



COMMUNITY SUMMARY

DRAFT

DRAFT January 2025

RANKIN INLET NU

Community Summary



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COMMUNITY EXECUTIVE SUMMARY



Figure 1: COMMUNITY MAP

Rankin Inlet, or Kangiqtinig, is located on the west coast of Hudson Bay and has a population of 2,975 as of the 2021 Census. Historically significant for its nickel discovery in the 1950s, Rankin Inlet is projected to become a bustling mining town with potential diamond and gold mining operations.

Development priorities include addressing the lack of housing, particularly for recent college graduates and young generations, and the need for more affordable housing options. Action is required to address potential land shortages, and significant infrastructure risks.

The area consists of glacial, marine, and glaciofluvial deposits with numerous eskers and bedrock outcrops, and the granular deposits are generally classified as low to moderate sensitivity to thaw degradation. Infrastructure challenges include low-lying areas prone to seepage and ponding, moderate slopes, and continuous permafrost with variable

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sensitivity to climate change. The utilidor master plan is being revised, with upgrades ongoing, and a new water treatment plant is anticipated to be completed in 2027.

The hamlet has equipment and an existing source for aggregate supply, with plans to extend the pit. Power infrastructure is partially complete, with some areas needing further development.

Neighbourhood 'A' includes outdoor storage, residential, vacant land, and recreation, with flat and hilly land forms, ponds, and rock outcrops. Roads and drainage infrastructure are not fully constructed, and there is no schedule or funding for utilidor extension.

Neighbourhood 'B' consists of vacant land and open space, with fairly flat topography and potential snow accumulation risk. Roads, drainage, wastewater, water, and power infrastructure are in place.

In summary, Rankin Inlet has a limited inventory of surveyed land that is impacted by moderate suitability challenges and significant infrastructure risks especially related to water/wastewater utilidor capacity and connections. A lack of suitable serviced land is an immediate risk to new housing. Risks can be mitigated by responsive design, infrastructure investment, utilizing redevelopment sites, and efficient use of land.

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COMMUNITY LAND GAP ASSESSMENT

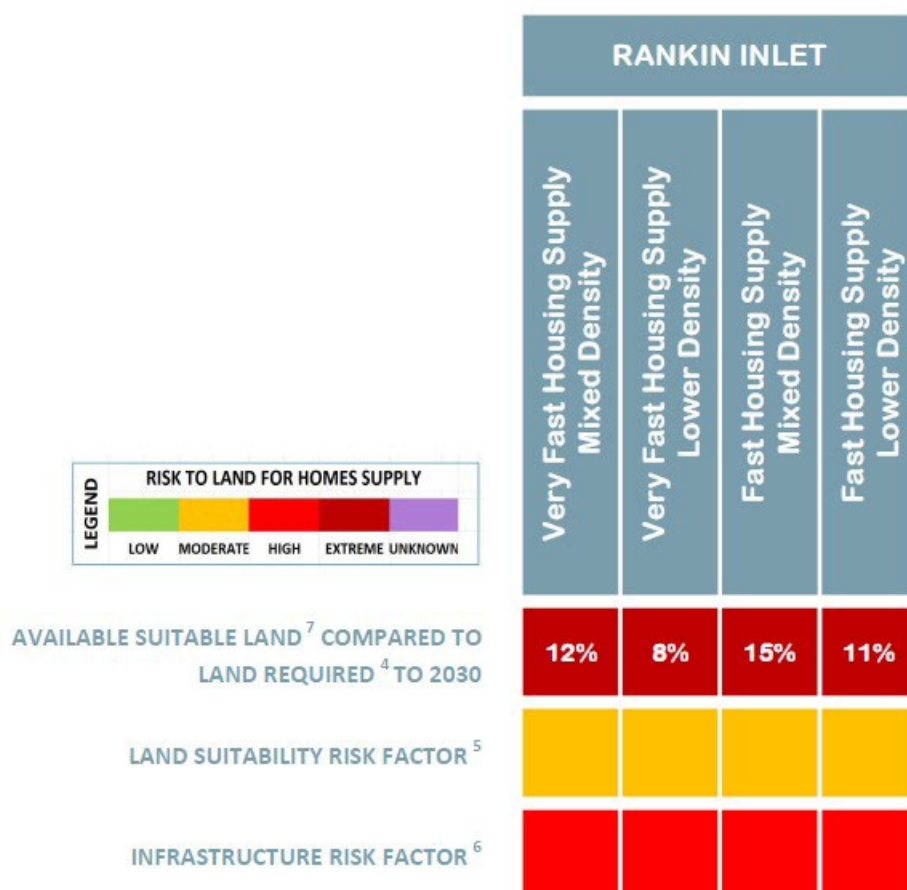


Figure 2: LAND SUPPLY RISK TO 2030 (existing infrastructure only)

Overview

For more information, see L4H Nunavut Land Gap Assessment charts and L4H Guides.

