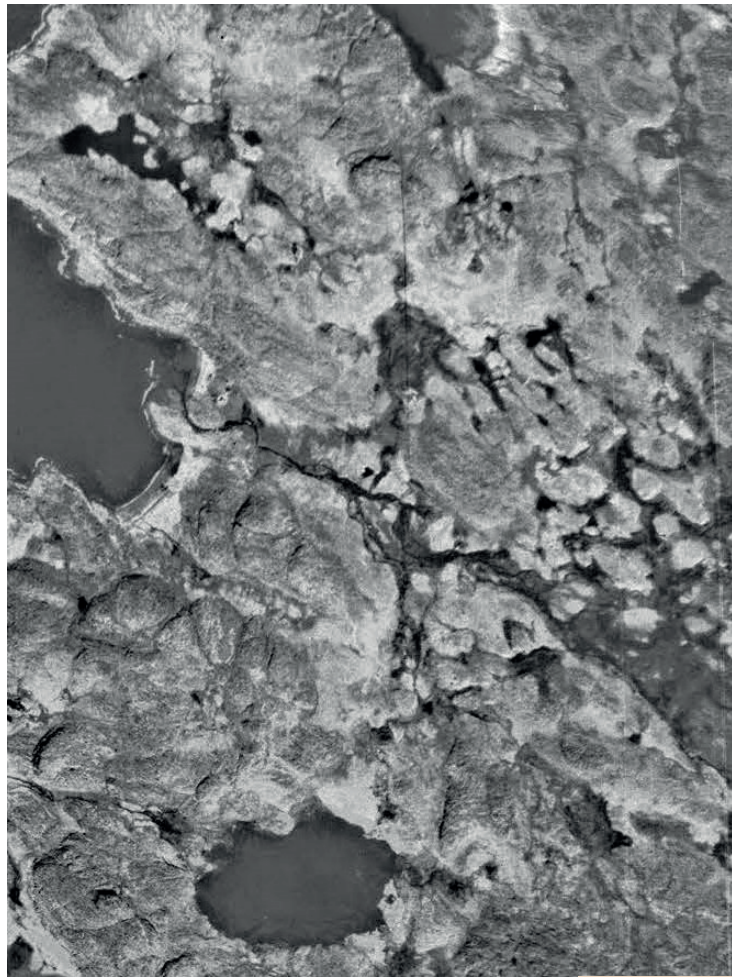
Source: (Statistics Canada, 2021a).

3.2 URBAN DEVELOPMENT

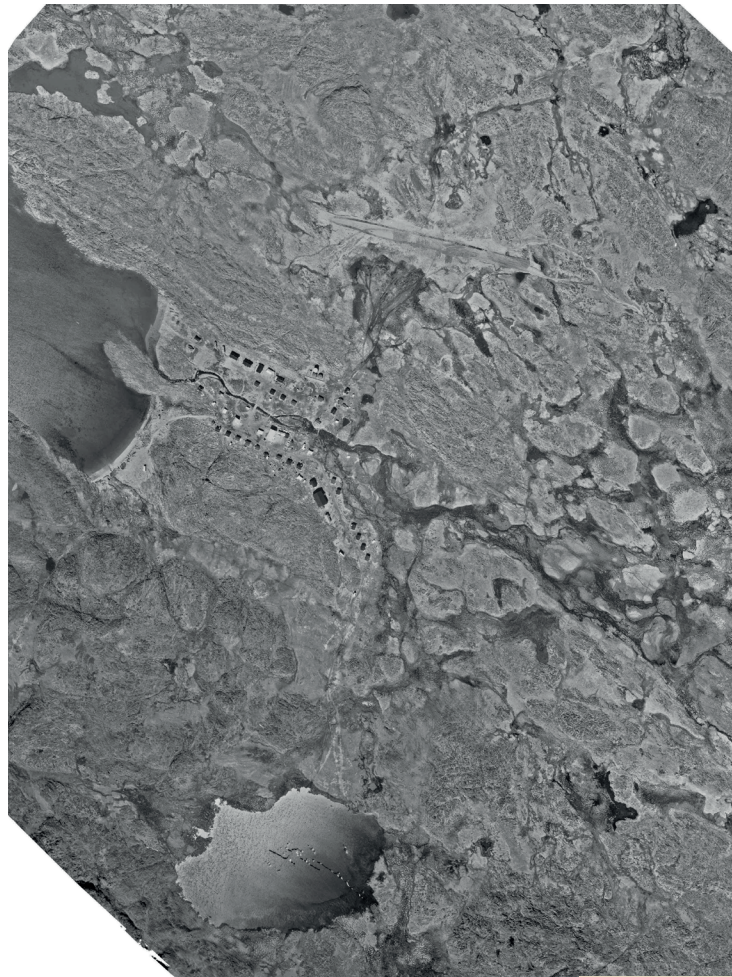
3.2.1 Evolution of the Local Urban Context

The evolution of built form in Quaqtqaq from 1953 to 2020 is illustrated in the aerial imagery presented in Map 5. These images show an increase in development between the 1950s and 1970s, the paving of the air strip between the 1970s and 1990s, and the southward expansion of the village between the 1990s and 2020.

Map 5 — Aerial Imagery of Quaqtqaq from 1953-2020



1953



1975

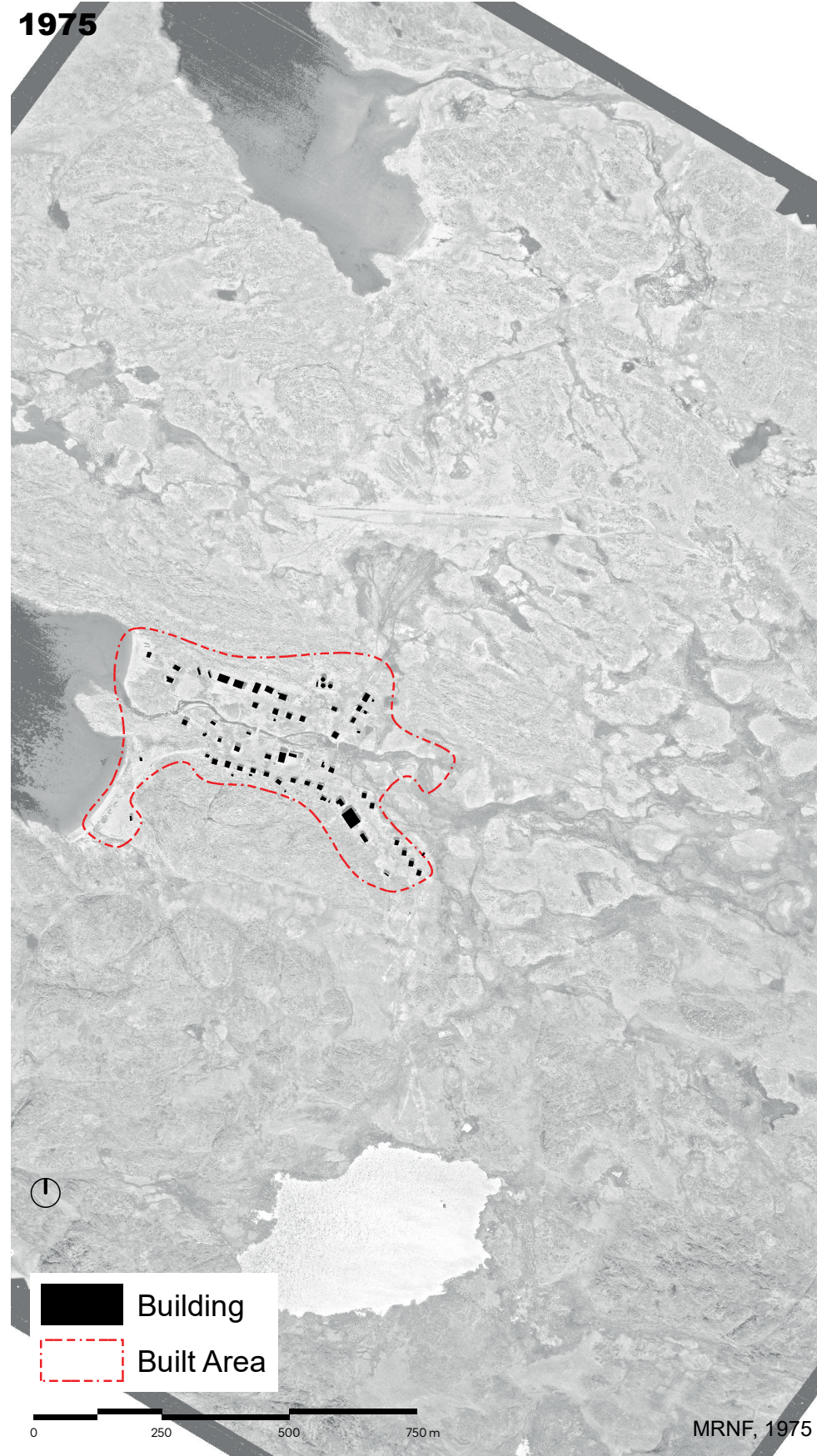


1991

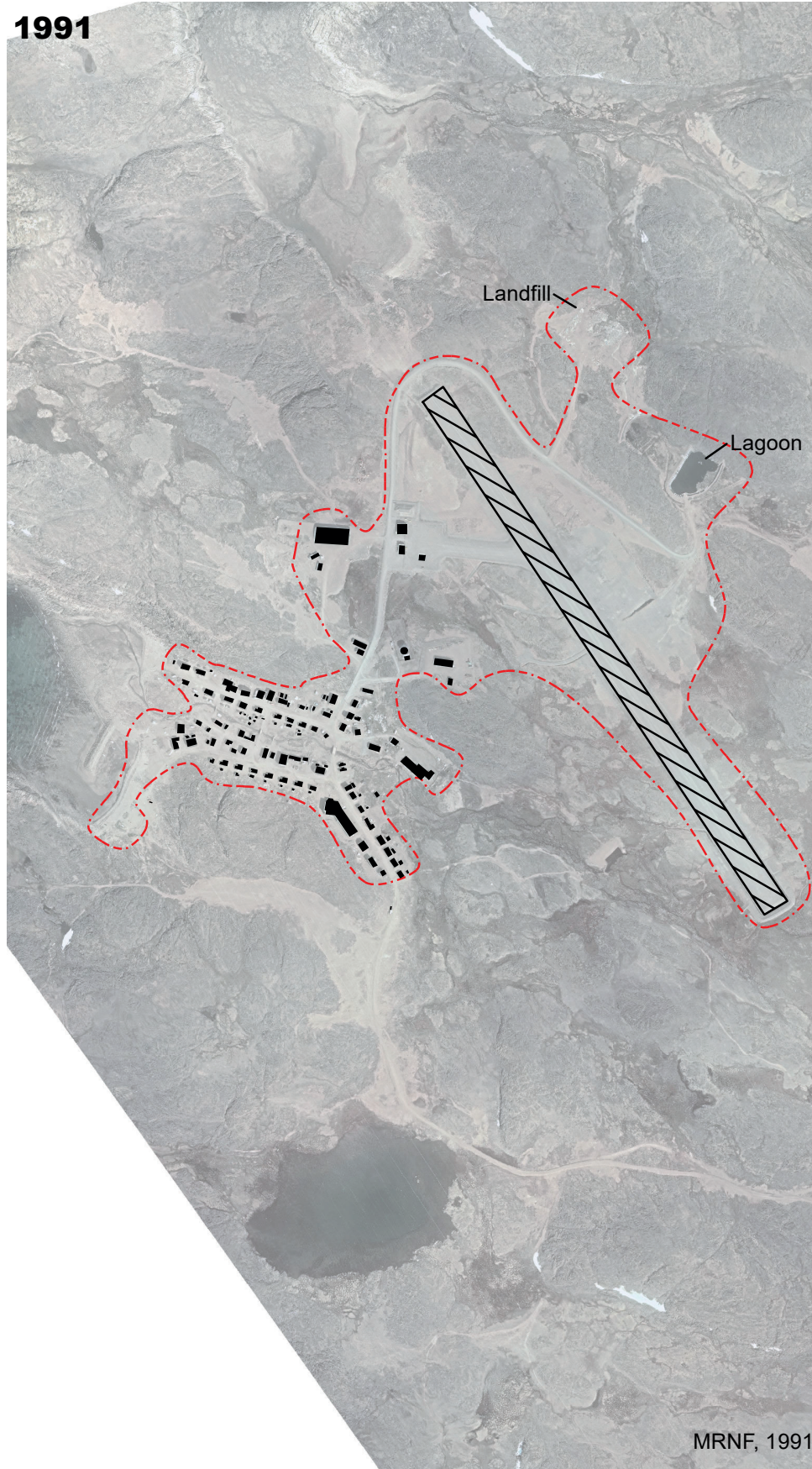


2020

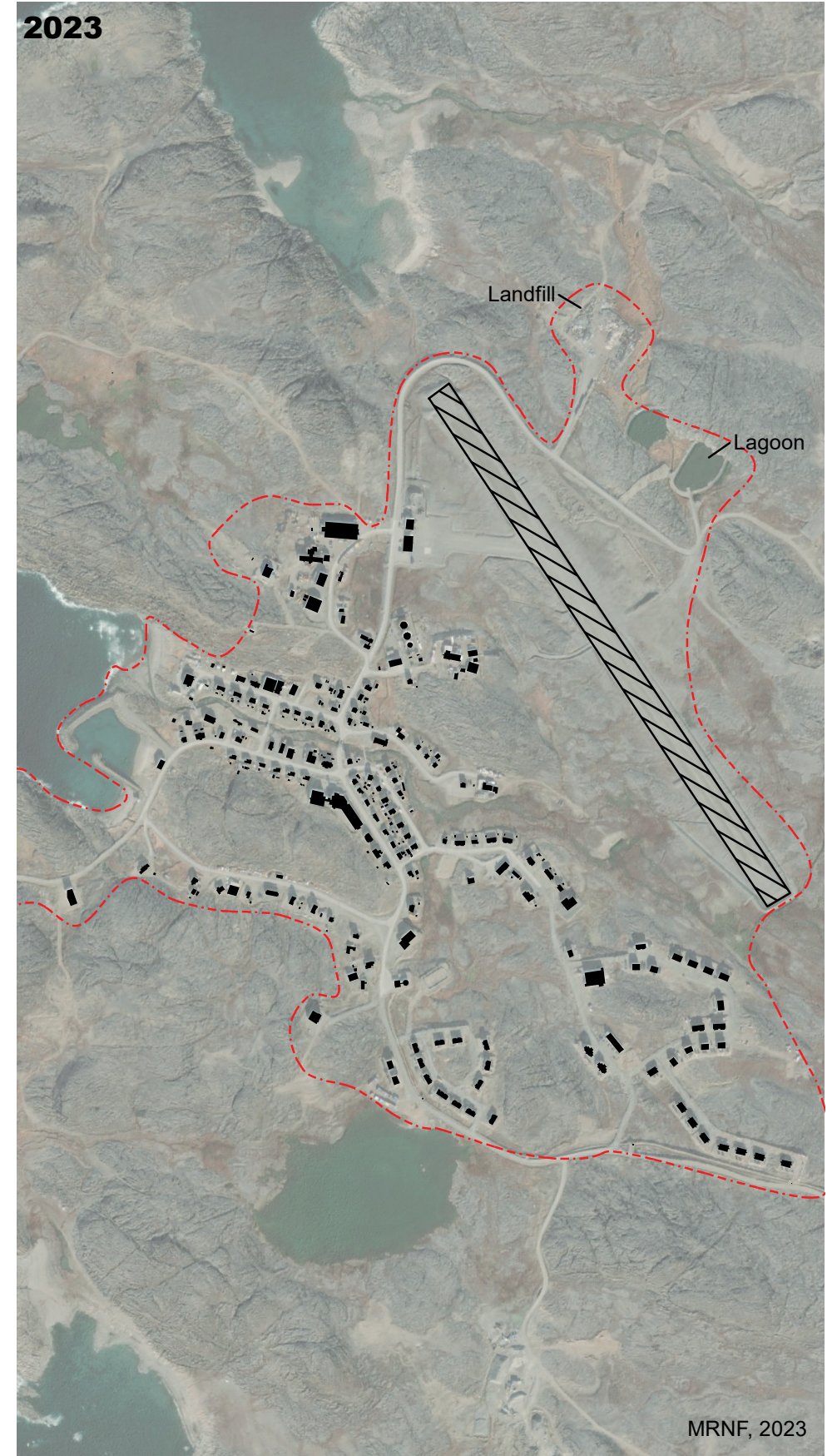
1975



1991



2023



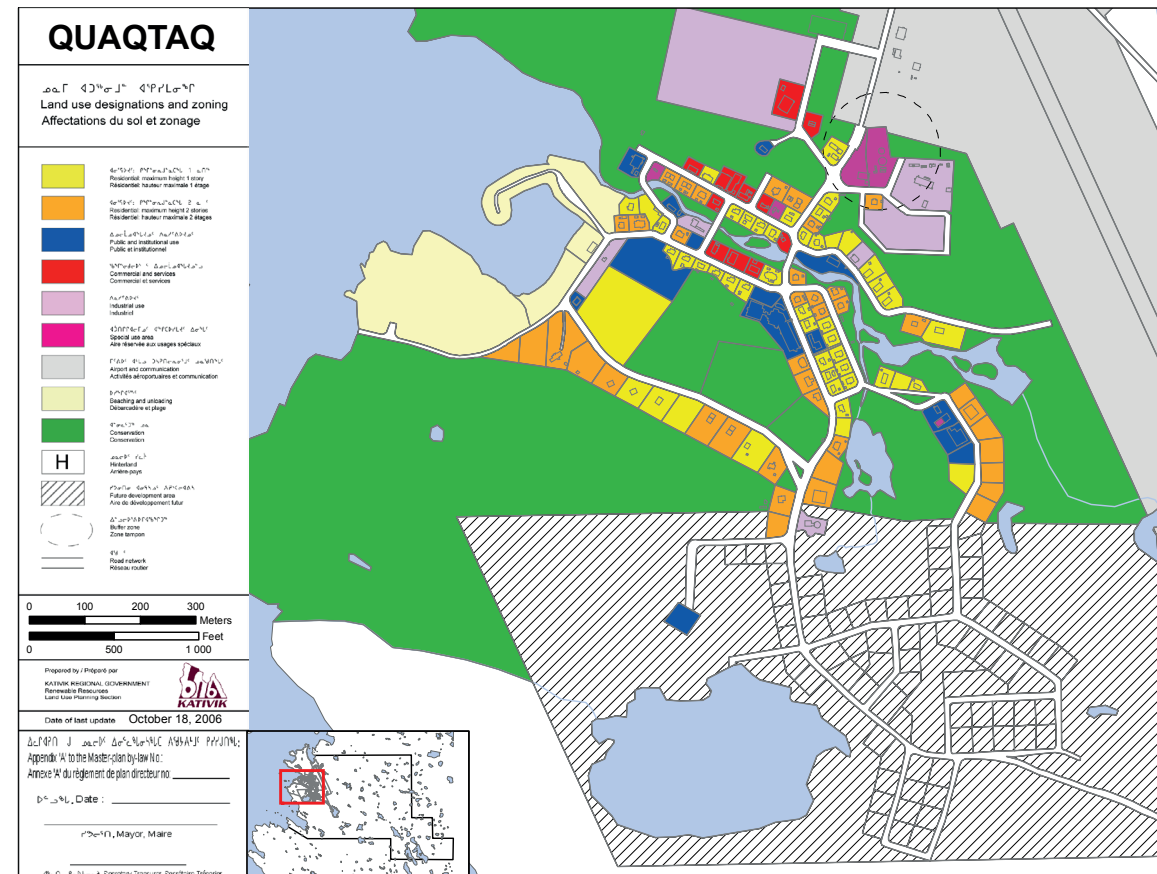
3.2.2 History of Master Planning in the Village

Master planning exercises have been ongoing in Quaqtq for several decades. These documents have sought to formalize the development of the community, in an effort to plan for future needs and capacities that may arise. Quaqtq’s various Master Plans reflect planning perspectives and approaches of their time. Previous Master Plans allow for a better understanding of how a community has changed throughout the years.

The map shown in Map 7 (from the 2006 Master Plan) reflects the built form of Quaqtq from 2006. The 2006 Master Plan map displays a traditional land use planning approach, with permitted uses being defined for each land use designation. Additionally, a draft master plan was developed in 2016, although it was never adopted. The 2016 draft master plan also followed a traditional land use planning approach.

The present 2025 Community Master Plan introduces a new approach to land use planning for Quaqtq, as outlined in Section B, Chapter 5.

Map 7 — 2006 Master Plan Map



3.2.3 Key Stakeholders in Urban Development

In addition to the NV and KRG, several stakeholder organizations play a key role in development in Nunavik’s northern villages. These organizations and their typical construction activities are summarized in Table 2. Note that this list is not exhaustive.

Table 2 — Overview of Key Organizations and Typical Construction Activities

KRG	<ul style="list-style-type: none"> Municipal service infrastructure (water, roads, etc.) Other community facilities 	<ul style="list-style-type: none"> Offices and warehouses Staff housing
MAKIVVIK CORPORATION	<ul style="list-style-type: none"> Social housing Construction camps 	<ul style="list-style-type: none"> Offices
TUVAALUK LANDHOLDING CORPORATION	<ul style="list-style-type: none"> Office Tank farms 	<ul style="list-style-type: none"> Hotels Construction camps
NUNAVIK HOUSING BUREAU (NHB)	<ul style="list-style-type: none"> Warehouses 	<ul style="list-style-type: none"> Staff housing
KATIVIK ILISARNILIRINIQ (KI) SCHOOL BOARD	<ul style="list-style-type: none"> Education facilities, residences, and administrative buildings Warehouses and other storage 	<ul style="list-style-type: none"> Staff housing
NUNAVIK REGIONAL BOARD OF HEALTH AND SOCIAL SERVICES (NRBHSS)	<ul style="list-style-type: none"> Health and well-being facilities (ex. CLSC) 	<ul style="list-style-type: none"> Staff housing
FÉDÉRATION DES CO-OPÉRATIVES DU NOUVEAU QUÉBEC (FCNQ)	<ul style="list-style-type: none"> Hotels Stores 	<ul style="list-style-type: none"> Warehouses
MINISTÈRE DES TRANSPORTS ET DE LA MOBILITÉ DURABLE (MTMD)	<ul style="list-style-type: none"> Airport terminal infrastructure and buildings 	<ul style="list-style-type: none"> Airport roads
HYDRO-QUÉBEC	<ul style="list-style-type: none"> Power plants and energy infrastructure Staff housing 	<ul style="list-style-type: none"> Transit house
OTHER	<ul style="list-style-type: none"> Office buildings 	<ul style="list-style-type: none"> Other community assets

Source: (Allard et al., 2023).

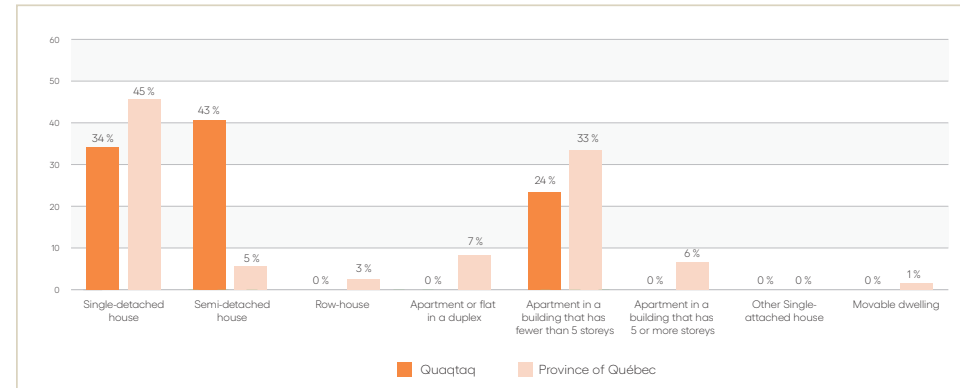
3.3 HOUSING

There are approximately 173 housing units in Quaqtqaq, as per the 2021 Census. The majority of the housing stock is made up of single-detached and semi-detached housing. However, 24% of the housing stock is also made up of apartments in buildings that are fewer than five stories. The construction of occupied private dwellings occurred from 1961 onwards, with significant construction occurring between 1981 and 1990 and more recently between 2011 and 2016. This is consistent with the year of construction of social housing units. It was also recorded that three percent (3%) of total occupied private dwellings need major repairs, which is significantly lower than other villages: Ivujivik (26%), Inukjuak (18%), and Kangiqsujuaq (30%).

3.3.1 Housing System

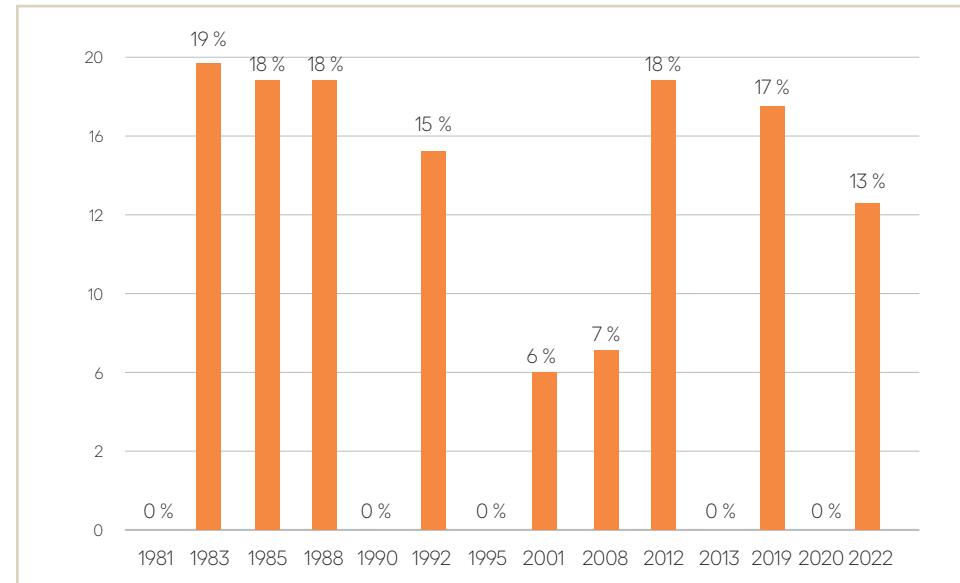
The Société d'habitation du Québec (SHQ) has been responsible for providing social housing services in Nunavik since 1981. The property rights are then transferred to the Nunavik Housing Bureau (NHB) once the units are built. The NHB's mandate is to manage and maintain the social housing in all Nunavik communities. NHB and KRG have an annual selection process to determine which communities will be allocated social housing, based on a survey of social housing needs. As of 2019, there were 113 social housing units in Quaqtqaq, which is approximately 65% of the total dwelling count in 2021. The construction of social housing units in Quaqtqaq has occurred mainly between 1983 and 1992, then later in 2001, and after 2008. According to available data from the KRG, 10 units were allocated in 2018, 20 units in 2019, and 16 units in 2022. The majority of households in Quaqtqaq occupy social housing. The remaining households are in employer-owned or privately-owned buildings. Organizations such as the Nunavik Regional Board of Health and Social Services (NRBHSS) and the Kativik Ilisarniliriniq (KI) School Board provide housing for staff. The very low home ownership rate in Quaqtqaq is explained by a combination of several factors: high construction costs, a higher cost of living, fairly low rent payments for the most fortunate households in low-rent housing, and the difficulty of maintaining one's home due to lack of material or specialized resources. The private rental housing market is therefore nearly non-existent in the village of Quaqtqaq and across the region.

Graph 4 — Occupied Private Dwellings by Structural Type of Dwelling



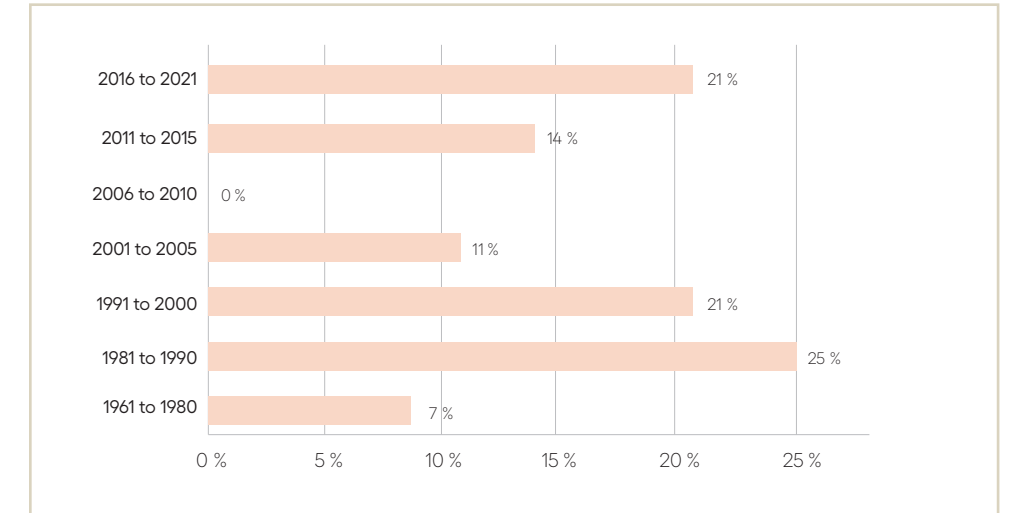
Source: (Statistics Canada, 2021a).

Graph 6 — Social Housing by Year of Construction, Quaqtqaq, 1981 to 2022



Source: (Société d'habitation du Québec, 2014).

Graph 5 — % of Total Occupied Private Dwellings by Period of Construction



Source: (Statistics Canada, 2021)

3.3.2 Planned Construction of Staff Housing

The following information includes only projects based on available data. Makivik Corporation and the NRBHSS may also be constructing new units in coming years. However, no official data was available at the time of preparing this document. For other upcoming construction projects, see table 14 in Section B, Chapter 5.3.

For example, by 2025, the KI School Board will construct the following number of units for staff housing:

- > 2024: four units.
- > 2025: 20 units.

3.4 COMMUNITY ASSETS

Quaqtaq’s community assets, services, businesses, and infrastructure are outlined in Table 3 and illustrated in Map 8. Many community services are located within the village centre in close proximity to one another.

Table 3 — Quaqtaq’s Community Assets

COMMUNITY ASSETS		INFRASTRUCTURE	
CULTURAL Cemetery (3) Church (3) Community freezer Hunter Support Program office	INSTITUTIONAL NV office LHC office Post office	STORAGE Garage Warehouse (2)	WASTE MANAGEMENT Landfill Wastewater treatment pond End-of-life vehicle
RECREATIONAL AND LEISURE Arena Ball park Gymnasium Playgrounds (3) Outdoor skating rink Swimming pool Youth house	HEALTH AND WELL-BEING CLSC (health clinic) Social worker's office Women’s shelter	ENERGY Gas/pumping station Power plant Tank farm	WATER TREATMENT AND MANAGEMENT Reservoir Water treatment plant/aqueduct
EDUCATIONAL Schools (primary and secondary) Daycare	SECURITY AND EMERGENCY RESPONSE Fire station Police station Rescue boat and shelter	MARINE Boat launch Boat storage Port and breakwater	COMMUNICATIONS Satellite dishes/communications tower FM radio
	WORK, COMMERCE, AND FOOD SERVICES Co-op store	AIR Airport	GRANULAR RESOURCES Pits and quarries (2)
	ACOMMODATION Hotels (3)		

3.4.1 Community Facilities

Community assets and infrastructure in Quaqtaq includes community and institutional buildings, parks and playgrounds, transportation infrastructure, and municipal service infrastructure. The Isurruutiit Program is a partnership between the KRG and the Province of Quebec that has contributed to the building and upgrading of infrastructure in Nunavik communities. Phase I of the program started in 1999, Phase II in 2006, Phase III in 2011, and Phase IV in 2016. The Isurruutiit Program (Phase V) was renewed in 2023.

The three components of the Isurruutiit Program are as follows.

- > Infrastructure upgrading work (for drinking water, wastewater, solid waste and roads);
- > buildings and other municipal facility construction and renovations (offices, garages and outdoor recreation infrastructure); and
- > vehicle and heavy equipment purchases and overhauls (for drinking water, wastewater, solid waste and roads).

Phase V of the program will allow the KRG to continue to invest in municipal infrastructure and to conduct studies, including the evaluation and identification of sustainable solutions to water and wastewater management issues in the villages.

Furthermore, in 2022, it was announced that Quaqtaq (and five other villages) would receive federal and provincial funding for upgrades to sport and recreation facilities, under the Program for Recreational and Sports Infrastructure. \$7.2 million was allocated to the community of Quaqtaq for the renovation of the local arena.

The construction of other community assets is also being planned for Quaqtaq in the near future. This includes a new NV office, community fridge, and wood storage.

Image 9 — Photograph of the Community at a Distance



Map 8 — Community Assets in Quaqtaq

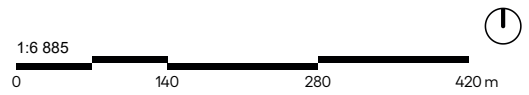


LEGEND

- Cultural
- Recreational and Leisure
- Educational
- Institutional
- Health and Well-Being
- Work, Commerce, and Food Services
- Security and Emergency Response
- Accommodation
- Other buildings
- ✱ Playgrounds
- †† Cemetery

NOTES

Data Source: KRG (2024), CRGH AG(2024), MERN (2021)
Date: 2025-05-05



3.4.2 Education Facilities

The KI School Board was created under the JBNQA (1975) and is responsible for educational services in Nunavik. The Board is authorized to deliver education in Nunavik at the pre-kindergarten, primary, secondary, and adult education levels. It is also responsible for designing programs and teaching material in Inuktitut, French, and English and organizing and supervising postsecondary education. The KI is non-ethnic and manages at least one school in each of Nunavik's 14 communities. Given the size of most schools, the limited number of pupils, and the trilingual nature of programs and staff, most classes are comprised of two or three grades. Currently, Quaqtac has one school, Isummasaqvik, located in its village centre. The school encompasses both primary and secondary levels. There is also one day-care in Quaqtac, located on the eastern outskirts of the village.

According to analysis published by KI in 2021, school space available in Quaqtac is insufficient to meet the current and future needs of the student population. This analysis shows that the percentage of existing school space, relative to the required capacity, is at 50% (Dionne, 2021). As a result, a new school will be constructed in Quaqtac (to be completed by 2025). Additionally, expansion projects to the Isummasaqvik School are planned for 2028-2031.

3.4.3 Health and Well-Being Facilities

The NRBHSS is responsible for the delivery of health services in the Nunavik region. Services are organized locally and by sub-region — Hudson and Ungava. Quaqtac has a local health care centre (CLSC) which includes a team of professionals from various fields and disciplines. These teams provide a range of health care and social services to the population. Quaqtac also has a social worker's office.

Broader health services are delivered outside the community through two multi-purpose facilities, the Inuulitsivik Health Centre in Puvirnituq and the Ungava Tulattavik Health Centre in Kuujjuaq. These institutions provide general hospital services and specialized care as well as long-term hospital care. Both centres also offer midwife care services and child and youth protection services. The Puvirnituq Crisis Center, also known as Aaniavituqarq, provides mental health rehabilitation services to individuals who are in crises.

Image 10 — Existing Healthcare Clinic in Quaqtac



Secondary health care services are limited in Nunavik. The use of resources outside of the region is the norm for almost all specialized examinations and treatments. Some services are offered by the two health centres through visiting specialists such as gynaecologists, psychiatrists, orthopaedic specialists, etc. If specialized or ultra-specialized services cannot be provided in the North, the patient will be referred to resources in the South, based on agreements with the *Réseau Universitaire Intégré de Santé et Services Sociaux* at McGill or other agreements (Nunavik Regional Board of Health and Social Services, 2022).

Given that many health and well-being services are provided outside the village itself (and even outside the region), access to services can be a challenge as it requires air travel. According to the 2017 *Qanuilirpitaq? Health Survey* results, access to reliable local health services is a concern for community members (Lyonnais et al., 2017). This includes both the local clinic and the social worker's office. A new CLSC, as well as office spaces for health care workers, are planned for Quaqtac in the near future, which will increase the community's capacity for health care service provision.

Another significant community challenge regarding health and well-being is food security. The importance of country foods was highly emphasized by health survey respondents (Lyonnais et al., 2017). The village has two community freezers, which provides communal storage space and allows for the sharing of resources; However, access to affordable and high quality fruits and vegetables was identified as an issue by community members.

3.5 INFRASTRUCTURE

Map 9 identifies the different types of infrastructure currently existing in Quaqtaq.

3.5.1 Transportation Infrastructure

3.5.1.1 Ground

Quaqtaq's street grid includes three types of roads of varying widths: main arteries (12 metres), secondary streets (eight metres) and snowmobile/ATV trails (six metres).

Ground-based transportation networks in Quaqtaq have benefitted from the ongoing Road Paving Program, which took place between 2002 and 2007. This program was created through an agreement between the KRG and the Ministère des Transports et de la Mobilité durable du Québec (MTMD). It aims to improve the quality of life of Northern residents by lowering the proportion of dust generated by vehicles travelling along sand and gravel roads. The program has the added benefit of increasing the lifespan of vehicles, which reduces the burden of maintenance fees on residents and local organizations. Currently, some roads in Quaqtaq are surfaced with asphalt (3.8 kilometres as of 2008, resulting from the Road Paving Project), while others are surfaced with gravel material.

The Road Paving Program was extended in 2012, which allowed for 90 kilometres of public roads to be paved in the villages. This phase targeted specifically the main roads such as those leading to airports.

Also of note is Quaqtaq's public transit network. Services are delivered through the Usijiit para- and public-transit program, operated by the NV and funded by the KRG.

Some community concerns have been raised regarding circulation and road safety in the village, particularly in proximity to the airport.

3.5.1.2 Air

Quaqtaq's airport is equipped with a single 1,073-metre-long gravel airstrip. In 2010, the Nunavik Plan identified Quaqtaq's airport as one of those needing major renovations and listed that need in its list of urgent priorities for the coming years. Quaqtaq's airport has since benefited from the renewal, in 2012, of the airport infrastructure improvement plan agreed upon by the two parties involved, the MTMD and the KRG. In 2013, the terminal building was renovated and expanded, the runway was resurfaced, and its lighting system replaced. In 2019, the fencing was replaced due to damages caused by permafrost (Kativik Regional Government, 2019).

In 2019 (latest data available), Quaqtaq's airport handled 1,422 aircraft movements (landings and takeoffs combined), for a total of 5,894 passengers (Kativik Regional Government, 2019).

3.5.1.3 Marine

Since 1998, the Canadian and the Quebec governments have been funding improvements to marine infrastructure facilities via an agreement with the Makivvik Corporation (Avataq Cultural Institute, 2010). The first phase of funding, comprised of \$ 91.5 million, was released from 1999 to 2011; Makivvik was tasked with coordinating projects in each village. These projects have had a net positive impact on communities by improving the safety of marine access and creating greater efficiency for harvesters and sealift operations. This agreement is currently in its second phase of funding. 2014 saw investments made to access ramps and service areas in a majority of villages. The second phase of this agreement includes investments in docking facilities for community vessels as well emergency response vehicles, such as sealift and search and rescue boats.

Quaqtaq owns two rescue boats which can be launched from its two small harbours. The harbours are protected by breakwaters, which were constructed by the Makivvik Corporation.

Boat launching operations are a challenge in Quaqtaq due to difficulties accessing harbours at low tide (particularly in certain weather conditions). This is becoming increasingly challenging due to the impacts of climate change on local weather patterns and water levels (Clerc et al., 2011). This is an important issue facing the community, particularly in terms of launching rescue boats.

Image 11 — Photograph of a Canoe Near the Waterfront in Quaqtaq





LEGEND

- Municipal Limit
- Airport Takeoff & Landing Zone
- Constraints Buffers
- Water Pipeline
- Fuel Pipeline

Water Intake Protection Areas

- Nearby
- Intermediate
- Remote

NOTES

Data Source: KRG (2024), CRGH AG(2024), MERN (2021)
Date: 2025-05-05



3.5.2 Municipal Service Infrastructure

3.5.2.1 Water Supply, Storage & Treatment

Quaqtaq's water intake facilities are located to the southeast of the village core. The community has two drinking water tanks, from which water is delivered to each building independently on a regular basis by tanker trucks.

Collaborative research projects are underway throughout Nunavik examining water quality, access, climate change impacts, as well as future opportunities for water management. This is a partnership between KRG, provincial entities, and universities across Canada including University of Ottawa, University of Victoria, and Université Laval. Preliminary reports indicate that while water quality from source to tank is mostly acceptable, some opportunities for contamination exist due to lower chlorine levels and higher storage temperatures. Additionally, many families throughout the region have indicated that they supplement water from their home tanks with other sources due to fears of contamination. Lastly, it has become apparent that certain households suffer from limited access due to weather or truck conditions. Future phases of this work will continue to monitor water quality while exploring opportunities for grey/brown water reuse.

3.5.2.2 Solid Waste

Quaqtaq's solid waste disposal facility (landfill) is located on the northernmost part of the village, beyond the airport. The two sewage lagoons, which are used for the disposal of residual liquids, are located next to it, northeast of the airstrip. Waste liquids are treated by decantation. The village is estimated to produce 326 tonnes of residual materials per year.

In consultations with the Government of Quebec, several of Nunavik's communities expressed concerns with the environmental and health impacts of ground burning practices in proximity to villages (Duhamel, 2022). Several measures for reducing waste and improving waste management methods are listed in the *Nunavik Residual Materials Management Plan (2021-2027)*, including exploring alternatives to the open-air burning of waste. A new project to establish a storage for scrapped vehicles is currently underway in Quaqtaq. The site will be located southeast of the wastewater lagoon.

3.5.2.3 Energy

As is the case with most northern villages, Quaqtaq's electricity comes entirely from petrol generators. The tank farm located to the north, close to the airport, supplies the needed fuel. However, since 2020, Quaqtaq has begun the process of transitioning to clean energy. Tarquti Energy, a Nunavik-owned company, installed wind measurement towers in 2021 to test the potential of wind turbines (south of the village's municipal boundaries). Given the high potential of wind energy in Quaqtaq, there are now plans to construct a three-megawatt wind turbine located five kilometres south of the village. This project is expected to enter in service in 2026.

3.5.2.4 Snow Removal

Snow management is an important aspect to consider in planning the future development of the village. A study conducted in 2012 identified the snow disposal sites in the village (Barrett et. al., 2012). The study recommends new potential sites for snow disposal, and identifies sensitive areas where snow disposal should be prohibited. A new study of snow removal in Quaqtaq could provide more up to date information on snow disposal sites and best practices. The sites identified in the 2012 study are indicated on Map 11.

Image 12 — Tarquti Energy Solar Panels and Wind Measurement Tower



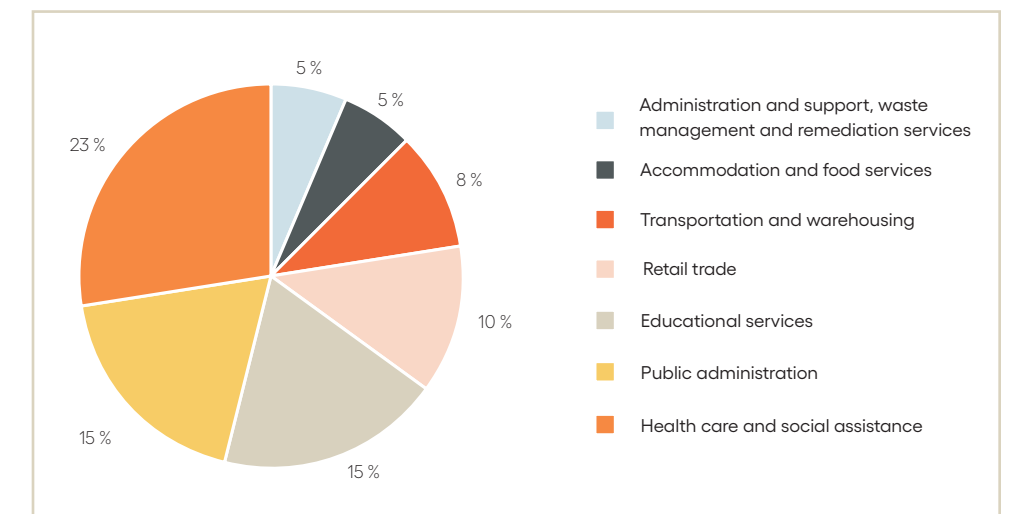
3.6 ECONOMY

Similarly to other villages, Quaqtaq's economic activities can be divided into the informal sector and the formal economic sector.

The informal economic sector is centred around subsistence and non-monetized activities such as fishing, hunting, and trapping. This sector is supported by programming funded by the KRG through the Inuit Hunting, Fishing and Trapping Support Program.

Graph 7 illustrates the main formal economic activities of the village, based on the latest available data. These are classified using the North American Industry Classification System (NAICS). Similar to other villages, education, health care and social assistance, and public administration are all important industries in Quaqtaq. Retail trade is also a significant sector in the community. According to results from the 2017 community health survey conducted by the NRBHSS, village residents expressed their interest in developing other economic sectors, including construction, tourism, and hospitality.

Graph 7 — Total - Labour Force Aged 15 Years and Over by Industry - Sectors - North American Industry Classification System (NAICS) 2021 Census






Source: (Statistics Canada, 2021a).

Map 10 — Existing and Proposed Snow Disposal Sites in Quaqtqaq (2012 Report)

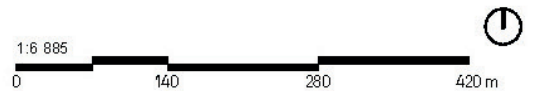


LEGEND

-  Snow disposal sites
-  Potential snow disposal sites
-  Snow disposal prohibited

NOTES

Data Source: Journeaux Assoc. (2013), KRG (2024), CRGHAG (2024), MERN (2021)
Date: 2025-05-05



Source: (Barrett et al., 2012).

3.7 GEOPHYSICAL PROFILE

3.7.1 Topography and Geomorphology

Quaqtaq is located between low mountains to the north and rocky hills to the southwest, Diana Bay delimits the village’s western boundary. Quaqtaq’s topography is relatively flat and low, varying from eight to 48 metres above current sea level, most of the village being located within an altitude ranging from 14 to 28 metres (see Map 11). Additionally, the area in and around Quaqtaq is interspersed with wetlands, as well as several permanent and intermittent waterways (see Map 12).

The region’s bedrock is composed mainly granite and granite gneiss, formed in the Precambrian period over 700 million years ago. The melting of the ice caps at the end of the last glaciation, about 10,000 years ago, induced a major rise of the sea level which put the entire Diana Bay Peninsula underwater.

3.7.2 Geology and Terrain

The CEN produced a series of maps for Quaqtaq in 2018. The maps are based on a 2010 air photo and old photo interpretation; Light Detection and Ranging (LiDAR) data used to create a digital elevation model, followed by field work to validate the data. The field work included a limited amount of terrain observations, probing and drill holes in the permafrost, as well as borehole drilling and test pits in certain areas. Using this data and analysis, a surface deposits map (Map 13), a natural hazards risk map (Map 14), and a permafrost conditions map (Map 15) were created. In addition, a construction potential map (Map 16) was also created to provide direction on suitable lands for development based on permafrost conditions, slope conditions, and foundation types in different areas of Quaqtaq.

Maps 13 to 16 are adapted versions of the maps produced by the CEN. These maps focus on the village core and do not show the entirety of the CEN’s original datasets, which represent a wider geographical scale. As a result, certain elements are not shown in the legends of Maps 13 to 16.

3.7.2.1 Surficial Geology

As the surface deposits map (Map 13) illustrates, most of the village is built on littoral and sublittoral sand and gravel sediments of a depth of approximately two to three metres (see Map 13, Mn), most of the rest being located on bedrock (R in Map 13), leaving only a few structures standing on alluvium (see Map 13, Mr). Some of the larger structures in the village, like the school and the landing strip, are situated on two or three soil types. The littoral and sublittoral areas rest directly on the bedrock and contain low amounts of ice, and are considered stable during thawing, well drained, and generally excellent building sites according to CEN analysis.

On the other hand, the areas identified as such littoral and sublittoral (Mr) sediments are in relatively short supply in proximity of the village, which could either mean building farther away from Quaqtaq’s centre or accepting the higher costs and aggregate needs of building directly on the abundant bedrock, as has already been started on the eastern end of the village. It should be noted that some outcrops areas still need to be analyzed further before planning building sites, as frost heaving could occur in places where the rock is heavily fractured and thus weakened. Areas dominated by beach sediments (Mr), being characterized by poor drainage and a corresponding tendency to flood during snowmelt, are probably best left as last resort building sites, unless pile or stilt building is considered a technically and economically feasible option. Table 4 presents the different categories from the surficial deposits map. This information is directly sourced from the CEN (Carbonneau et al., 2018c).

3.7.2.2 Natural Hazard Areas

The map of Natural Hazard Risks - Construction Prohibited Zones (Map 14) identifies a variety of hazardous areas in Quaqtaq, which are not suitable for any new construction projects. There are numerous flood risk zones located along the shoreline area (see “storm surge” in blue in Map 14). The areas of coastal erosion also affect many areas of the village’s shoreline (see “coastal erosion”). The floodplains of the streams passing through the village are also identified and are wide in some sections (see “flood” in blue in Map 14). Additionally, community members have reported consistent flooding issues in the area near the CLSC, which has caused damage to existing buildings in the area. The number of crossings of these waterways should be minimized to avoid issues associated with blocked culverts. The avalanche risk areas are also identified (see “avalanche zone” in fuschia in Map 14). A few buildings are located within the avalanche risk zone. Another key issue is the icing at the core of the village, as illustrated in Map 14. If there are situations where these areas cannot be avoided for roads and other infrastructure, measures to mitigate risks should be extensively studied and implemented. Further information about natural hazard risks can be found in the construction constraints table in Section B.

Table 4 — Description of Categories in the Surface Deposits Map

SOIL TYPE	DESCRIPTION
H – Anthropogenic deposits	Anthropogenic disturbance area (e.g. landfill, material deposit, etc).
L – Lacustrine sediments	Gravel, sand, and silt, 1-2 m thick, deposited over bedrock.
Mn – Marine sediments	Sand and gravel or silty fine sand in poorly drained areas, 2-3 m thick, deposited in shallow water of postglacial sea, underlain by reworked till or bedrock. Partly covered by mosses in poorly drained areas, characterised by raised beaches. Ice wedges and patterground occasionally present in the near surface permafrost.
Mr – Beach sediments	Sand, gravelly sand, commonly bouldery, littoral and nearshore sediments deposited as beaches.
R – Bedrock	May include thin patches of sediment.
Tx – Glacial sediments	Diamicton below the marine limit, 1-2 m thick, reworked by postglacial sea leaving local concentrations of boulders, gravel, sand or silt, and subdued or erased glacial till.

Source : (Carbonneau et al., 2018c)



LEGEND

Elevation

- 134 m
- 0 m
- Contour (5m)

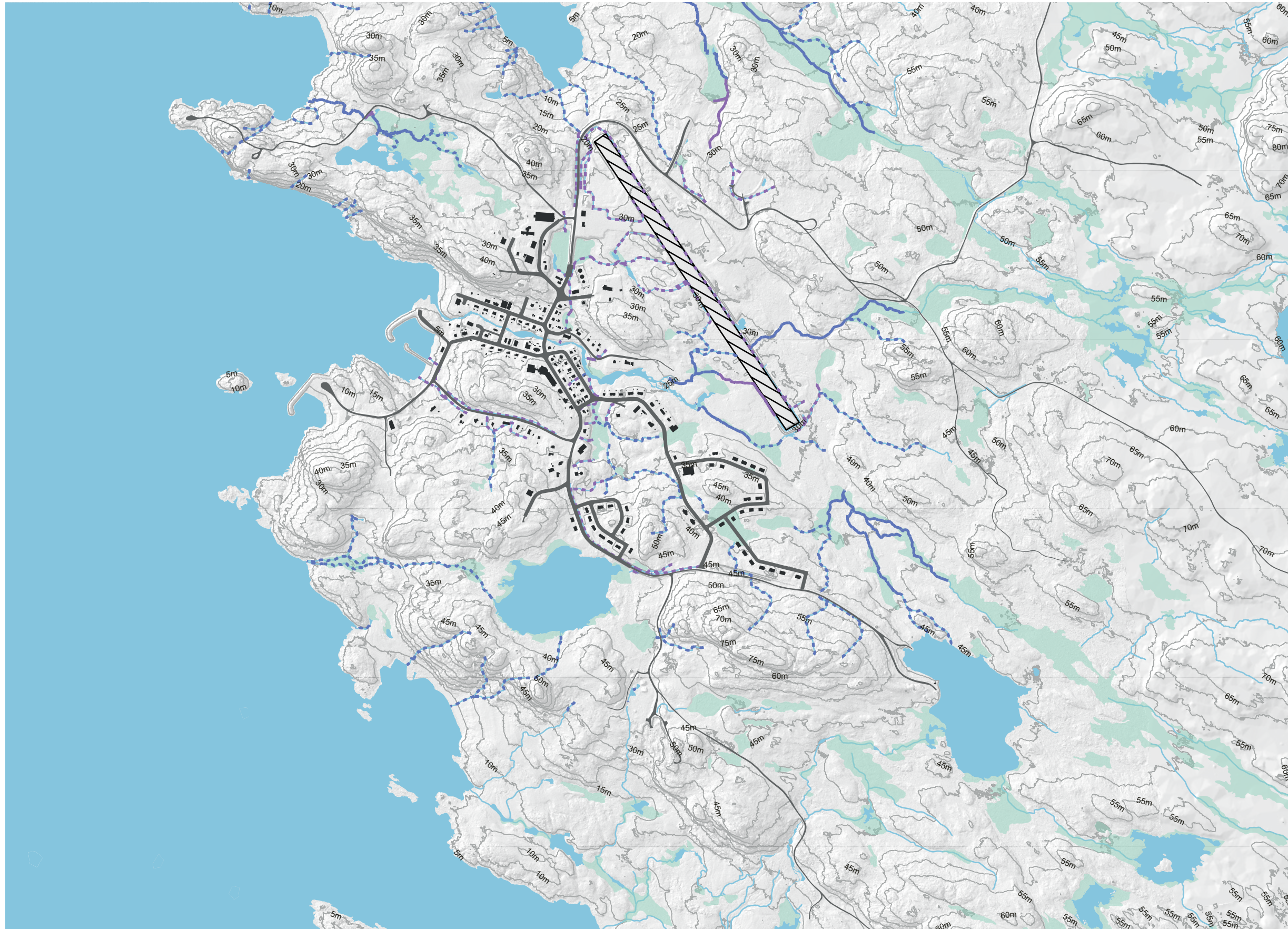
NOTES

Data Source: KRG (2024), CRGH AG(2024), MERN (2021)
 Date: 2025-05-05



Data source : (Carbonneau et al., 2018e)

Map 12 — Potential Wetlands and Natural Drainage



LEGEND

- Potential Wetland
- Natural Permanent Watercourse
- Natural Intermittent Watercourse
- Anthropogenic Permanent Watercourse
- Anthropogenic Intermittent Watercourse
- Other Watercourse
- Contour (5m)
- Building
- Road
- Airstrip

NOTES

Note: Wetlands and watercourses are based upon photo-interpretation and have not been field-validated.
 Data Source: CEN (2015), BDVQ (2010), KRG (2024), CRGH AG(2024), MERN (2021)
 Date: 2025-05-05

1:13 500

0 290 580 870m

Data source : (KRG)

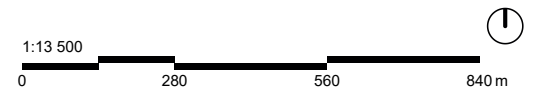
Map 13 — Surface Deposits in Quaqtq



LEGEND

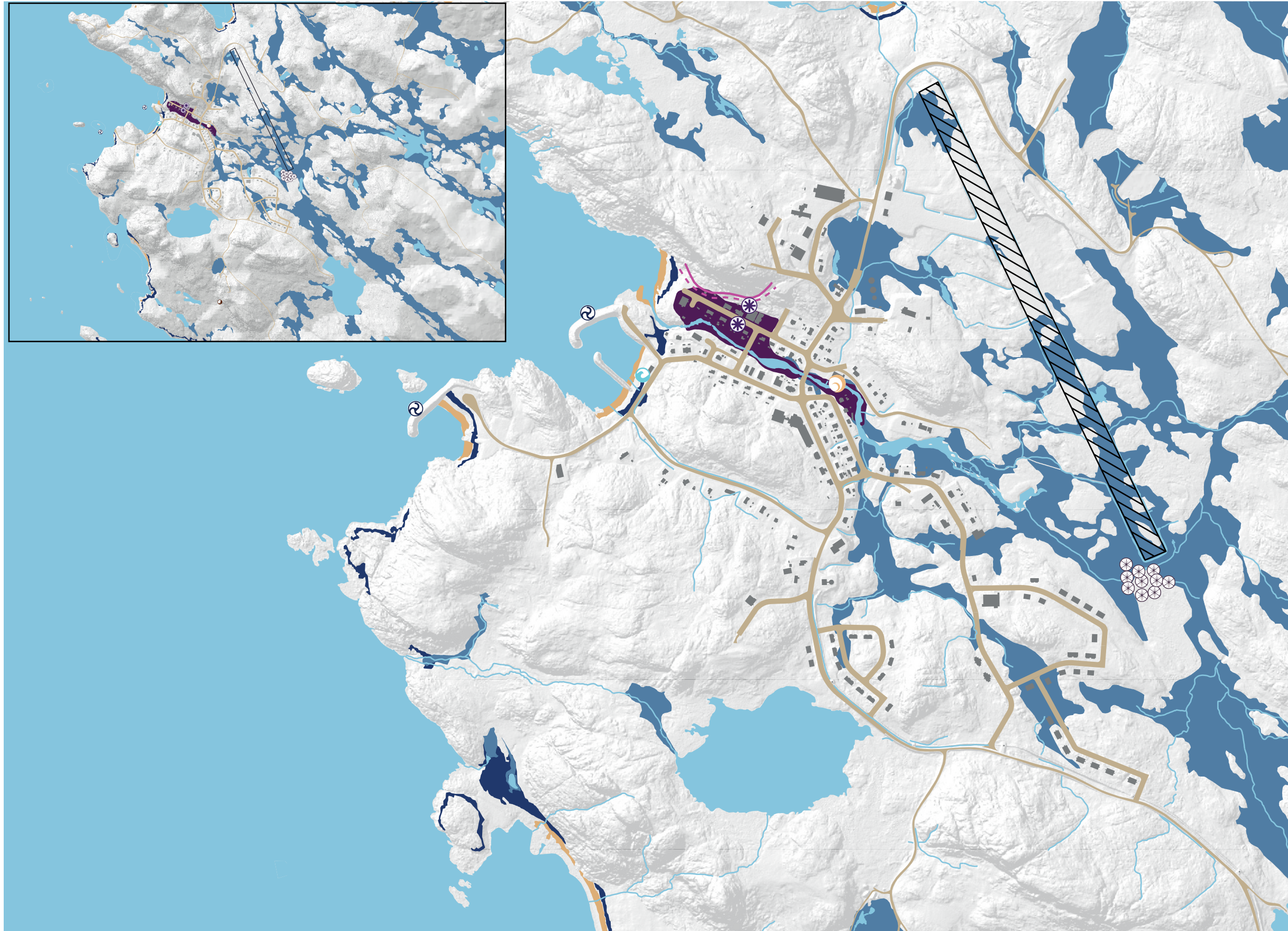
- H: Anthropogenic deposits - Undifferentiated (All)
- L: Lacustrine sediments - Undifferentiated sediments (All)
- Mn: Marine sediments - Littoral and nearshore sediments (All)
- Mr: Marine sediments - Beach sediments (All)
- R: Bedrock - Undifferentiated (All)

NOTES
 Data Source: CEN (2018), KRG (2024), CRGH AG(2024), MERN (2021)
 Date: 2025-05-05












Data source : (Carboneau et al., 2018c)



Map 14 — Natural Hazard Risks - Construction Prohibited Zones



LEGEND

-  Fluvial erosion
-  Frostblister
-  Ice-push
-  Icing
-  Storm surge

-  Coastal erosion
-  Storm surge
-  Flood
-  Icing

-  Avalanche zone 1/100
-  Avalanche zone 1/1000

NOTES

Data Source: CEN (2018), Polygeo (2023), KRG (2024), CRGHAG(2024), MERN (2021)
 Date: 2025-05-07



Data source: (Carbonneau et al., 2018a).

3.7.2.3 Permafrost Conditions

Three broad types of terrain are illustrated in the permafrost conditions map (Map 15):

- > **Thaw-stable ground:** bedrock and superficial deposits with no or little ice content (1a, 1b, 1c);
- > **Thaw-unstable ground:** ice-rich permafrost in superficial deposits (2a, 2b, 2c, 2d);
- > **Severe limitations:** dynamic active periglacial and slope processes, littoral zone or flood risk areas (3).

Each category is further described in Table 5. These descriptions are directly sourced from the CEN (Carbonneau et al., 2018).

Most of the village core is built on thaw stable soils (See Map 15: 1a, 1b and 1c). Some areas of the village traverse thaw unstable grounds (See Map 15 2b and 2bc). The ice content on these lands generally exceeds 30% and can be as high as 100%. These soils are particularly vulnerable to melting permafrost and can become unstable in thaw conditions. These areas should generally be avoided for new community development when other options are readily available. If new development is proposed in these areas, the design of building foundations, roads and other infrastructure need to be carefully considered.

3.7.2.4 Construction Potential

Data regarding slope, permafrost conditions, and natural hazards to categorize all lands into three categories for development potential: good, fair, and poor. The areas in green represent lands suitable for development, the yellow colour represents lands manageable for development but where significant site work may be required prior to development, and the red colour represents lands generally unsuitable for development, unless adaptive foundation design is used. These categories are further described in Table 6. This information is directly sourced from CEN (Carbonneau et al., 2018b).

Table 5 — Description of Categories in the Permafrost Conditions Map

CATEGORY	PERMAFROST CONDITIONS	DESCRIPTION
THAW-STABLE GROUNDS	1a : Bedrock	Active layer thickness generally ranges from 4.5 to 6 m. Rock joints may contain a small amount of ice.
	1b: Thin-cover sand and gravel over bedrock	The thickness of the deposit is generally less than 2 m and the topography is controlled by bedrock. Presence of scattered rock outcrops. The active layer thickness generally ranges from 1.5 to 2.5 m. Contains pore ice whose volume is generally less than 10%.
	1c: Thick layered sand and gravel deposit	The thickness of the deposit is generally greater than 2 m. The active layer thickness is generally ranging from 1.5 to 2.5 m. Contains pore ice and occasional ice lenses may be present in fine-grained material layers. Possibility of ice wedges occurrence..
THAW-UNSTABLE GROUNDS	2a: Thin cover of heterogeneous deposit (till) over bedrock	The thickness of the deposit is generally less than 2 m and the topography is controlled by bedrock. The active layer thickness is generally ranging from 2.5 to 3 m. Contains pore ice and ice lenses in fine-grained material layers. The volumetric ice content is generally less than 30%. Occurrence of mudboils and gelifluction lobes on slopes. Creep and differential settlements may occur upon thawing but are limited due to the shallow thickness of the deposit.
	2b: Thick cover of heterogeneous deposit (till) over bedrock.	The thickness of the deposit is generally more than 2 m with occasional bedrock outcrop. The active layer thickness is generally ranging from 2.5 to 3 m. Contains pore ice and ice lenses in fine-grained material layers. The volumetric ice content is generally less than 30%. Occurrence of mudboils and gelifluction lobes on slopes. Creep and differential settlements may occur upon thawing.
	2c: Thin cover of fine-grained deposit of marine or lacustrine origin over bedrock or a thick layered sand and gravel deposit	The thickness of the deposit is generally less than 2 m. The active layer thickness is ranging from 0.5 to 1.5 m. Contains ice lenses. The volumetric ice content regularly exceeds 30% and may reach almost 100%. Surface often marked by mudboils. Material subject to minimal differential settlements because of its shallow depth. Material subject to failure on slopes upon thawing.
	2d: Fine-grained deposit of marine origin sometimes covered with a thin layer of organic, alluvial, or coastal sediments.	Poorly drained. The active layer thickness is ranging from 0.5 to 1.5 m. Contains ice lenses. The volumetric ice content regularly exceeds 30% and may reach almost 100%. Material subject to significant differential settlements and failure on slopes upon thawing.
SEVERE LIMITATIONS	3: Contemporary deposit affected by current and dynamic geomorphological processes.	Contemporary deposit affected by current and dynamic geomorphological processes. Subject to erosion, flooding and slope movements.











Source : (Carbonneau et al., 2018b)

Map 16 illustrates areas that may be suggested for future development. In any case of development, considerations must be made regarding road extensions, as well as appropriate setbacks from the airport, landfill, power plant, active quarry and areas with significant natural hazard risks. Local development constraints are further discussed in Section 3.8 of this Plan.

The typical foundation design for housing in Nunavik is a surface foundation (ie. blocks, space frame, adjustable post and pads) on a gravel pad.

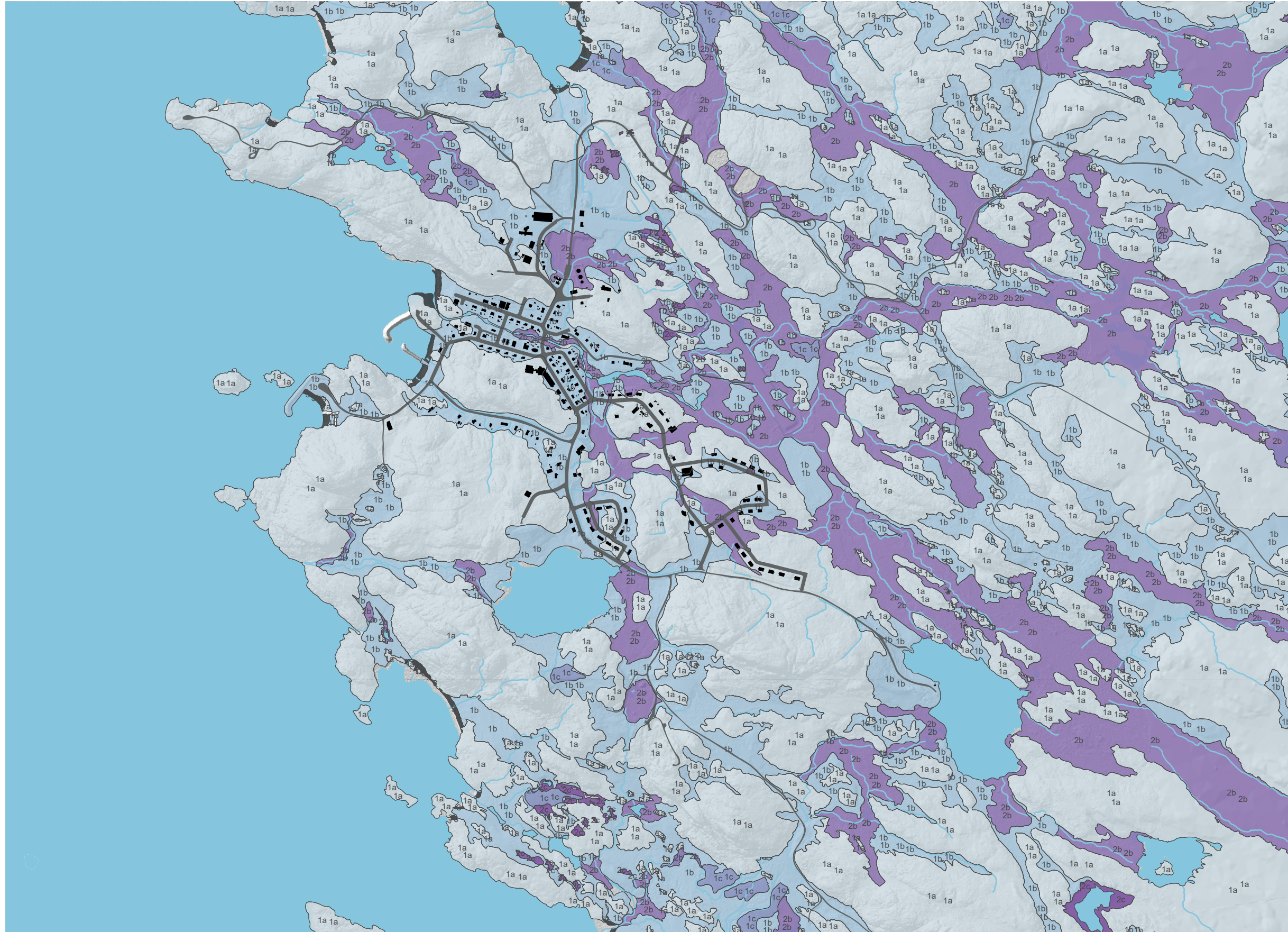
However, this construction method poses issues given the particular context of the north. For one, the limited access to granular resources impedes the construction of new housing. Secondly, the gravel pads have been found to accelerate the thawing of permafrost, resulting in buildings shifting and cracking due to the unstable foundation. Therefore, it is recommended to transition toward pile foundations for all new construction.

Table 6 — Description of Categories in the Construction Potential Map

CATEGORY	PERMAFROST CONDITIONS	CONSTRUCTION POTENTIAL	DESCRIPTION APPROPRIATE TYPE(S) OF FOUNDATION(S)	
THAW-STABLE GROUNDS	1a : Bedrock	 Good: Terrain manageable for construction (slope < 7.5°).	All types of northern foundations. Adaptations to rugged topography are often necessary.	
		 Fair: Terrain manageable for construction but may require significant earthwork (slope between 7.5 and 15°).		
		 Poor: Terrain unsuitable for construction (slope > 15°).		
	1b: Thin-cover sand and gravel over bedrock	 Good: Terrain manageable for construction (slope < 7.5°).		Deep northern foundations on the underlying bedrock applicable (ex.: pile foundations). Adjustable post and pad foundations also feasible. Buildings with slab on grade foundations need elaborated techniques of terrain preparation (ex.: removal or pre-thaw of frozen sediments and consolidation).
		 Fair: Terrain manageable for construction but may require significant earthwork (slope between 7.5 and 15°).		
		 Poor: Terrain unsuitable for construction (slope > 15°).		
1c: Thick layered sand and gravel deposit	 Good: Terrain manageable for construction (slope < 5°).	Northern foundations on adjustable post and pad or on piles. Buildings with slab on grade foundations might need elaborated techniques to retain permafrost in its frozen state (ex.: thermosyphons).		
	 Fair: Terrain manageable for construction but may require significant earthwork (slope between 5 and 10°).			
	 Poor: Terrain unsuitable for construction (slope > 10°).			
THAW-UNSTABLE GROUNDS	2a: Thin cover of heterogeneous deposit (till) over bedrock	 Good: Terrain manageable for construction (slope < 4°).	Deep northern foundations on the underlying bedrock applicable (ex.: pile foundations). Adjustable post and pad foundations also feasible. Buildings with slab on grade foundations need elaborated techniques of terrain preparation (ex.: removal or pre-thaw of frozen sediments and consolidation).	
		 Fair: Terrain manageable for construction but may require significant earthwork (slope between 4 and 8°).		
		 Poor: Terrain unsuitable for construction (slope > 8°).		
	2b: Thick cover of heterogeneous deposit (till) over bedrock.	 Fair: Terrain manageable for construction, but caution is needed (slope < 8°).		Pile foundations feasible but require deeper drill-holes for pile driving. Adjustable post and pad foundations also feasible. Buildings with slab-on-grade foundations need elaborated techniques to retain permafrost in its frozen state (ex.: thermosyphons). Steeper slope sections may be affected by gelifluction and may require specific foundation design. Excavation shall be avoided.
		 Poor: Terrain unsuitable for construction (slope > 8°).		
		2c: Thin cover of fine-grained deposit of marine or lacustrine origin over bedrock or a thick layered sand and gravel deposit		
 Poor: Terrain unsuitable for construction (slope > 2°).				
SEVERE LIMITATIONS	2d: Fine-grained deposit of marine origin sometimes covered with a thin layer of organic, alluvial, or coastal sediments.	 Poor: Terrain unsuitable for construction.	Adjustable post and pad foundations. Buildings with slab-on-grade foundations need elaborated techniques to retain permafrost in its frozen state (ex.: thermosyphons). Excavation shall be avoided.	
		 Poor: Problematic terrain unsuitable for construction.		Problematic terrains to be avoided.

Source : (Carbonneau et al., 2018d)

Map 15 — Permafrost Conditions in Quaqtaq



LEGEND

Permafrost Conditions

- 1a - Bedrock
- 1b - Thin cover (< 2 m) over bedrock
- 1c - Thick layered sand and gravel deposit (> 2 m)
- 2a - Thin cover (< 2 m) of heterogeneous deposit (till) over bedrock
- 2b - Thick cover (> 2 m) of heterogeneous deposit (till) over bedrock
- 2c - Thin cover (< 2 m) of fine-grained deposit of marine or lacustrine origin over
- 2d - Fine-grained deposit of marine origin sometimes covered with a thin layer
- 3 - Contemporary deposit

NOTES

Data Source: CEN (2018), KRG (2024), CRGH AG(2024), MERN (2021)
Date: 2025-05-05



Data source: (Carbonneau et al., 2018b).



LEGEND

Construction Potential

- Good
- Fair
- Poor

NOTES

Data Source: CEN (2018), KRG (2024), CRGH AG(2024), MERN (2021)
Date: 2025-05-05



Data source:(Carbonneau et al., 2018d).

3.8 CLIMATE

The climate type in the Quaqtaq region is tundra. Winters are generally long, cold, and dry. Summers are short, cool, and wet. Spring and fall are either stormy or foggy, and generally unpredictable. Winds are strong year-round, and temperatures are low, with an average of only 20 frost-free days per year.

3.8.1 Climate Change

The impacts of climate change are being felt around the globe in a variety of ways. Multiple studies have suggested that northern regions will be highly impacted by climate change, with accelerated warming expected during the 21st century. In addition to increases to air temperature, climate change is expected to impact precipitation, snow cover, wind, lake and sea-ice cover throughout Nunavik. In the period between 1987 and 2016, the region has displayed winter temperature increases by approximately two degrees Celsius per decade and summer increases of five degree Celsius per decade. This aligns with further evidence of the poleward amplification of climate change impacts. Current models suggest that mean annual temperatures will increase by two to eight degrees Celsius by the end of this century, with most pronounced impacts occurring in the winter months. Precipitation in the region is expected to increase by 20-30%, which is expected to have significant impacts on coastal regions and related transportation infrastructure.

Table 7 — Key Climate Indicators for Quaqtaq

Mean annual temperature	-5.6 °C
Warmest month	July and August (7.4°C)
Coldest month	February (-20.4°C)
Annual amplitude of variation in avg. temperatures	28.4 °C
Mean total annual precipitations	314 °C
Mean monthly precipitations	26 mm
Dryest month on average	April (13mm)
Rainiest month on average	August (50mm)
Annual amplitude of variation in avg. precipitations	37 mm
Proportion of annual precipitation falling as snow	Approximately 45%
Windiest month on average	November (19km/h)
Least windy month on average	July and August (13km/h)
Predominant wind direction	Northwest

Source : (Centre d'études Nordiques, 2024).

Nunavik is expected to see a significant decline of winter sea ice concentration, with concentrations reaching 10% by 2040-2070, in contrast to the current 60-80% concentrations experienced from 1980 to 2010. Improved management of snow removal, analysis of the effect of warming on the existing and planned infrastructure as well as training on maintenance and overall education on the topic is required in the short term in order to properly address the situation

3.8.2 Impacts on Communities and Inuit Way of Life.

Quaqtaq's residents, particularly the elders, have noted significant changes in the weather conditions over the last 20 years. Among them are a reduction in the average size of the ice chunks floating in the Hudson Strait, a thinner and more fragile coastline ice sheet in winter, shorter winters, stronger winds and storm frequency. Another key issue is the decline of average precipitations, resulting in a directly observable drying up of the small lakes surrounding the village, raising new questions about the availability of local fresh water. Similar perspectives on climate were documented in workshops and interviews with community members from other villages. Community members in other villages also noted changes in berry and animal distribution, fish abundance, as well as shifts in weather patterns and a lower abundance of snow.

Environmental changes have direct implications for Nunavik's villages and their communities' way of life. For instance, as weather patterns become more unpredictable and difficult to discern, local travel can become more challenging. Climate-related shifts are linked to increased risks for winter sea season travel in particular, as the ice thickness and snow amounts become less stable. This often results in a shorter hunting season and may have implications for other subsistence activities. Communities in Nunavik have noted the impacts of climatic changes on their food security. Certain important food sources are particularly vulnerable. Changes in weather have also reported negative effects on berry growth and distribution patterns. Furthermore, shifts in certain mammal population levels and migration patterns are also an issue of particular concern. For example, a decline in the population of caribou in Nunavik has been observed since the 1990s. This could have negative social and economic effects in the long term, as many communities rely on caribou as a food source. These changes have increased communities' reliance on store-bought food, which is often costly and less nutrient dense.

Community members from the villages have noted numerous adaptive behaviours arising as a response to environmental changes, such as shifts in meat drying practices due to weather changes; a greater emphasis on local food exchanges due to the decreasing availability of country foods; increasing sun protection methods; and changes in hunting and travel routes.

In the coming years, it will be essential for the village of Quaqtaq to identify and understand the potential impacts of climate change and prepare to respond quickly and effectively. Information on impacts specific to Quaqtaq will be essential to inform decisions and build adaptive capacity. Furthermore, the village must assess how it can adapt to climate change. Adaptive capacity is the ability of a community to cope with or adjust to the impacts and risks of climate change. By building adaptive capacity, communities develop practical ways to cope with climate uncertainty and reduce their vulnerability. In 2012, the KRG published a study which issued recommendations for climate change adaptation across Nunavik. This includes best practices for snow removal, road construction and maintenance, drainage and water management, and other infrastructure design and maintenance. These recommendations should be integrated into planning and development in Quaqtaq.

Image 13 — Photograph of Quaqtaq's Shoreline



The background features several overlapping, textured shapes. On the left, there are three large, irregular shapes in shades of orange and red. On the right, there are two large, irregular shapes in white and light grey, and a smaller, dark grey shape at the bottom right. The overall aesthetic is modern and artistic.

04

Community Perspectives and Needs

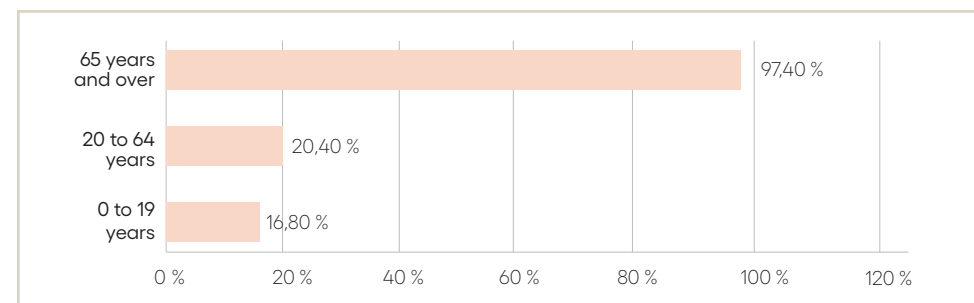
4.1 COMMUNITY ENGAGEMENT SUMMARY

Community engagement sessions were held in Quaqtaq in 2016 to identify community needs and aspirations, and determine residents' planning vision for the village. In the creation process for this Plan, the NV of Quaqtaq was further consulted in 2023. Key issues highlighted during engagement are summarized below. Some points are previously mentioned in other sections of the Community Master Plan.

- > There are circulation and parking issues near the airport.
- > The community would like to relocate its waste treatment and disposal facilities.
- > A new cemetery is needed.
- > A new boat launch ramp is needed.
- > The community would like new recreational areas for picnics or gatherings.
- > A place to house the community's dogs is needed.
- > The golf course needs to be renovated.
- > The community would like a larger buffer zone around the water-intake lake.

In addition, the NV raised concerns regarding a flooding issue with the small stream (Imirtaviup) located at the centre of the village. Flood management strategies for this area should be explored.

Graph 8 — Change in the Population in Kativik per Age Category Between 2021 and 2041



Source : (Ministère de l'Économie, de l'Innovation et de l'Énergie, 2022)

4.2 POPULATION GROWTH

4.2.1 Population Projections

The following analysis utilizes a population projection to estimate how much and what type of development may be required to meet future needs.

4.2.1.1 Kativik Region

Based on l'Institut de la statistique du Québec (ISQ)'s population projection between 2021 and 2041, the total population for the Kativik region is anticipated to increase by 22.7%. Graph 9 illustrates the growth in population per age category. The growth in each age category highlights the need for age-appropriate design and facilities.

4.2.1.2 Quaqtaq

Three population projection scenarios were developed (Table 8) to present a range of low, medium, and high population growth scenarios for Quaqtaq in the long-term, based on population projections for the Kativik Region as a whole.

- > The Low projection is based on the ISQ rate for the Kativik Region between 2021 and 2041, divided by four to arrive at a five-year incremental rate.
- > The Medium projection is based on the historical five-year rate of population growth for Quaqtaq between 2016 and 2021 from the Statistics Canada population data.
- > The High projection is based on the historical rate of population growth for Quaqtaq between 1996 and 2021 from the Statistics Canada population data, divided by five to arrive at a five-year incremental rate.

Note that these projections are for general estimate purposes and provide a range given the various data available. Basing estimates on historical rates assumes that similar rates will occur in the future. However, this may not be the case.

Graph 9 — Population Projections for Quaqtaq, 2021-2041

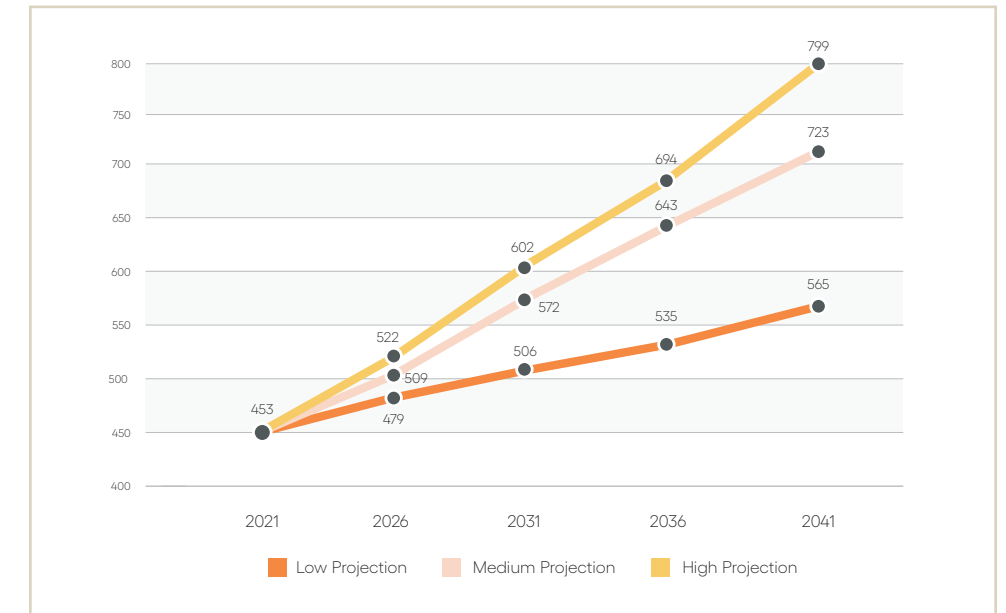


Image 14 — Photographs of Community Consultations in Quaqtaq



Table 8 — Population Projections for Quaqtaq, 2021-2041

	YEAR	LOW	MEDIUM	HIGH
5 YEAR RATES	ISQ 2021-2041	5,68%	-	-
	2016 - 2021	-	12%	-
	1996 - 2021	-	-	15%
POPULATION PROJECTION	2021	453	453	453
	2026	479	509	522
	2031	506	572	602
	2036	535	643	694
	2041	565	723	799

(Institut de la statistique du Québec, 2022; Statistics Canada, 2001b, 2021a)

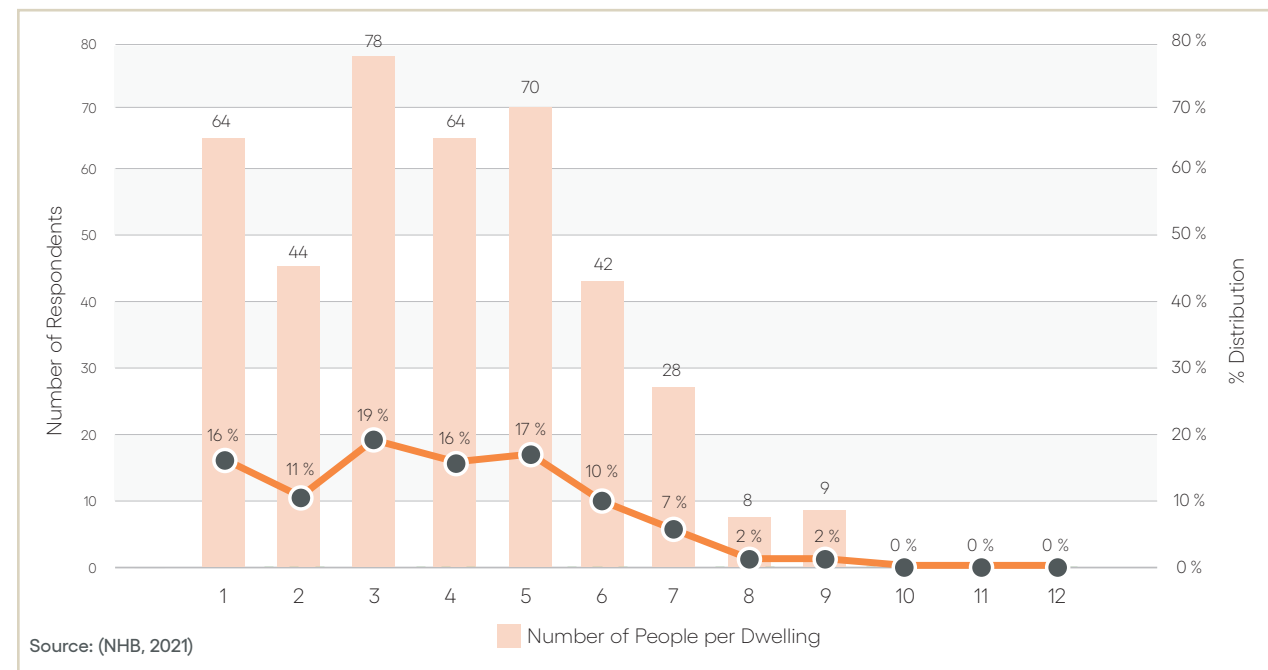
4.3 LAND NEEDS ASSESSMENT

Using the population projection data from Section 4.2, the following section presents estimates for housing needs and other land use requirements to accommodate population growth. It is important to note that while using population data can provide useful projections, this assessment cannot account for all future projects in the community. Future projects to be implemented by various organizations may increase the need for housing or other types of development.

4.3.1 Housing Need

Based on the previous section, a detailed analysis was conducted to determine how many housing units are currently needed and will be needed in the future. Graph 10 illustrates the distribution of the number of people living in the same dwelling in Quaqtaq (according to the results of a 2021 housing survey conducted by the NHB). Most live in households of one to five persons, with 26% living in household sizes of six to seven persons. Based on the distribution of the number of bedrooms per household in the 2021 Census, 41% of dwellings contain two bedrooms (Statistics Canada, 2021a). This suggests that there is potentially a mismatch in the number of bedrooms within occupied dwellings relative to the number of bedrooms needed. More data is needed to better understand the discrepancy between housing sizes and family sizes that may exist.

Graph 10 — Number of People Living in the Same Dwelling Based on Total Survey Responses, 2021



The housing study calculated an estimate of housing and housing-type needs (number of bedrooms) across Nunavik. Table 9 summarizes the study's estimate for Quaqtaq.

The study also estimated the following per community: number of dwellings that are meeting the current housing needs (balance); number of dwellings that are in surplus; and number of dwellings that are in deficit. Table 10 illustrates the results for Quaqtaq. It is noted that there is a deficit of 42 dwellings and 56 dwellings that have a deficit in the number of rooms needed. Certain dwelling typologies are in balance or surplus.

Table 9 — Quaqtaq Housing Needs Analysis from 2021 Housing Survey

	QUAQTAQ
Number of housing units	136
Number of families	156
Ratios (%)	0,87
Housing needs	20

Source: (NHB, 2021)

Table 10 — Number of Dwellings that Meet the Needs, are in a Surplus, or are in a Deficit, Quaqtaq

EXISTING	NUMBER OF DWELLINGS		NUMBER OF ROOMS			
	Total number of dwellings	Deficit	Balance	Surplus	Deficit	Surplus
	136	42	51	43	56	59

Source: (Nunavik Housing Bureau, 2021)

When incorporating future population growth anticipated (Section 4.2.1), Table 11 presents estimates for housing units needed in the long-term (by 2041). These calculations are based on two average household sizes: the average number of people per dwelling reported in the 2021 NHB housing survey (3.08), and the average persons per dwelling based on the 2021 Census data Average Household Size (3.1). Two data sets for the number of occupied dwellings were also used; the 2021 NHB report figure of 136 and the 2021 Census value of 173. The various scenarios allow for a wide range of housing needs in 2041, from the need for anywhere from nine to 116 additional units. The average of the four medium growth scenarios (76 additional units) is used to calculate the estimate for the land needs assessment in Section 4.3.2.

4.3.1.1 Units in Need of Replacement

Forty-three percent of dwellings in Quaqtaq were built before 1990. Housing greater than 30 years old could indicate a need of major repairs or replacement. Therefore, the total housing units needed in the long-term is likely greater than the estimates calculated, given the probable need of replacing the significant portion of the housing stock that was built before 1990. Further research could be undertaken to quantify the dwelling units in need of repairs or replacement as well as to better understand how this issue impacts housing in the community.

4.3.2 Land Needs Assessment

Building on Sections 4.2.1, an analysis of other land uses was conducted. This is a general estimate based on anticipated population growth rates and assumes that increasing land needs are in proportion to population growth. For the purpose of the land needs analysis, the medium scenario for population growth was used and for the number of additional dwelling units needed by 2041 an average of the four medium estimates was used, which was 76 new housing units. The amount of land needed for each permitted use was taken into consideration in Section B, Chapter 5 when determining the proposed zoning for the village. In this way, the Community Master Plan includes sufficient land to meet the needs of the community into 2041.

Table 11 — Long-Term (2041) Housing Needs Estimate for Quaqtaq

	Projected population 2041	Average number of people per dwelling (2021 NHB survey)	Projected housing need 2041	Total inhabited housing unit count (2021 NHB survey)	Additional units needed by 2041
Low	565	3.08	167	143	47
Medium	723	3.08	214	143	94
High	799	3.08	236	143	116
	Projected population 2041	Household size (2021 Census)	Projected housing need 2041	Total inhabited housing unit count (2021 NHB survey)	Additional units needed by 2041
Low	565	3.1	182	143	62
Medium	723	3.1	233	143	113
High	799	3.1	258	143	138
	Projected population 2041	Average number of people per dwelling (2021 NHB survey)	Projected housing need 2041	Total - Occupied private dwellings (2021 census)	Additional units needed by 2041
Low	565	3.08	167	173	-6
Medium	723	3.08	214	173	41
High	799	3.08	236	173	63
	Projected population 2041	Household size (2021 Census)	Projected housing need 2041	Total - Occupied private dwellings (2021 census)	Additional units needed by 2041
Low	565	3.1	182	173	9
Medium	723	3.1	233	173	60
High	799	3.1	258	173	85

Source:(Nunavik Housing Bureau, 2021; Statistics Canada, 2021b)

Table 12 — Land Needs Assessment

Existing population (2021)	453
Projected population (2041) - Medium Scenario	723
Projected percentage increase in population 2021-2041	59.6%
Existing dwelling units (2021) - estimate	144
Existing density of development (units/ha) - 2021	13.0
Additional dwelling units needed by 2041	77
Assumed density of development (units/ha) - 2041	20
Existing residential land (ha) - 2021	11.1
Additional dwelling units needed by 2041	77
Assumed density of development (units/ha) - 2041	20
Additional residential land needed (ha) - 2021-2041	3.9
Existing commercial land (ha) - 2021	1.0
Projected percentage increase in population 2021-2041	59.6%
Projected commercial land needed (ha) - 2041	1.6
Additional commercial land needed (ha) - 2021-2041	0.6
Existing industrial land (ha) - 2021	3.1
Projected percentage increase in population 2021-2041	59.6%
Projected industrial land needed (ha) - 2041	4.9
Additional industrial land needed (ha) - 2021-2041	1.8
Existing community services/institutional land (ha) - 2021	4.9
Projected percentage increase in population 2021-2041	59.6%
Projected public/institutional land needed (ha) - 2041	7.8
Additional community services/institutional land needed (ha) - 2021-2041	4.7
Additional residential land needed (ha) - 2021-2041	3.9
Additional commercial land needed (ha) - 2021-2041	0.6
Additional industrial land needed (ha) - 2021-2041	1.8
Additional community services/institutional land needed (ha) - 2021-2041	4.7
TOTAL LAND REQUIREMENT (ha)	11.0



Section B

Land Use

05 Land Use Planning

06 Implementation



05

Land Use Plan

This section presents the core elements of the Land Use Plan, outlining how the community envisions the management and development of land within the village. It provides land use designations, policies, construction potential and constraints mapping, development processes, and implementation strategies. This framework is designed to ensure that the land use plan and map aligns with the community's goals by respecting its context and promoting sustainable growth.

LAND USE PLANNING OBJECTIVES

Based on the five (5) aspects of community planning presented in the introduction (Image 2) and below, objectives have been identified to ensure the sustainable development of the village of Quaqtaq for the next 20 years. These objectives have guided the design of this present section of the Community Master Plan, but they are also objectives to keep in mind when making land-use planning decisions.



Inspired by the Comprehensive Community Planning wheel from Indigenous Services Canada

INFRASTRUCTURE DEVELOPMENT

Ensure that best practices, standards, and local knowledge are applied for all new infrastructure, renovations, demolitions etc. (Standard CAN/BNQ 9701-500, Housing Construction in Nunavik Guide to Good Practices, CSA S503, etc)

Adapt construction techniques to the specific location, surface deposits, permafrost conditions, topography, wetlands, and snow accumulation

Provide civil infrastructure guidelines to take into consideration the existing natural and built environment

Promote and share community knowledge on land-use planning practices

Require environmental and geological assessments to be completed and verified before the approval of any new development project.

Optimize all-year round comfort by using adequate building orientation and configuration

GOVERNANCE

Ensure the adoption and application of planning tools to help guide and manage the realization of the Community Master Plan.

Identify in advance a sufficient number of buildable lots to accommodate the projected needs for all the different uses

Reserve specific areas for snow dumps, paths, parks, and playgrounds in new development areas

Maximize the use of already developed areas to increase housing in the village centre (near services)

Encourage the use of repurposed contaminated lots or soils for new uses or buildings

Plan development to reduce nuisances for residents and provide a quiet, safe environment.

Maximize slopes as opportunities to offer views on valued elements of the landscape

LAND AND RESOURCES

Ensure a sustainable use of natural resources, like granular resources and water

Minimize the impact of development on local vegetation and wildlife

Adapt civil infrastructure to take into consideration the existing natural and built environment (slopes and drainage)

Encourage scientific research on climate change and keep decision-makers up to date

Promote energy conservation awareness and develop energy-saving strategies and encourage renewable energy (solar panels on buildings)

Protect hunting grounds, fishing spots and berry picking areas around the village

CULTURAL

Ensure the identification and protection of cemeteries and archeological sites

Plan spaces for equipment storage in new development areas

Include gathering spaces designed specifically to respond to needs and interests of the youth in the planning process

Protect access to and views of the waterfront

Integrate cultural heritage knowledge into the process of identifying potential conservation areas of value to Inuit.

Protect existing hunting routes and improve access points to the land and water from the village centre.

SOCIAL

Encourage creation and conservation of recreational trails

Ensure sufficient space around buildings for hunting equipment and vehicles for hunters' families

Encourage adaptation of buildings to the local community context (typology, spaces around buildings)

Maintain communication with the community regarding upcoming/proposed projects in the village.

Ensure the design and construction of quality, multi-use outdoor spaces, especially to serve children and youth.

Encourage self-building initiatives and renovation

Graph 11 — Criteria for impact level evaluation

	Low Impact	High Impact
Traffic	○ ○ ○ ○ ○	○ ○ ○ ○ ○
Dust	○ ○ ○ ○ ○	○ ○ ○ ○ ○
Pollution (smoke)	○ ○ ○ ○ ○	○ ○ ○ ○ ○
Permafrost deterioration	○ ○ ○ ○ ○	○ ○ ○ ○ ○
Noise	○ ○ ○ ○ ○	○ ○ ○ ○ ○
Potential soil contamination	○ ○ ○ ○ ○	○ ○ ○ ○ ○
View	○ ○ ○ ○ ○	○ ○ ○ ○ ○
Safety risks	○ ○ ○ ○ ○	○ ○ ○ ○ ○
Wildlife	○ ○ ○ ○ ○	○ ○ ○ ○ ○

5.1 IMPACT-BASED ZONING CONCEPT

The Land Use Plan is inspired by the impact zoning concept. Impact zoning designates areas to include specific types of land uses (example: residential, commercial, industrial, etc.) based on their anticipated impact on the local environment. For applicability in Nunavik's northern villages, the anticipated impact considers certain environmental conditions and risks unique to the North, such as permafrost, icing/flooding, avalanches, unstable soils, and storm surges.






The main objective of the impact zoning approach is to allow for more flexibility in the planning and development of the village, while ensuring the safety and well-being of residents. The zones presented consist of three main categories structured by anticipated impact level (low, medium, and high), plus two additional zoning categories: Conservation, and Nuna.

Although each zoning category (low, medium, high) corresponds with recommended uses, impact zoning allows for more flexibility in terms of allowing a greater variety of types of uses in each zone, assuming the proposed use meets certain compatibility criteria. Impact zoning, therefore, gives the NV more discretion to act in the interest of the community.

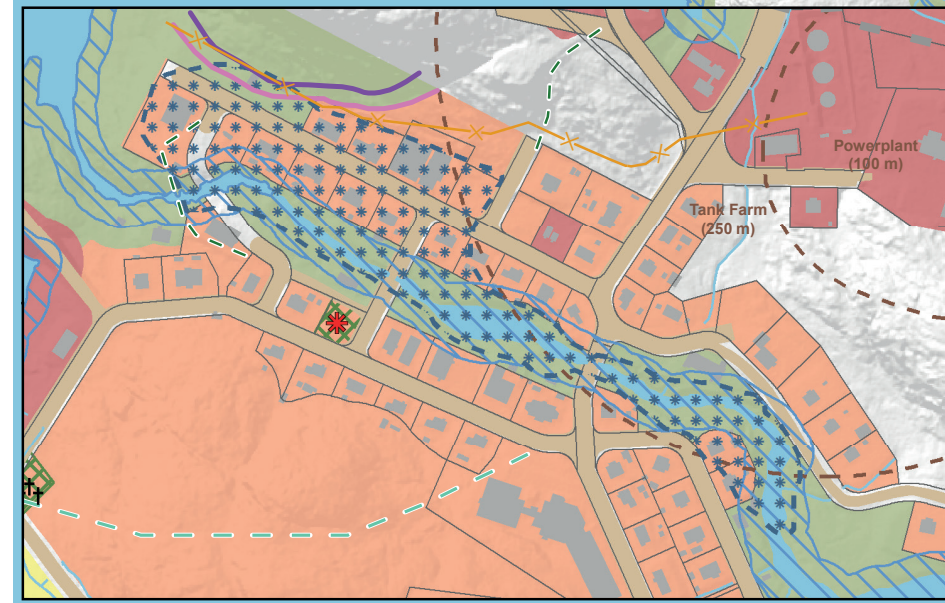
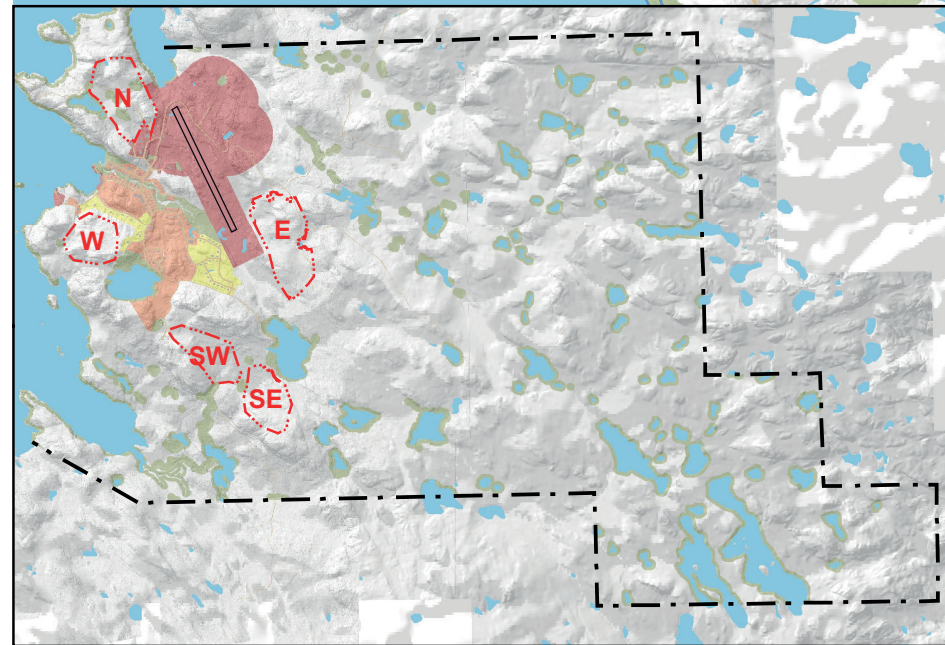
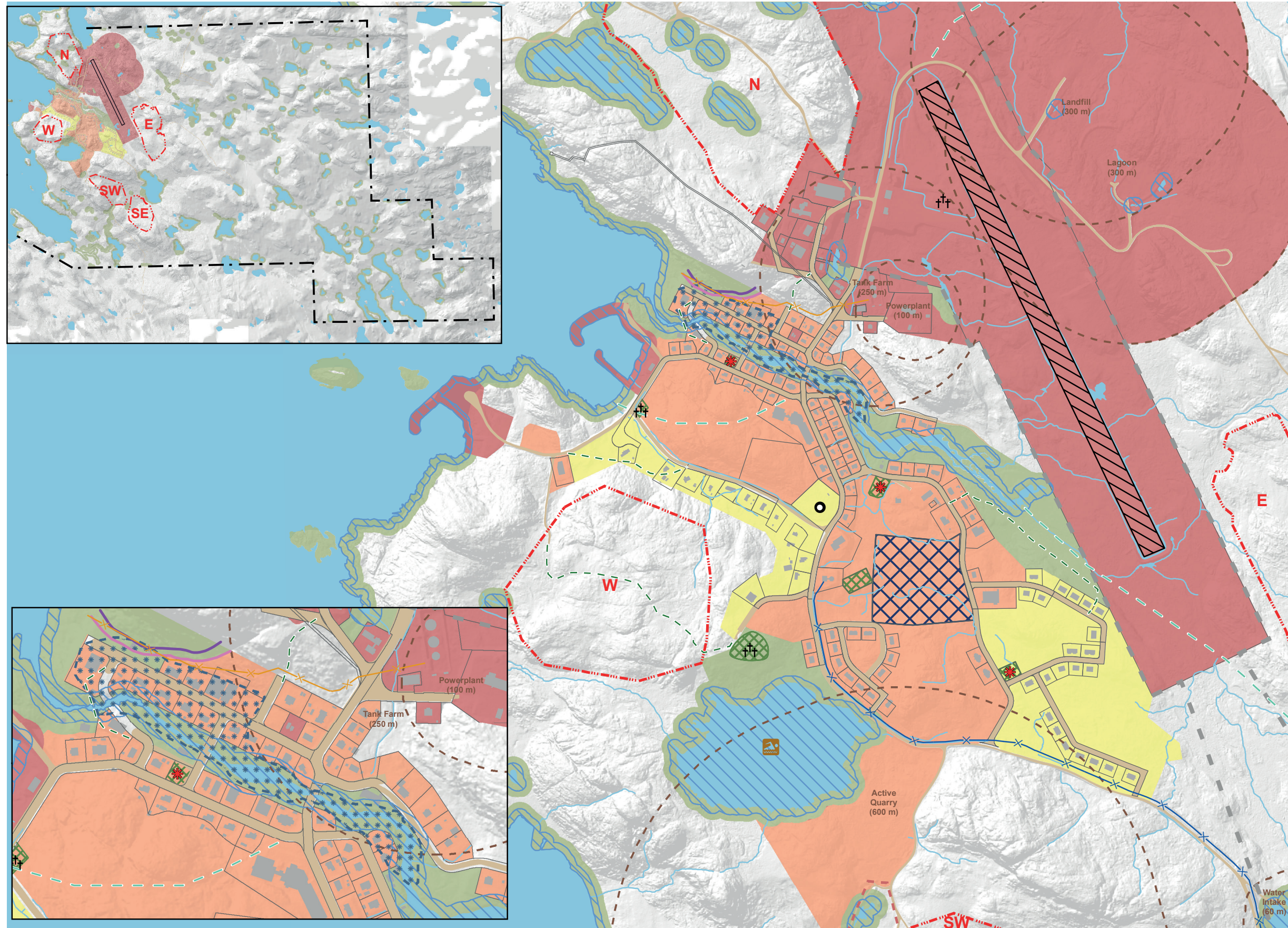
However, it is understood that residential neighbourhoods must be protected from nuisances generated by certain land uses, specifically those situated near high-impact zones. The Land Use Plan reflects the need to protect residents from potential nuisances and environmental risks. It is therefore recommended that residential areas remain separated from high-impact, industrial use zones. Conservation areas consist of areas identified by the community as holding significant cultural heritage value as well as areas which pose significant environmental risk or fragility. These areas within the municipal boundary of the village are not intended for development in the next 20 years.

NV council members may select which approved land use designation is most appropriate for a certain site, based on community needs and criteria to evaluate the impact level of each use (Graph 11). This approach directly responds to the unique contexts of Nunavik's northern villages where topography, climate, and community needs are not adequately addressed by the rigid land use designations used in conventional land use planning.

Table 13 — Impact Zones and Their Permitted Uses

ZONING DESIGNATION	RESIDENTIAL & LOW IMPACT ACTIVITIES 	VILLAGE CORE & MEDIUM IMPACT ACTIVITIES 	INDUSTRIAL & HIGH IMPACT ACTIVITIES 	NUNA 	CONSERVATION 	
Permitted Uses	<ul style="list-style-type: none"> › Residential/Housing <ul style="list-style-type: none"> › Single-family, duplex, multiplex › Light commercial/retail <ul style="list-style-type: none"> › Convenience stores, small shop, restaurant, laundromat, hairdresser › Small Community amenities <ul style="list-style-type: none"> › Small workshop, community freezer › Library, daycare, FM radio › Youth house, Elder house, sewing centre › Museum 	<ul style="list-style-type: none"> › Residential/Housing <ul style="list-style-type: none"> › Single-Family, Duplex, multiplex › Small Community amenities <ul style="list-style-type: none"> › Small workshop, community freezer › Library, daycare, FM radio › Youth house, Elder house, sewing centre › Museum › Medium commercial/retail <ul style="list-style-type: none"> › Cultural Centre › Co-op, Northern store › Hotel › Office › Large community amenities <ul style="list-style-type: none"> › Schools › Health centre; hospital › Arena; recreation centre › Church › Building Office › Church 	<ul style="list-style-type: none"> › Light Industrial uses <ul style="list-style-type: none"> › Boat Storage › Water treatment plant storage › Construction camp, transit house › Warehouse › Community freezer, Green house › Workshop, Garage › Firehall › Gas Station › Telecommunications <ul style="list-style-type: none"> › Satellite, equipment buildings › Light commercial/retail <ul style="list-style-type: none"> › Convenience stores, small shop, restaurant, laundromat, hairdresser 	<ul style="list-style-type: none"> › Medium commercial/ retail <ul style="list-style-type: none"> › Co-op, Northern store › Hotel › Office › Light Industrial uses <ul style="list-style-type: none"> › Boat Storage › Water treatment plant storage › Construction camp, transit house › Warehouse › Community freezer, Green house › Workshop, Garage › Firehall › Gas Station › Heavy Industrial uses <ul style="list-style-type: none"> › Quarry, sandpit › Land fill › Wastewater treatment (lagoons) › Tank farm › Power plant › Windmill › Transportation › Airport, Marina › Telecommunications <ul style="list-style-type: none"> › Satellite, equipment buildings 	<ul style="list-style-type: none"> › Community activities <ul style="list-style-type: none"> › Dog team › Cabins and camps › Harvesting › Berry picking › Shooting range 	<ul style="list-style-type: none"> › Protected natural areas <ul style="list-style-type: none"> › Cultural heritage sites identified by community › Ecologically sensitive areas › Zones for natural hazard risk mitigation and management
USE PERMITTED IN ALL ZONES						
OPEN SPACE (PARK, HOCKEY RINK, BEACH, PLAYGROUND, GOLF COURSE, PICNIC AREA, CEMETERY, MONUMENT, SPORTS FIELD, GATHERING AREAS)						

IMPORTANT TO NOTE: To ensure the safety and security of village residents and to protect the environment, certain land uses, such as playgrounds, industrial uses, and dog teams, must adhere to additional, specific constraints that will limit the uses to particular sites. See the zoning bylaw for specifications.



LEGEND

LAND USE DESIGNATIONS (impact-based)

- High Impact (Industrial)
- Medium Impact (Village Core)
- Low Impact (Residential)
- Conservation
- Nuna

CONSTRUCTION PROHIBITED ZONES

- Shore Protection Strip
- Icing
- Constraints Buffers
- Quarry (Lease perimeter)
- Avalanche zone (1/100 yr.)
- Avalanche zone (1/1000 yr.)
- Water Pipeline
- Water Pipeline

TRANSPORTATION

- Airport Takeoff & Landing Zone
- Existing Road
- Snowmobile Trail
- Walking Trail

OTHER

- Municipal Boundary
- Future School Parcel
- Open Space
- Expansion Zone
- Playgrounds
- NDB Communication Site
- †† Cemetery
- Swimming Area

NOTES

Data Source: Polygeo (2023), NGI (2000), KRG (2024), CRGH AG(2024), MERN (2021)
Date: 2025-01-06

1:9 000

0 190 380 570 m

Data source: Carbonneau et al., 2018b; Polygeo, 2020

5.2 LAND USE DESIGNATIONS AND DESCRIPTIONS OF TYPES OF USES

5.2.1 Land Use Designations

5.2.2 Low

The Low Impact land use designation, comparable to a Residential land use designation in conventional master plans, refers to areas that pose relatively minor impacts on the environment and generate minimal nuisances or potential hazards for residents. The Low Impact zones indicate residential neighbourhoods which may be comprised of a variety of housing types (single-family, duplexes, or multi-family). Some small retail and community amenities intended to support daily activities of residents, such as corner stores and daycares, are also permitted. Areas dedicated to Open Space are also allowed in the Low Impact zones as they facilitate outdoor recreation, communal gathering, and contribute to the quality of life of residents.

5.2.3 Medium

The Medium Impact land use designation, comparable to a Village Core land use designation in conventional master plans, refers to areas that pose moderate impacts on the environment and generate some nuisances or potential hazards for residents. Medium Impact zones are characterized by the co-occupation of residential and commercial spaces, plus the significant activity stemming from the density and diversity of buildings and their associated uses. These zones favour increased density of housing development (multiplexes of 8 units or more), greater intensity and variety of commercial activities, and the installation of large community facilities, such as an arena or community centre, that tend to generate a lot of activity. Medium Impact zones can also accommodate some light industrial uses, such as warehouses, as well as telecommunication installations. The zoning bylaw will outline regulations to ensure the harmonious co-habitation of various uses in these areas.

5.2.4 High

The High Impact land use designation, comparable to an Industrial land use designation in conventional master plans, refers to areas that pose significant impacts on the environment and generate elevated nuisances or potentially dangerous hazards for residents.

High Impact zones are characterized by large sites, excessive noise and dust pollution, and the frequent circulation of heavy trucks. The associated activities could also pose a more elevated risk for residents and the environment, including potential chemical or fuel spills and the risk of fire or explosion. Therefore, High Impact zones are not compatible with residential, commercial, or community uses. It is recommended that future developments maintain a significant buffer between High Impact zones and other uses. However, some Medium Impact uses, such as Light Industrial occupation, could be situated within a High Impact zone, thereby creating a buffer from residential neighbourhoods and community facilities.

5.2.5 Nuna

The Nuna land use designation applies to all unsurveyed land within the municipal boundary that does not already hold another land use designation. The intention of the Nuna land use designation is to protect the natural beauty, integrity, and cultural resources of the land – ‘Nuna’ – while enabling access for traditional, recreational, and community activities. The Nuna designation generally permits community and passive recreational uses. Permitted uses also include the presence of dog teams as well as local community activities, such as berry picking, harvesting, and camping and cabins. Over time, the community may decide to extend development projects into the areas currently zoned Nuna. This could be for granular resource extraction (quarries); installation of telecommunications equipment; or future expansion zones. At that moment, the community can amend the Community Master Plan to change the allocated land use designation to reflect their needs and desires. It is the responsibility of the NV council to ensure that future development minimizes the negative impact on wildlife, habitat, and harvesting.

5.2.6 Conservation

The Conservation land use designation identifies specific areas to protect from development. The allocation of this land use designation for a certain area may be due to a notable environmental risk present, such as flooding, erosion, or avalanche, in which protection from development serves as a mitigation measure.

A Conservation zone may also include areas that hold ecological importance and/or cultural heritage value, which necessitates its preservation for future generations. Complementary low-impact installations may be allowed if they align with the community’s interests. These include formalized walking trails, snowmobile trails, interpretive signage, and picnic amenities.

In general, all development is prohibited in areas zoned Conservation. However, some small developments, such as snow fences or public utilities may be required to ensure an essential service. If this is the case, the NV may consider it as an exception and allow the construction of such installations if certain protective measures are respected.

5.2.7 Types of Land Uses

HOUSING

Housing is a fundamental element of the Land Use Plan. Types of housing allowed in the Low Impact zone include single-family homes; duplexes; and multi-family homes.

The social housing allotments include space for parking and a storage unit for each housing unit. Staff housing is also permitted in this zone. Details regarding the size of buildings, number of units, and spatial organisation for housing lots will be addressed in the zoning bylaw.

LIGHT COMMERCIAL & RETAIL

Light Commercial refers to small-scale businesses, such as local retail and restaurants, which have a minimal impact on the environment and generate minimal nuisance for residents in the area. Small businesses, such as corner stores and cafes, are allowed in both Low and Medium Impact zones. It is favourable to situate a variety of small businesses near one another to create social and economic activity nodes within the village that serve the community and are easily accessible year-round for residents.

SMALL COMMUNITY AMENITIES

Community Amenities in the Low Impact zone encompass all small-scale community buildings that generate minimal nuisances and improve the quality of community life for residents. Examples of acceptable occupation include a workshop, sewing centre, community freezer, library, daycare, Youth houses, and Elder houses. This occupation is also permitted in Medium Impact zones

MIXED USE

The Mixed-Use component refers to a variety of complementary uses (residential, commercial, and community) concentrated in a particular area to create a neighbourhood that favors social and economic exchanges. Mixed-Use developments may constitute several individual lots, each with a distinct use, situated near each other. A village centre is an example of mixed-use area, where the co-op, hotel, and housing are all located in the same area, ideally within walking distance. Alternatively, a mixed-use development may also refer to a single building on one lot which accommodates more than one type of occupation. An example would be an apartment building with commercial spaces on the ground floor and housing on the upper floors or a hotel with a cultural centre or museum integrated into the built form. It is favourable to promote mix-use development in the village core where infill developments could improve the accessibility of many services while increasing the amount of available housing for residents.

MEDIUM COMMERCIAL

Medium Commercial constitutes business that require more space and generate significant activity, such as offices, hotels, retail spaces, and restaurants. Given the size and activity around these establishments, they have a greater impact on their surrounding environment, which could pose a nuisance to residents. It is favourable to prioritize future Medium Commercial occupation within the village core where a variety of uses is already in place. The zoning bylaw will specify regulations to ensure a compatibility of uses to mitigate potential nuisances for residents.

LARGE COMMUNITY AMENITIES

Large Community Amenities refers to buildings that contribute to essential community services and require substantial space and utilities to function. Examples include a fire hall, community centre, arena, health centre, hospital, school, etc. These amenities also tend to generate significant activity, whether as a destination for many people at once, like an arena during a scheduled event, or as a site that results in the circulation of heavy trucks, as is the case with the fire hall and water storage.

These community amenities can generate conflicts in the area where they are located. The zoning bylaw will specify the space required around such amenities to mitigate associated nuisances for neighbourhood residents and ensure a compatibility of use.

LIGHT INDUSTRIAL

Light Industrial occupation includes buildings and/or sites that generate minor industrial activities. Such activities, though they tend to require significant space, have a relatively minor environmental impact, and pose a low safety risk in terms of fire, explosion, vibrations, noise, dust, smoke, or odour. They do tend to generate heavy truck traffic and could create some nuisances related to noise, dust, or odor, which may impact the quality of life of residents. Potential occupations include repair garages, warehouses, construction camps, workshops, and research and development centres. The zoning bylaw will specify regulations to ensure potential risks and nuisances are mitigated in the location and operations of such facilities.

TELECOMMUNICATIONS

The Telecommunications category encompasses all infrastructure and equipment to accommodate the distribution of phone and internet services. To ensure the provision of digital telecommunication services, certain interventions may be required within the village. These include the installation of cellular towers, satellites, and linear infrastructure.

HEAVY INDUSTRIAL

Heavy Industrial occupation poses a significant risk and impact on the environment and quality of life of residents. Due to the level of noise, heavy truck traffic and dust generated by heavy industrial facilities, it conflicts with other land uses and activities in the village. However, Light Industrial occupation is compatible with this type of use and therefore can be situated within the Heavy Impact zone. Examples of Heavy Industrial uses include heavy equipment maintenance and storage; waste management and recycling facilities; wastewater treatment and sewage lagoons; quarries or pits; storage of potentially dangerous substances; tank farms; and power plants.

TRANSPORTATION

Transportation infrastructure provides essential services for the village. Examples of Transportation occupation within the village include the airport and marine facilities, such as the breakwater, boat ramp, and sealift staging area on the waterfront. Categorizing Transportation within the Heavy Impact designation ensures the safe operation of the airport and marine facilities. Some of the key uses needed for operating the airport include a terminal building, communications facilities (such as towers and the small building used to shelter equipment), weather-monitoring equipment, garages, storage warehouses and structures for fuel delivery. A quarry or pit for the purpose of airport or marine facility maintenance or improvements is also permitted within the Heavy Impact zone.

OPEN SPACE

The Open Space use refers to outdoor space dedicated to communal use. Areas with the Open Space occupation may be completely natural and free of installations, or they may contain equipment to support that use, such as playground equipment, picnic tables, a basketball court, or washroom facilities. Examples of Open Space occupations include parks, playgrounds, ball fields, beaches, and cemeteries. Open Space areas may also include waterfront areas where small docks, boat storage, temporary material storage, and sheds may be located. Open Space areas tend to be located within the built-up areas of the village, contributing to the quality of life of residents, with a special emphasis on recreation for children and youth.

Table 14 — Main Construction Constraints

PERMAFROST & TERRAIN CONDITIONS	The construction potential map, created by the CEN, classifies lands according to whether they are favourable or unfavourable for development (Carbonneau et al., 2018d) depending on the selected building foundation. Thaw stable lands are generally good for pad or pile foundation types whereas thaw unstable lands should only be constructed on when pile foundation pinned to bedrock is feasible.
FLOOD RISK & COASTAL EROSION	Several streams which traverse the village have a flood risk. Road crossings of the streams should be minimized to avoid potential blockage problems. The village shoreline is subject to coastal erosion and development should be setback accordingly. An area in the centre of the village, along one of the streams, is also subject to erosion (shown in Map 12)
ICING AREAS	As shown in Map 14, areas of the village are prone to icing, resulting in drainage issues.
AVALANCHE ZONES	A portion of the village is affected by avalanche risk areas. The distances to be respected are illustrated on Map 14 and on the land use plan. All construction is forbidden between the setback and the mountain.
WATERSHED PROTECTION	The watershed of the potable water source and intake should be protected from incompatible land uses (such as industrial and commercial) in order to minimize the chances of contamination. A minimum distance of 60 metres must be respected around a potable water source. This distance must be calculated from the perimeter (high watermark) of the lake or waterbody source.
WASTEWATER LAGOON & LANDFILL	The wastewater lagoon and landfill facilities are located at a distance from the village. However, appropriate buffers should be applied to ensure no incompatible development occurs within proximity to these facilities. No land use other than industrial is allowed inside the 300-metre buffer zone of an existing solid waste disposal site and a sewage lagoon. Solid waste disposal sites and sewage lagoons must be located at least one 150 metres from all streams and lakes and at least 500 metres from any drinking-water intake point. Solid waste disposal sites must respect the Regulation respecting the landfilling and incineration of residual materials (CQLR Q-2, r.19) and the Environment Quality Act.
AIRPORT	Land use in the vicinity of airports is governed by Transport Canada Aerodrome Standards and Recommended Practices and Transport Canada publication TP1247 (Land Use in the Vicinity of Airports). Both documents describe the approach surfaces and other obstacle limitations that must be respected to ensure the continued functioning of any airport (landfill, building height, etc.). Mitigation measures should also be put into place to limit negative impacts on surrounding uses due to the noise, dust and pollution produced by the airport.
PROTECTION OF NATURAL FEATURES	The village council can identify natural elements to be protected and maintained for ongoing community use. Easy access, view and preservation of the waterfront should be kept in mind when expansion options are being considered.
ARCHEOLOGICAL SITES	Several archaeological sites have been identified within Quaqtaq's municipal boundaries in recent decades. Most of these sites are listed in the Inventaire des sites archéologiques du Québec (ISAQ) at the Ministère de la Culture et des Communications. When a listed or/and known archaeological site is located in a new development or expansion zone, a study must be carried out by Avataq Cultural Institute to propose a conservation status and recommend preservation measures, when necessary. This study will then be presented to the village council and the Landholding corporation board members for a decision on applicable preservation measures. Founded in 1980, the Avataq Cultural Institute is a non-profit organization
QUARRY AND SAND PITS	Any quarry must be located a minimum 600 metre distance from any Residential, Commercial or Community amenities uses. Any new pit (ie. gravel or sand) must be located a minimum 150 metre distance from any Residential, Commercial or Community amenities uses. Quarries and borrow pits must respect the Regulation respecting pits and quarries (CQLR Q-2, r.7.1) and must have a certificate of authorization from the Ministère du Développement durable, de l'Environnement, de la Lutte contre les changements climatiques (MDDELCC).
TANK FARMS	In order to reduce potential nuisances (odours, traffic, fumes, spills, etc.) associated with oil deposit activities (tank farms), a minimum distance of 250 metres must be maintained around the installations. This distance must be calculated from the outer perimeter of all tanks. Tank farms must be located at least 100 metres away from streams, lakes and any drinking water intake point.
SHORE PROTECTION STRIPS	In accordance with provincial regulations and in order to ensure an adequate protection of the shoreline, a minimum of 15-metre buffer is required between the shoreline (high water mark) and any construction, works (including pad foundation and roads), excavations, land cutting and filling.
NBD COMMUNICATION	Based on the TP1247E (Transport Canada), Section 2.4.2, all proposed structures or buildings within 200 m of an NDB antenna should be assessed prior to construction to determine the potential impact on navigation signals from an NDB. NDB antenna are usually use for airport activities and communications. All construction projects within this perimeter must therefore be analyzed by Transport Canada.
POWER PLANT	No residential, community and commercial uses are allowed within 100 metres of a power plant to reduce nuisances or a greater distance where maximum noise levels as established by the «Note d'instructions 98-01 (2006) sur le bruit» based on the LRQ (c. Q-2), articles 20 and 22, are exceeded for the proposed use. Every effort should be made to design and upgrade power plants in a way that minimizes impacts on surrounding uses and reduces the need to set back sensitive land uses (eg. residential uses) more than 100 metres. This distance must be calculated from the power station's building perimeter. This distance must be increased when the power plant is enlarged, or its power is increased (eg. additional generator).
WATER AND GAS PIPES	Drinking water and gas distribution pipes must be kept clear to allow repairs and reduce the risk of accidents. A distance of 8 metres on each side must be respected for all constructions. These pipes are identified in Map 9 and in the land use plan.
GAS STATION	To reduce traffic and odour nuisances, a distance of 100 metres must be maintained between a gas station and any building used for residential or small and large community amenities purposes (daycare, elders' home, school, etc.).

5.3 DEVELOPMENT STRATEGY

5.3.1 Development Guidelines

Proponents should consult the KRG's Guide for Construction in Nunavik, the SHQ's Housing Construction in Nunavik, and other reports published by the KRG regarding climate change adaptation. New development projects should also take local construction constraints into consideration. These are outlined in table 14. While this table provides an overview of construction constraints, it is important to bear in mind that other constraints can exist, even if they are not in the table. Additionally, the constraints, regulations, and laws detailed in table 14 are subject to change.

5.3.2 Ongoing or Upcoming Community Projects

Table 15 outlines ongoing and upcoming projects within the community. Whenever possible, these projects have been considered and integrated into the updated community zoning concept as described in Section 5.2.

5.3.3 Applicable Zones for Land Use Needs

Section 4.3.2 presents a general estimate for the hectares needed by 2041 for permitted land uses to accommodate the growth of Quaqtaq. Table 14 outlines key development constraints in Quaqtaq. Table 16 summarizes which zones apply to each of the permitted land uses. .

5.3.4 Potential Future Expansion Areas

Existing available lots in the village are predominately zoned for medium and high impact uses. In the short- and medium-term, these areas should be prioritized for future projects (see Table 15). Projects identified in Table 14, such as the new CLSC, new KI office, new NV office, new wood storage, and KI warehouse/garage and new community freezer, fall under land use categories which are permitted in the medium-impact zone. These projects can be directed to existing medium-impact zoned areas to promote a mix of uses in the village core and ensure that services are easily accessible to community members and maintain proximity to compatible uses. Wherever possible, gentle densification is encouraged in the village core to meet current housing needs and projected population growth.

Table 15 — List of Ongoing or Upcoming Community Projects

PROJECT NAME & PROPONENT	ESTIMATED COMPLETION	IMPACTS
Fiber optic project	TBD	
Transit housing (KI)	TBD	Increase in temporary housing units
New KI warehouse	TBD	Improvement of KI facilities and increase in capacity
Renovation of the NV office	TBD	Renovated office space for NV staff
New CLSC	TBD	Improved access to healthcare services and increase in capacity
Arena renovation	2026	Improve the state of the arena
New staff housing (NRBHSS)	2025	Increase in housing units for NRBHSS workers
Tuberculosis Clinic (NRBHSS)	2028	Provide a clinic specifically adapted to treat tuberculosis
New NRBHSS office	2028	Increase in office space for the NRBHSS

Table 16 — Land Needs and Applicable Zones³

Land use	Hectares	APPLICABLE ZONES		
		Low impact zone	Medium impact zone	High impact zone
Additional residential land needed (ha) - 2021-2041	3.9	X	X (mixed-use)	
Additional commercial land needed (ha) - 2021-2041	0.6	X (small scale)	X (medium scale)	
Additional industrial land needed (ha) - 2021-2041	1.8		X (light scale)	X
Additional community services/institutional land needed (ha) - 2021-2041	4.7	X (small scale)	X (medium scale)	
Total Land Requirement	11.0	N/A	N/A	N/A

5.3.5 Short- and Medium-Term Potential Expansion Areas

Three areas (the Northern, Western, and Southwestern sectors) have been identified for short-term and medium-term development, based on community consultations and other analysis presented in this plan. These areas have been zoned either low or medium impact. Overall, residential and community service uses should be prioritized in these areas, given that these are projected to require the greatest amount of land. Future development areas should allow for a mix of uses compatible with the low and medium impact zones, where appropriate, to support the provision of light commercial and community services, as well as open spaces, in proximity to residential areas.

5.3.5.1 Northern Sector

The Northern sector is located to the north of the village core, adjacent to the airport. The total surface area of the site is 22.9 hectares. This site is proposed to be zoned low impact which should prioritize residential development while allowing compatible small-scale and low-impact uses, such as corner stores. The Northern sector contains several small bodies of water. The water edges include a 60m buffer to prevent erosion and protect the ecological health of the waterways. No new buildings should be constructed within these buffer zones. Most of the site has been characterized as having "good" or "fair" construction potential in the analysis conducted by the CEN. However, there are a few construction constraints associated with this sector. First, the areas surrounding the small stream in the eastern portion of the site are less ideal for construction, as this location is characterized by thaw-unstable grounds. Portions of the development area are also vulnerable to floods, as shown in Map 14. As shown in Map 19, the Northern sector is traversed by an existing trail, but road extensions and widening would be required to provide better access to the area. Furthermore, the area is characterized by elevated areas. Construction in this area will require blasting. Smaller lot sizes are therefore recommended. The construction of single-family homes, as well as duplexes and fourplexes, would be appropriate in this area. Furthermore, the use of pile foundations is recommended to reduce lot size requirements.

Finally, residential buildings should be oriented facing southwest to maximize exposure to daylight. While the Northern sector has been zoned low impact, it directly borders a high impact zone, which includes uses such as the airport terminal, the tank farm, and the power plant. Given the location of these heavy industrial uses near this site, it is recommended to implement measures to mitigate potential impacts due to noise, vibrations, and pollution. Compatible non-residential, low-impact development located along the southern boundary of the site could help create a physical buffer between the high impact zone and residential areas.

5.3.5.2 Western Sector

The Western sector holds approximately 15.9 hectares and is located to the western edge of the village core. The area is proposed to be zoned medium impact to encourage a mix of uses, such as medium-scale residential, community services, commercial, and light industrial. Providing a mix of uses in this area is favourable given its central location within the community's core. This area could also be well-served by designated open spaces, such as parks and playgrounds. The majority of the Western sector has been identified as having "good" or "fair" construction potential in the analysis conducted by the CEN. A few development constraints should also be considered, such as elevated topography and the presence of marine sediments. While the site is located in close proximity to an existing road, extensions would be required to improve the connectivity of this potential development area. Furthermore, due to the site's topography, blasting will be required to enable construction. Smaller lots and construction on pile foundation is therefore recommended. If residential development takes place, single-family homes, duplexes, and fourplexes are recommended for the Western sector. These should be oriented in order to maximize views of the waterfront.

5.3.5.3 Southwestern Sector

This site is located to the southwest of the existing built-up area of the village and measures approximately 16.9 hectares. The community of Quaqtaq has expressed interest in developing this area as soon as possible.

However, the proximity of a quarry, approximately 50 metres west of the site, creates significant constraints for any future development. As noted above, any quarry must be located at minimum of 600 metre distance from any Residential, Commercial or Community amenities uses (CQLR Q-2, r.71). Activities in the northern part of the sector, which is within the 600-metre buffer zone, cannot occur as long as the quarry remains operational.

Option 1

If the quarry is to remain operational, it is recommended to develop the southern part of the sector, situated over 600 meters from the quarry, as a medium-impact land use zone. Developments in this zone should prioritize commercial and community activities over residential uses, considering the environmental impact the quarry would have on residential developments.

Option 2

Conversely, if the quarry ceases operations, the entire sector should be developed as a low-impact zone. Developments within this zone should prioritize residential uses. Both options can be feasible, depending on the community's future needs and desires. Additional development constraints associated with the area are the presence of small streams and waterbodies, some elevated topography in certain areas, and the existence of marine sediments. In areas of the Southwestern sector where the terrain is relatively flat, construction will require less site preparation. Larger lots are therefore feasible in this area, which could allow for the construction of multiplexes. Currently, a trail connects the site to the village core. Extensions and widening of this trail need to be planned in order to establish a reliable connection between the community's road network and the wind power project underway south of Quaqtaq's municipal boundaries.


5.3.6.1 Southeastern and Eastern Sectors

These two sites have been designated for long-term expansion, once all other sectors in this Plan have been developed. With a future aim to implement zoning in these areas, the Eastern Sector could potentially be designated as high impact to encourage industrial development near existing industrial sites.

Map 18 — Potential Expansion Areas (Hectares)



LEGEND

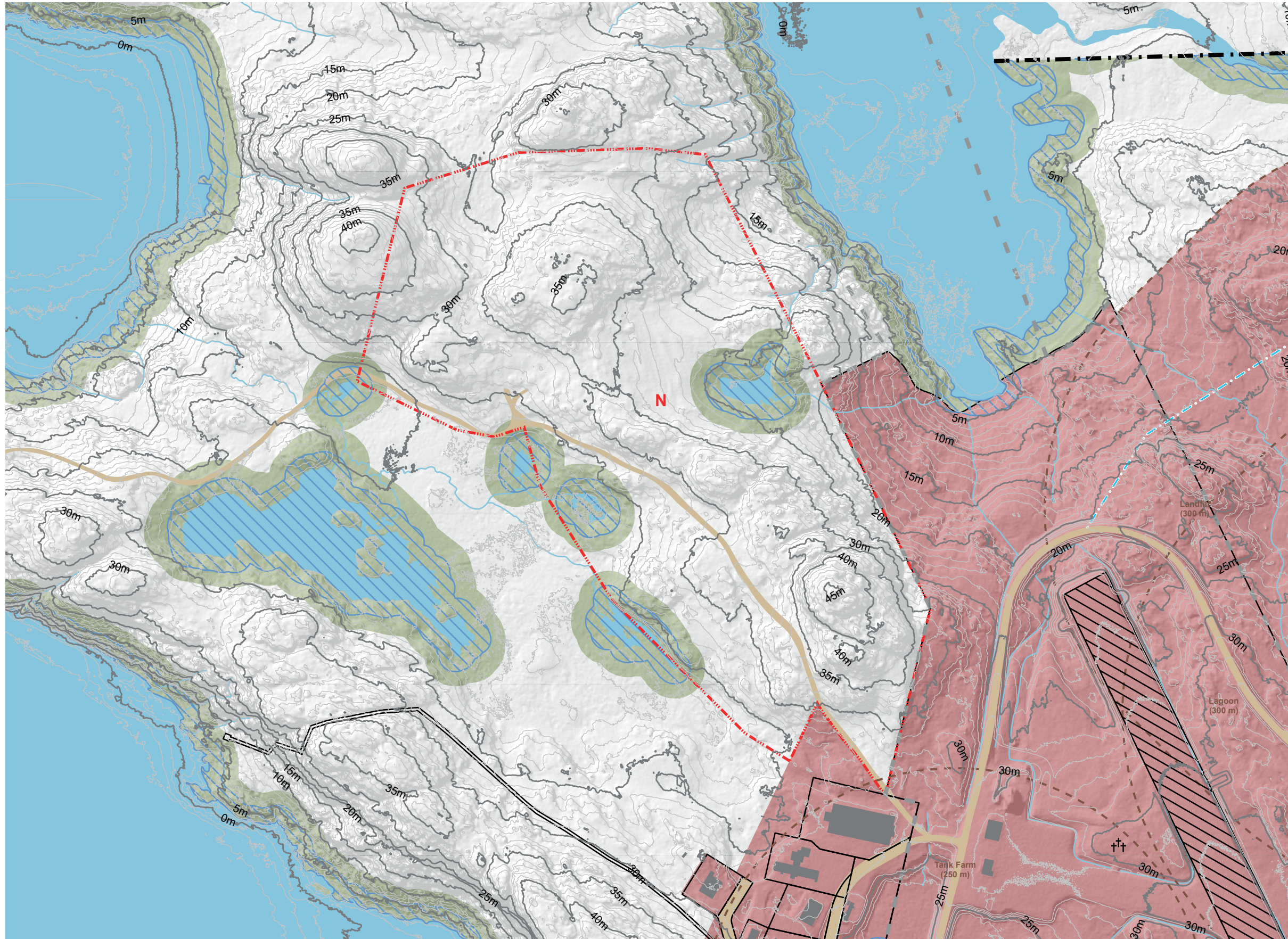
 Expansion Zones

NOTES

Data Source: ESRI Imagery (2023), KRG (2024)
Date: 2025-05-05



Map 19 — Potential Expansion Area: Northern Sector



LEGEND

LAND USE DESIGNATIONS (impact-based)

- High Impact
- Medium Impact
- Low Impact
- Conservation
- Nuna

CONSTRUCTION PROHIBITED ZONES

- Shore Protection Strip
- Icing
- Constraints Buffers
- Quarry (Lease perimeter)
- Avalanche zone (1/100 yr.)
- Avalanche zone (1/1000 yr.)
- Water Pipeline
- Water Pipeline

TRANSPORTATION

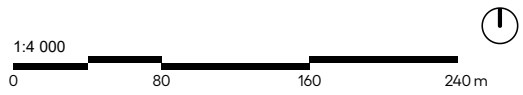
- Airport Takeoff & Landing Zone
- Existing Road
- Snowmobile Trail
- Walking Trail

OTHER

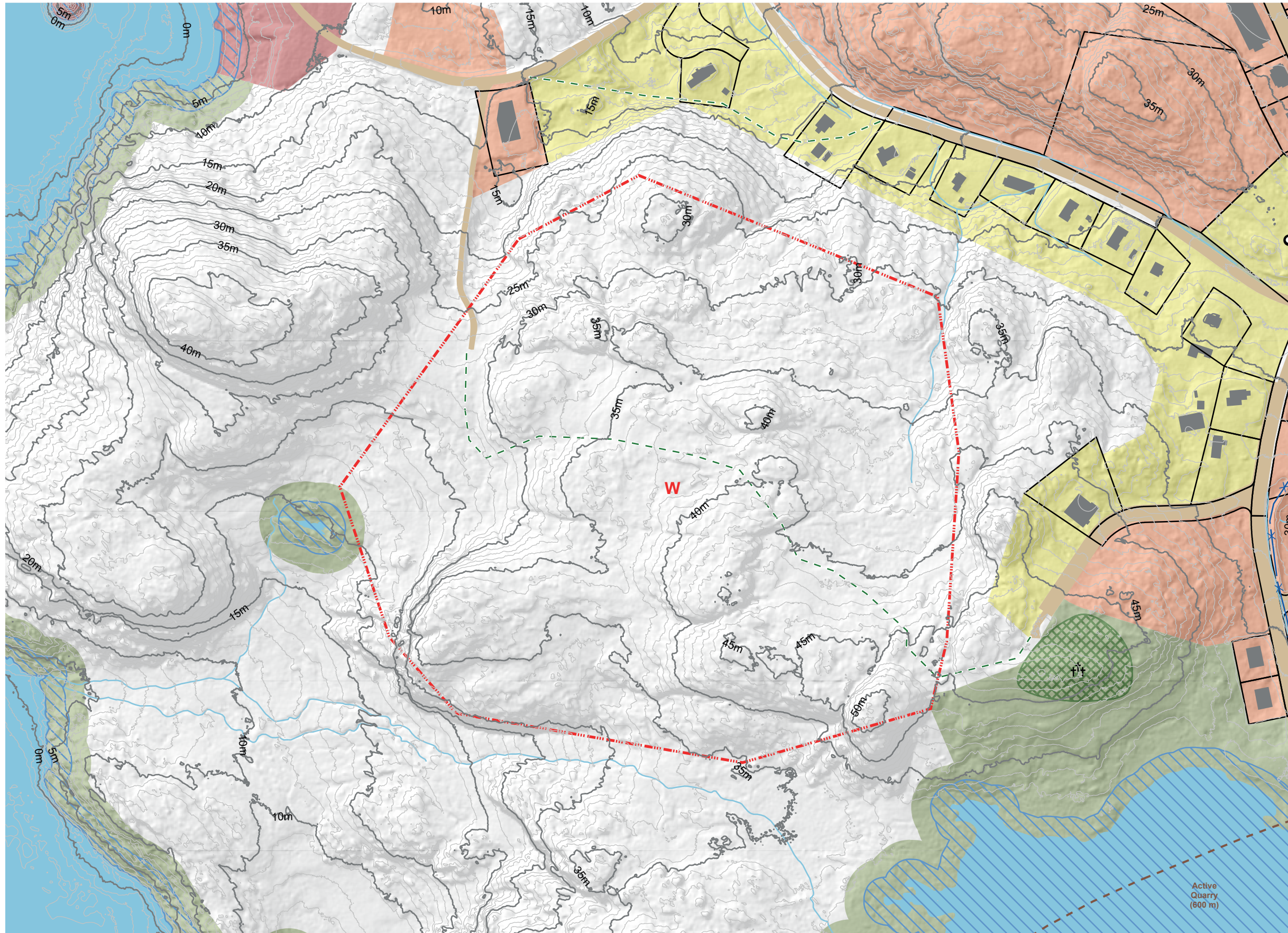
- Municipal Boundary
- Open Space
- Expansion Zone
- Playgrounds
- NDB Communication Site
- Cemetery
- Swimming Area

NOTES

Data Source: KRG (2024), CRGH AG(2024), MERN (2021)
Date: 2025-05-05



Map 20 — Potential Expansion Area: Western Sector



LEGEND

LAND USE DESIGNATIONS (impact-based)

- High Impact
- Medium Impact
- Low Impact
- Conservation
- Nuna

CONSTRUCTION PROHIBITED ZONES

- Shore Protection Strip
- Icing
- Constraints Buffers
- Quarry (Lease perimeter)
- Avalanche zone (1/100 yr.)
- Avalanche zone (1/1000 yr.)
- Water Pipeline
- Water Pipeline

TRANSPORTATION

- Airport Takeoff & Landing Zone
- Existing Road
- Snowmobile Trail
- Walking Trail

OTHER

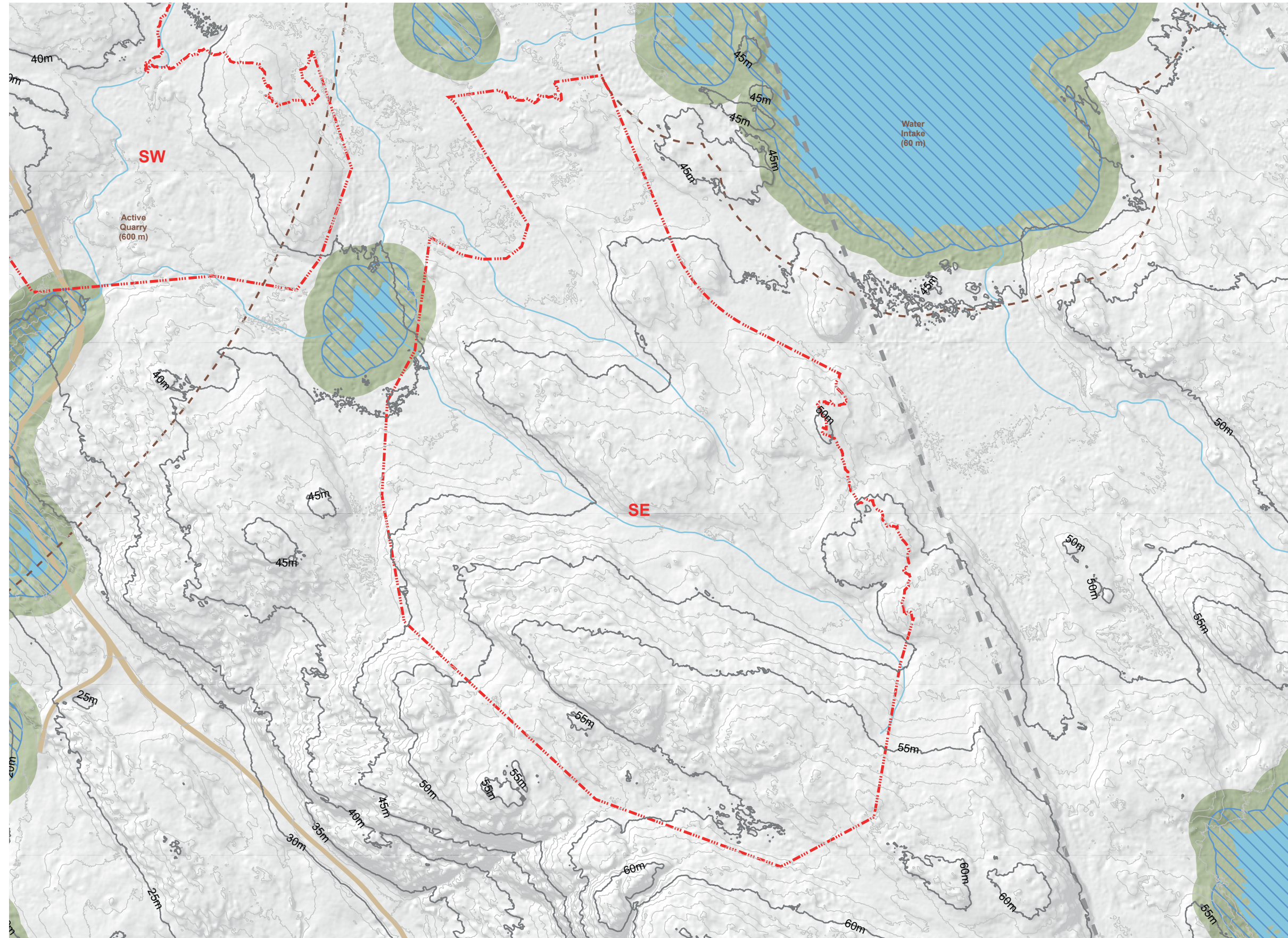
- Municipal Boundary
- Open Space
- Expansion Zone
- Playgrounds
- NDB Communication Site
- Cemetery
- Swimming Area

NOTES

Data Source: KRG (2024), CRGH AG(2024), MERN (2021)
Date: 2025-05-05



Map 22 — Potential Expansion Area: Southeastern Sector



LEGEND

LAND USE DESIGNATIONS (impact-based)

- High Impact
- Medium Impact
- Low Impact
- Conservation
- Nuna

CONSTRUCTION PROHIBITED ZONES

- Shore Protection Strip
- Icing
- Constraints Buffers
- Quarry (Lease perimeter)
- Avalanche zone (1/100 yr.)
- Avalanche zone (1/1000 yr.)

- Water Pipeline
- Water Pipeline

TRANSPORTATION

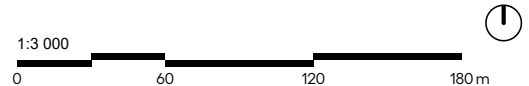
- Airport Takeoff & Landing Zone
- Existing Road
- Snowmobile Trail
- Walking Trail

OTHER

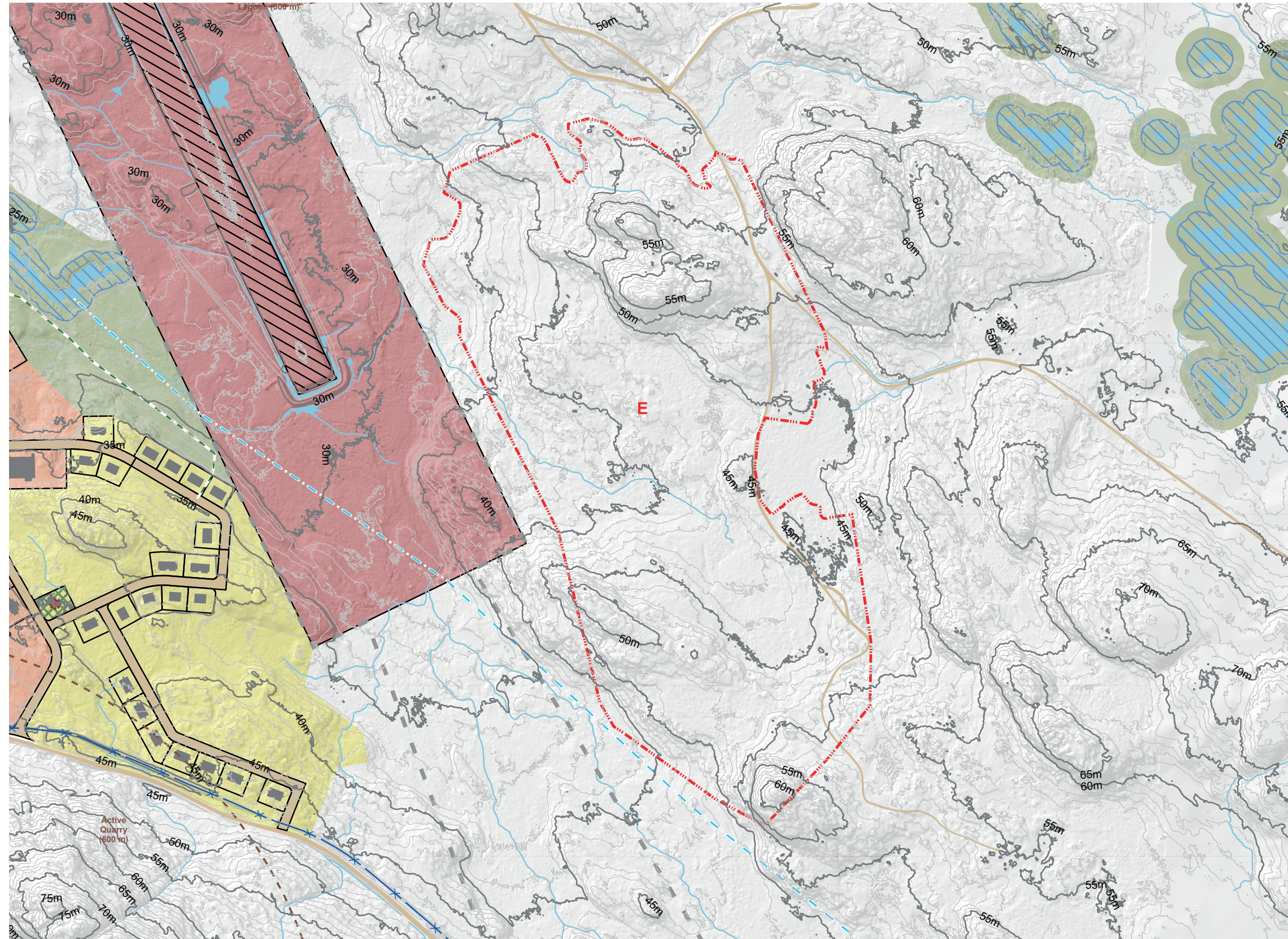
- Municipal Boundary
- Open Space
- Expansion Zone
- Playgrounds
- NDB Communication Site
- Cemetery
- Swimming Area

NOTES

Data Source: KRG (2024), CRGH AG(2024), MERN (2021)
Date: 2025-05-05



Map 23 — Potential Expansion Area: Eastern Sector



LEGEND

LAND USE DESIGNATIONS (impact-based)

- High Impact
- Medium Impact
- Low Impact
- Conservation
- Nuna

CONSTRUCTION PROHIBITED ZONES

- Shore Protection Strip
- Icing
- Constraints Buffers
- Quarry (Lease perimeter)
- Avalanche zone (1/100 yr.)
- Avalanche zone (1/1000 yr.)
- Water Pipeline
- Water Pipeline

TRANSPORTATION

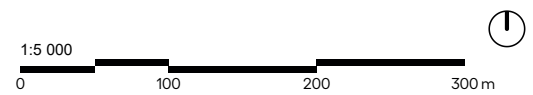
- Airport Takeoff & Landing Zone
- Existing Road
- Snowmobile Trail
- Walking Trail

OTHER

- Municipal Boundary
- Open Space
- Expansion Zone
- Playgrounds
- NDB Communication Site
- Cemetery
- Swimming Area

NOTES

Data Source: KRG (2024), CRGH AG(2024), MERN (2021)
Date: 2025-05-05





06

Implementation

The following chapter outlines the next steps that are necessary to implement and enforce the Community Master Plan and, if needed, amend the Community Master Plan. It also explains the difference between the Community Master Plan and the zoning bylaw, as well as the role that each document plays in the community's development. The specific roles of each document are stipulated in the Act Respecting Northern villages and the Kativik Regional Government from 1976.

6.1 IMPLEMENTING THE COMMUNITY MASTER PLAN

6.1.1 Who is responsible for implementing and enforcing the Community Master Plan?

The municipal Council (NV) is responsible for implementing and enforcing the Community Master Plan. For the Community Master Plan to be effective, it must be followed by all parties: municipal council and staff, the LHC, organisations, companies, and residents. However, the council is ultimately responsible for enforcing the Community Master Plan. The NV will do this by granting permissions, through permits or authorizations, only for projects that respect the Community Master Plan and the zoning bylaw.

6.1.2 How does the enforcement process work?

Although the municipal council makes the decisions and grants the permissions, they need the assistance of their employees to review projects and draft recommendations to Council. When the council adopts a zoning bylaw, council members must appoint one or more staff members to help enforce the rules and review projects. The staff member appointed to enforce the Community Master Plan and the zoning bylaw is the Development officer. The Development officer receives permit requests from applicants seeking Council's permission to construct on a lot, renovate, move a building or change the use of a building. They will review the applications and submit recommendation to the Council that indicate whether the proposed projects meet the guidelines and regulations of the Community Master Plan and the Zoning bylaw or not.

The role of the Development officer and the process for issuing development permits is clearly outlined in the zoning bylaw. However, for informational purposes, a diagram of the development permit issuing process is also appended to this document. In the absence of a Development officer, the secretary-treasurer assumes the role.

In order for a project to obtain approval from the municipality, it must satisfy the policies and directions established by both Community Master Plan and Zoning bylaw documents.

6.1.3 What is the difference between the Community Master Plan and the Zoning Bylaw?

When a northern village council decides to adopt a Community Master Plan it must also adopt a zoning bylaw. Based on community consultations, the Community Master Plan provides a general direction for the development and growth of the community as it continues to evolve for the next 20 years. However, it is not intended to enforce specific regulations. A zoning bylaw, on the other hand, lays out parameters for restrictive provisions such as permitted land uses, road dimensions, building height, density, setbacks, buffer zones, etc. A zoning bylaw outlines specific norms that community members and/or project promoters must respect throughout the development process. Inspections can be carried out by identified municipal employees to ensure compliance with the regulations, and in the case of non-compliance with the rules, the Council can issue fines.

Thus, the Community Master Plan defines the vision for the community, while the zoning bylaw serves as a complementary regulatory mechanism that makes the vision defined in the Community Master Plan a reality. These two documents work together toward the same vision, and must therefore be conform with each other. The Community Master Plan and zoning bylaw are both adopted by Council bylaw. However, only the adoption of the zoning bylaw requires the vote of the electors in order to come into force.

6.2 AMENDING THE COMMUNITY MASTER PLAN

6.2.1 Why amend the Community Master Plan?

The Community Master Plan shows how the village of Quaqtaq will continue to evolve over the next 20 years, based on its present situation and expected population growth. The views of the Council and residents may change over time as new information becomes available. Council should carry out regular updates and amendments to the Community Master Plan as new data becomes available, so that it continues to meet the needs of a changing community. It may also happen that a proposed project does not meet one or more criteria of the Community Master Plan, yet the Council and the community believe that it is a good project. In such cases, the Community Master Plan must be amended by bylaw before the project can be approved.

6.2.2 How to amend the Community Master Plan?

In general, it is recommended that the Community Master Plan be reviewed, and if necessary, amended, every five years.

Amendments to the Community Master Plan shall follow the amendment process as described in the appendix. An Amendment to the Community Master Plan does not require a Vote of the Electors. If the Community Master Plan is amended, for compliance purposes, the zoning bylaw must also be amended in order to incorporate the modifications

It is recommended that the northern village council create an action plan to outline priority projects over the short-, medium-, and long-term. Although this is not mandatory, it is recommended as a way to enable the northern village council to track and enforce the Community Master Plan.

References

Act Respecting the Société d'habitation Du Québec, S-8 Act Respecting the Société d'habitation du Québec.

Allard, M., Cohen-Fournier, N., St-Amour, A. B., & Roy-Léveillé, P. (2023). Construire durablement au Nunavik. Centre d'études nordiques (Chaire de recherche en partenariat sur le pergélisol au Nunavik).

Allard, M., & Lemay, M. (Eds.). (2012). Nunavik and Nunatsiavut: From science to policy: An integrated regional impact study (IRIS) of climate change and modernization. ArticNet Inc. https://arcticnet.ulaval.ca/wp-content/uploads/2022/06/iris4_report_complete_compressed.pdf

Atkins, L. (n.d.). Case Study 4: Inuit Housing. Royal Architectural Institute of Canada. Retrieved 8 October 2024, from https://raic.org/sites/raic.org/files/en_case_study_4.pdf

Avataq Cultural Institute. (2010). Plan Nunavik (p. 469) [Plan]. Avataq Culutral Institute. <https://parnasimautik.com/plan-nunavik-past-present-and-future/>

Barette, C., Brown, R., Way, R., Mailhot, A., Diaconescu, E., Grenier, P., Chaumont, D., Dumont, D., Sévigny, C., Howell, S., & Senneville, S. (2020). Nunavik and Nunatsiavut regional climate information update. 58.

Barrett, M., Gagnon, M., Gagné, F., Ricard, S., Nasak, M., Stéphane, C., Furgal, C., & Journeaux, N. (2012). Renforcement des capacités et sensibilisation face aux changements climatiques pour la gestion publique locale et la planification territoriale au Nunavik. Administration régionale Kativik.

Bernard Saladin d'Anglure. (1963). Quaqtqaq, 1963: Hunters Eating Seal After the Hunt [Graphic]. Avataq Cultural Institute. <http://www.isuma.tv/virtual-museum/quaqtqaq-eng#objects>

Carboneau, A.-S., L'Hérault, E., Aubé-Michel, S., & Allard, M. (2018a). Aléas naturels, Quaqtqaq, Québec, Nunavik [Map]. Centre d'études nordiques.

Carboneau, A.-S., L'Hérault, E., Aubé-Michel, S., & Allard, M. (2018b). Conditions de pergélisol, Quaqtqaq, Québec, Nunavik [Map]. Centre d'études nordiques.

Carboneau, A.-S., L'Hérault, E., Aubé-Michel, S., & Allard, M. (2018c). Dépôts de surface, Quaqtqaq, Québec, Nunavik [Map]. Centre d'études nordiques.

Carboneau, A.-S., L'Hérault, E., Aubé-Michel, S., & Allard, M. (2018d). Potentiel de construction et types de fondations, Quaqtqaq, Québec, Nunavik [Map]. Centre d'études nordiques.

Clerc, C., Gagnon, M., Breton Honeyman, K., Tremblay, M., Bleau, S., Gauthier, Y., Aloupa, S., Kasudluak, A., Furgal, C., Bernier, M., & Barrett, M. (2011). Climate change and marine infrastructures in Nunavik local expert knowledge and community perspective in Quaqtqaq, Umiujaq and Kuujuaq. <https://numerique.banq.qc.ca/patrimoine/details/52327/2050473>

Climate-data.org. (2022). Quaqtqaq. Climate-Data.Org. <https://fr.climate-data.org/amerique-du-nord/canada/quebec/ivujivik-718967/>

Cuerrier, A., Brunet, N. D., Guérin-Lajoie, J., Downing, A., & Lévesque, E. (2015). The Study of Inuit Knowledge of Climate Change in Nunavik, Quebec: A Mixed Methods Approach. *Human Ecology*, 43(3), 379–394.

Dionne, J. (2021, 30). Material Resources Investment Plan June 2021 Update. Kativik Ilisarniliriniq.

EVOQ Architecture. (2024). Renovation and expansion of Quaqtqaq Airport Terminal. <http://evoqarchitecture.com/en/renovation-and-expansion-of-quaqtqaq-airport-terminal/>

Father Jules Dion, O.M.I. (1950). A man coming ashore in his kayak. Kumak [Graphic]. Avataq Cultural Institute. http://70.38.68.49/img/Photos_Historiques/IND-Individus_Visiteurs/DIO/IND-DIO-301_F.jpg

Gouvernement du Québec. (2024, August 21). Projects supported by the Fonds d'initiatives nordiques—2024. <https://www.quebec.ca/en/government/policies-orientations/northern-territory-development/financial-support/projects-supported-by-the-fonds-d-initiatives-nordiques-2024>

Hachem, S., & Bleau, S. (2020). Impact of Climate Change on Nunavik's Marine and Coastal Environment: Knowledge Synthesis. Report presented to the Ministère des transports du Québec. Ouranos. https://www.ouranos.ca/wp-content/uploads/RapportHachem2020_EN.pdf

Indigenous Services Canada. (2018). Comprehensive Community Planning (CCP) Handbook (Fourth Edition). <https://www.sac-isc.gc.ca/eng/1377629855838/1613741744194>

Kativik Environmental Quality Commission. (n.d.-a). Project to develop a storage site for end-of-life vehicles in Quaqtqaq. Retrieved 8 October 2024, from <https://www.keqc-cqek.ca/en/projets/project-to-develop-a-storage-site-for-end-of-life-vehicles-in-quaqtqaq/>

Kativik Environmental Quality Commission. (n.d.-b). Project to widen the Quaqtqaq airport access road and install safety barriers. Retrieved 8 October 2024, from <https://www.keqc-cqek.ca/en/projets/project-to-widen-the-quaqtqaq-airport-access-road-and-install-safety-barriers/>

Kativik Municipal Housing Bureau. (2022). Housing Stock. <https://www.omhkativikmhb.qc.ca/en/housing/housing-stock>

Kativik Regional Government. (2019). Annual Report—2019. <https://www.krg.ca/en-CA/publications/annual-reports>

Kativik Regional Government. (2022). Municipal Works Department Activity Report (February to May 2022). <https://www.krg.ca/en-CA/assets/Council/MPW-May2022-En.pdf>

Makivik Corporation. (2021). Quaqtqaq. Makivik Corporation. <https://www.makivik.org/quaqtqaq/>

Ministère de l'Environnement et de la Lutte contre les changements climatiques. (2006, June). Note d'instructions—Traitement des plaintes sur le bruit et exigences aux entreprises qui le génèrent. <https://www.environnement.gouv.qc.ca/publications/note-instructions/98-01.htm>

Ministère des Affaires municipales et de l'Habitation. (n.d.). Portail gouvernemental des affaires municipales et régionales (PGAMR). Retrieved 8 October 2024, from <https://www.portailmunicipal.gouv.qc.ca/sitepublic/ServicesEnLigne>

Natural Resources Canada. (2024, May 9). Diesel, solar, and battery microgrid: Hydro-Quebec Remote Communities in Nunavik (Quaqtqaq). <https://natural-resources.canada.ca/science-and-data/funding-partnerships/opportunities/current-investments/diesel-solar-and-battery-microgrid-hydro-quebec-remote-communities/25291>

Nickels, S., Furgal, C., Buell, M., & Moquin, H. (2005). Unikkaaqatigiit: Putting the Human Face on Climate Change—Perspectives from Nunavik Communities. publication of Inuit Tapiriit Kanatami, Nasivvik Centre for Inuit Health and Changing Environments at Université Laval and the Ajunginiq Centre at the National Aboriginal Health Organization. <https://www.itk.ca/wp-content/uploads/2016/07/unikkaaqatigiit01-1.pdf>

Northern Futures Planning. (2015). Background Report: Quaqtqaq Master Plan and Zoning Bylaw Update.

Northern Futures Planning. (2016). Background Report: Ivujivik Master Plan and Zoning Bylaw Update.

Nunatsiaq News. (n.d.). Quebec announces \$8.1M for 4 Nunavik projects. Nunatsiaq News. Retrieved 8 October 2024, from <https://nunatsiaq.com/stories/article/quebec-announces-8-1m-for-4-nunavik-projects/>

Nunatsiaq News. (2022, June 21). 5 Nunavik communities share \$29 million for sports, recreation upgrades. Nunatsiaq News. <https://nunatsiaq.com/stories/article/5-nunavik-communities-share-29-million-for-sports-recreation-upgrades/>

Nunavik Regional Board of Health and Social Services. (2022). Institutions. Nunavik Regional Board of Health and Social Services. <https://www.nrbhss.ca/en/institutions#clsc>

Règlement Sur l'enfouissement et l'incinération de Matières Résidentielles, CQLR c. Q-2, r. 19, art. 95. <https://www.legisquebec.gouv.qc.ca/fr/document/rc/Q-2,%20r.%2019%20/#se:95>

Règlement Sur Les Carrières et Sablières, Q-2, r. 7.1. <https://www.legisquebec.gouv.qc.ca/fr/document/rc/Q-2,%20r.%207.1%20/>

Rogers, S. (2019, March 22). Ice Wireless launches 3G service in first Nunavik community. Nunatsiaq News. <https://nunatsiaq.com/stories/article/ice-wireless-launches-3g-service-in-first-nunavik-community/>

Société d'habitation du Québec. (2014). Housing in Nunavik. http://www.habitation.gouv.qc.ca/fileadmin/internet/documents/English/logement__nunavik_2014.pdf

Société d'habitation du Québec. (2021). Northern housing prototype in Quaqtqaq: Design and implementation of a housing model with high energy efficiency, suited to the northern lifestyle : report. <https://www.habitation.gouv.qc.ca/fileadmin/internet/documents/English/ProtHabitNordicQuaqtqaq-English.pdf>

Statistics Canada. (2006). 2006 Community Profiles, Quaqtqaq. <https://www12.statcan.gc.ca/census-recensement/2006/dp-pd/prof/92-591/details/page.cfm?Lang=E&Geo1=CSD&Code1=2499115&Geo2=PR&Code2=24&Data=Count&SearchText=Quaqtqaq&SearchType=Begins&SearchPR=01&B1=All&Custom=>

Statistics Canada. (2011). Census Profile, 2011, Quaqtqaq. <https://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=2499115&Geo2=PR&Code2=01&Data=Count&SearchText=Quaqtqaq&SearchType=Begins&SearchPR=01&B1=All&Custom=&TABID=1>

Statistics Canada. (2016). Census Profile, 2016 Census of Population, Quaqtqaq. <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=2499115&Geo2=CD&Code2=2499&SearchText=Quaqtqaq&SearchType=Begins&SearchPR=01&B1=All&TABID=1&type=0>

Statistics Canada. (2021). Census Profile, 2021 Census of Population, Quaqtqaq. <https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?Lang=E&SearchText=Quaqtqaq&DGUIDlist=2021A00052499115&GENDERlist=1,2,3&STATIS-TIClist=1&HEADERlist=0>

Tarquti Energy. (n.d.). Quaqtqaq. Retrieved 8 October 2024, from <https://tarquti.ca/communities/quaqtqaq/>

The James Bay and Northern Québec Agreement, 327 (1975). https://www2.publicationsdu-quebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=17&file=ncons_en.pdf&type2=32

Transport Canada. (2013, 2014). Aviation Land Use in the Vicinity of Aerodromes, Ninth Edition (TP1247E). Transport Canada. <https://tc.canada.ca/sites/default/files/migrated/tp1247e.pdf>



Appendix

Map 11 — Topography in Quaataq



LEGEND

Elevation

134 m

0 m

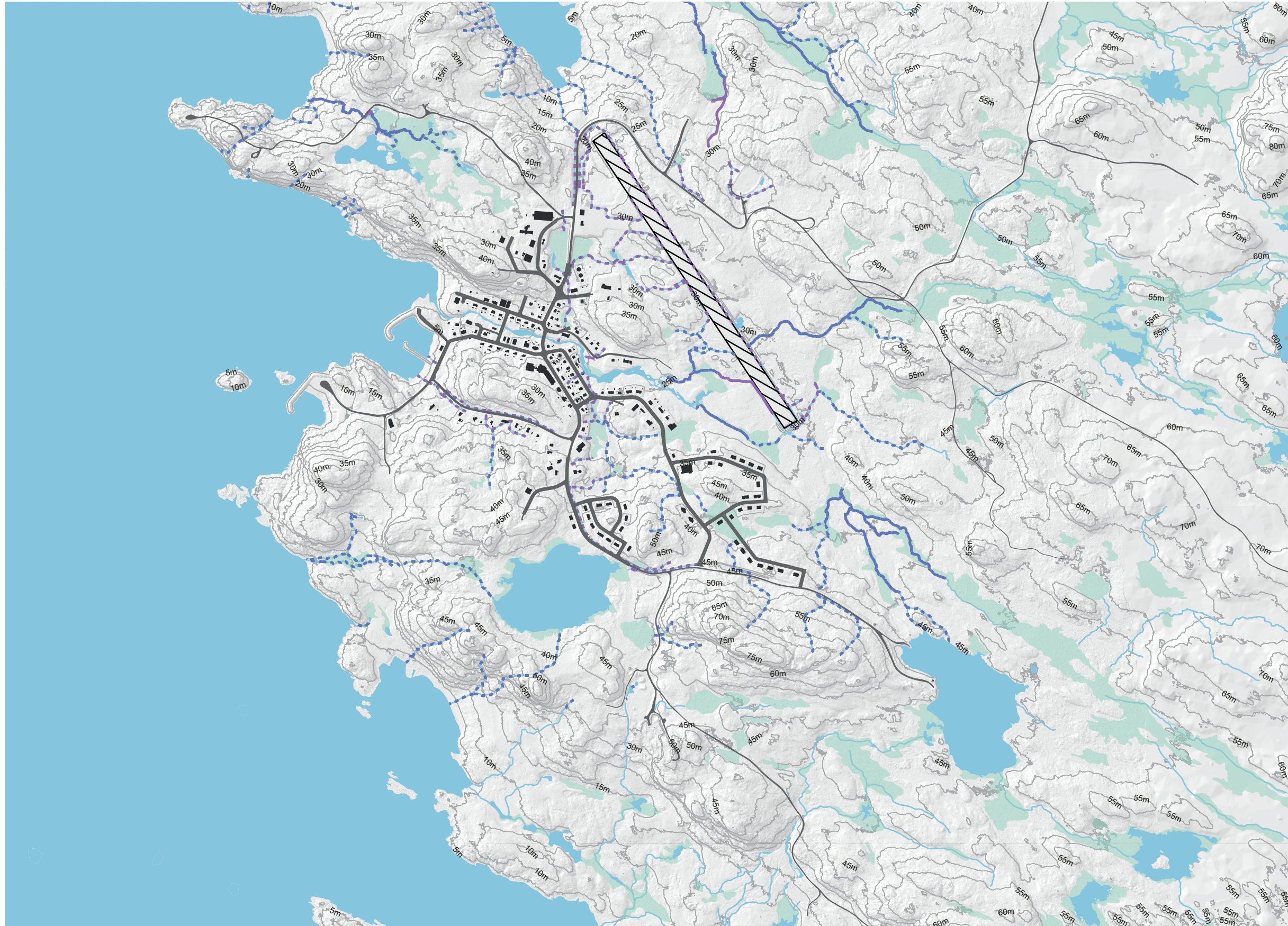
Contour (5m)

NOTES

Data Source: KRG (2024), CRGH AG(2024), MERN (2021)
Date: 2025-05-05



Map 12 — Wetlands and Natural Drainage



LEGEND

- Potential Wetland
- Natural Permanent Watercourse
- Natural Intermittent Watercourse
- Anthropic Permanent Watercourse
- Anthropic Intermittent Watercourse
- Other Watercourse
- Contour (5m)
- Building
- Road
- Airstrip

NOTES

Note: Wetlands and watercourses are based upon photo-interpretation and have not been field-validated.
Data Source: CEN (2015), BDVQ (2010), KRG (2024), CRGH AG(2024), MERN (2021)
Date: 2025-05-05



Map 13 — Surface Deposits in Quaqtq

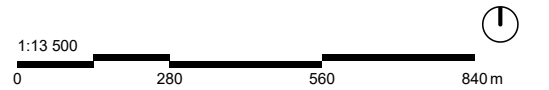


LEGEND

- H: Anthropogenic deposits - Undifferentiated (All)
- L: Lacustrine sediments - Undifferentiated sediments (All)
- Mn: Marine sediments - Littoral and nearshore sediments (All)
- Mr: Marine sediments - Beach sediments (All)
- R: Bedrock - Undifferentiated (All)

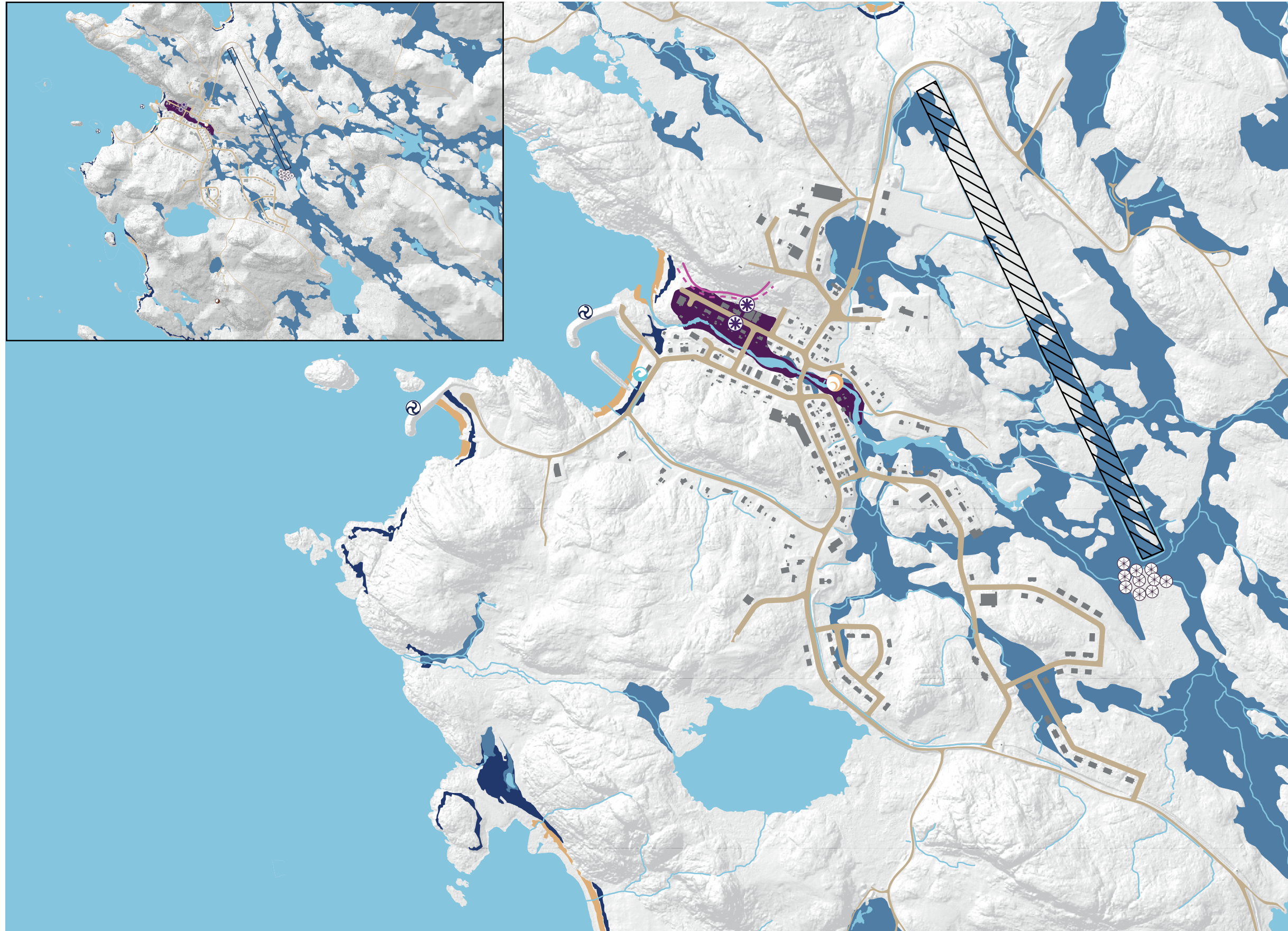
NOTES

Data Source: CEN (2018), KRG (2024), CRGH AG(2024), MERN (2021)
Date: 2025-05-05












Data source : (Carbonneau et al., 2018c)



Map 14 — Natural Hazard Risks - Construction Prohibited Zones



LEGEND

-  Fluvial erosion
-  Frostblister
-  Ice-push
-  Icing
-  Storm surge

-  Coastal erosion
-  Storm surge
-  Flood
-  Icing

-  Avalanche zone 1/100
-  Avalanche zone 1/1000

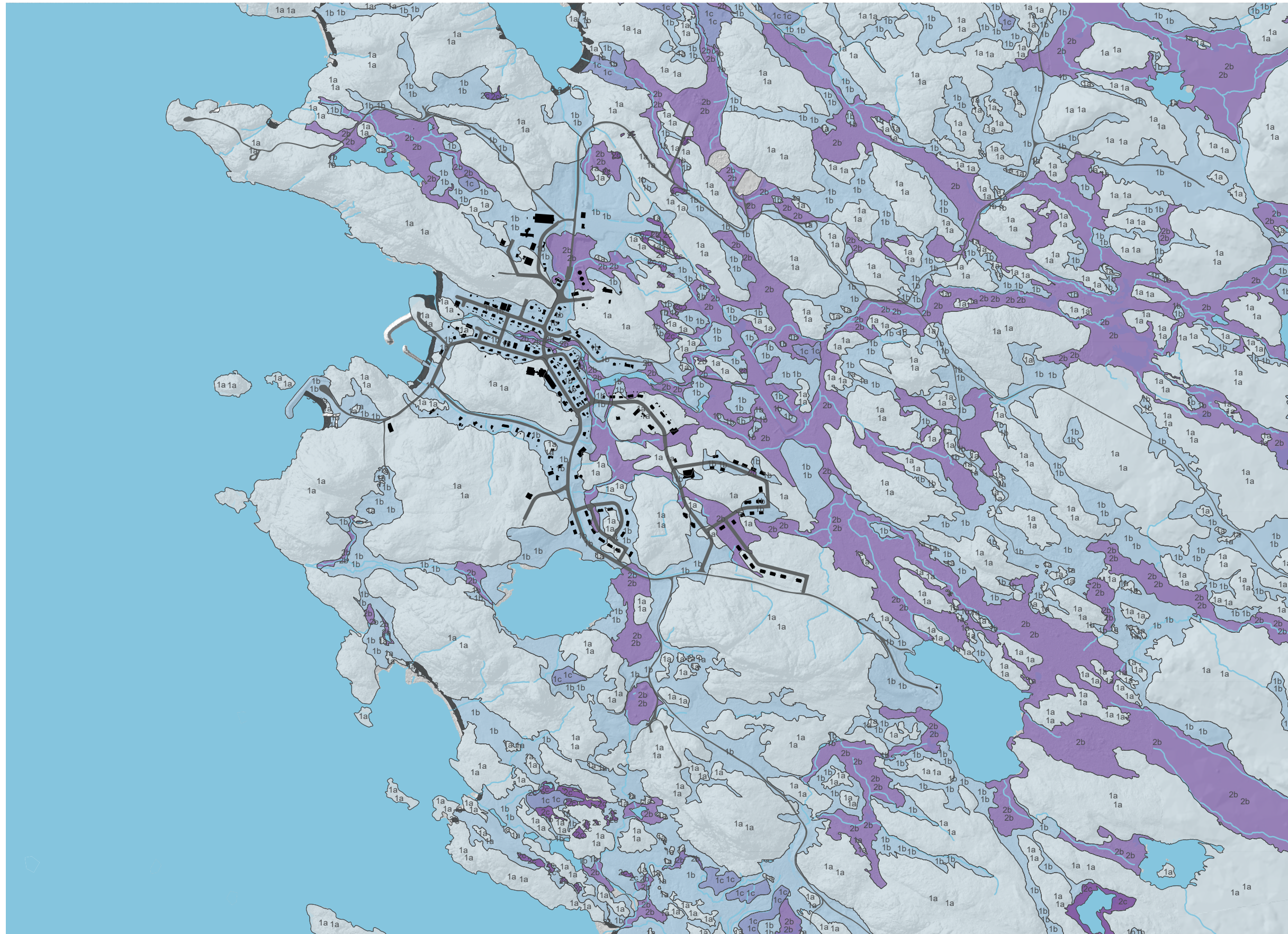
NOTES

Data Source: CEN (2018), Polygeo (2023), KRG (2024), CRGH AG(2024), MERN (2021)
Date: 2025-05-07



Data source: (Carbonneau et al., 2018a).

Map 15 — Permafrost Conditions in Quaqtq



LEGEND

Permafrost Conditions

- 1a - Bedrock
- 1b - Thin cover of sand and gravel (< 2 m) over bedrock
- 1c - Thick layered sand and gravel deposit (> 2 m)
- 2a - Thin cover (< 2 m) of heterogeneous deposit (till) over bedrock
- 2b - Thick cover (> 2 m) of heterogeneous deposit (till) over bedrock
- 2c - Thin cover (< 2 m) of fine-grained deposit of marine or lacustrine origin over
- 2d - Fine-grained deposit of marine origin sometimes covered with a thin layer
- 3 - Contemporary deposit

NOTES

Data Source: CEN (2018), KRG (2024), CRGH AG(2024), MERN (2021)
Date: 2025-05-05



Data source: (Carbonneau et al., 2018b).

Map 16 — Construction Potential in Quaqtaq



LEGEND

Construction Potential

- Good
- Fair
- Poor

NOTES

Data Source: CEN (2018), KRG (2024), CRGH AG(2024), MERN (2021)
Date: 2025-05-05



Data source:(Carbonneau et al., 2018d).