The Community Land Gap Assessment chart estimates the risk for a shortage of suitable land prior to 2030. L4H extracted the GN's land inventory (legally surveyed, vacant, and greater than 500m² in area), and adjusted for lots known to be already reserved or leased. Infrastructure Risk and a Land Suitability Risk factors were applied to arrive at an estimate of suitable, build-ready land, which was compared to estimated land needs.

Housing Supply and Density Scenarios

Risk assessment scenarios allow for variables in the rate of new home supply ("Very Fast" assumes Nunavut 3000 targets; "Fast" assumes 75% Nunavut 3000 targets) and the amount of land required for each new home ("Mixed Density" assumes public

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housing at 275m² per unit and other housing at 675m² per unit; “Lower Density” assumes all housing averaging 675m² per unit).

Land Suitability Risk Factor

An overall Land Suitability Risk Factor was applied based upon social-cultural, legal, technical, environmental, and constructability characteristics. A High-risk assessment was assumed to reduce available lots by 40%; a Moderate risk assessment was assumed to reduce available lots by 20%.

Infrastructure Risk Factor

An overall Infrastructure Risk Factor was applied based upon the general status, condition, and capacity of the roads and drainage, power and water/wastewater services to development areas and lots. A High-risk assessment was assumed to reduce available lots by 40%; a Moderate risk assessment was assumed to reduce available lots by 20%. Timely infrastructure improvements can be expected to reduce the overall risk of land shortages.

COMMUNITY – PLANNING AND LANDS

Community Name

Rankin Inlet

Community Identifier Number

320

Demographic Characteristics

Current Population: 2,975 (2021 Census)

Official Community Plan

2024 L4H Tour: PLO indicated that cultural elements previously documented on previous Community Plans are not shown on the current Plan.

Future Growth Area Data

2024 NHC Tour: No surveys or plans in place for future development (North west of area 6 /behind area 6). No decision made by hamlet.

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COMMUNITY – GENERAL

Community geographic and historical context

(www.gov.nu.ca): Rankin Inlet, or Kangiqtinik (“deep bay/inlet” in Inuktitut), is located on the west coast of Hudson Bay. It is a bustling community that is the hub of the Kivalliq region.

The community of Rankin Inlet was formed with the discovery of nickel in the 1950s. Today, explorations near this community are discovering potential for the successful operations of both diamond and gold mines. It is projected that Rankin Inlet will become a bustling mining town in the next few years.

Just outside of Rankin Inlet is the Meliadine River, which is an historical site of the Thule people. It has a well-marked walking tour around this site. It has also long been a place for good fishing for arctic char, grayling, and trout. Marble Island is another historical site just outside of Rankin Inlet. It is one of the well-known whaling sites in the north.

Community Input – Development Priorities or Concerns

2024 L4H Tour: PLO Indicates Sakkuu interested in Area 5. KIA does not have any housing projects within the hamlet.

Council expressed concern about number of multiplexes. Lack of housing a barrier to helping recent college graduates, hard to recruit and retain. Education program capacity limited in part due to housing shortage.

2024 NHC Tour: Council mentioned need for more 1 bedroom and Bachelor's housing for young generation. (Affordable housing).

LHO mentioned there is issue with staff housing. Population growing faster - need more housing.

Common Residential Building Forms

- 1 storey
- 2 to 3 storeys

Notable Land Form Characteristics

- Hilly
- Ocean (tides 1.2 to 3m)

Nunami Stantec Geotech report indicates: "The landscape of the area is bedrock-controlled, where low hills are locally covered with discontinuous drift deposits. Hummocky bedrock outcrops are frequent. "

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Geotechnical Characteristics

"The geotechnical evaluation indicated that the granular deposits encountered are generally classified as low to moderate sensitivity to thaw degradation (with low to moderate ice content). Soils containing ice wedges are highly thaw sensitive and could exhibit significant settlement upon thawing."

Surface Drainage Characteristics

Nunami Stantec Geotech report indicates: "Low lying areas prone to seepage and ponding were noted to supplement the geotechnical investigation of construction suitability"

Moderate Slope (5-10%)

Nunami Stantec Geotech report indicates: "Most of the community was developed on flat to gently undulating terrain no steeper than 3°. Moderate to moderately steep slopes (15-30°) are found locally throughout the community (e.g., alongside building pads, road embankments or road cuts, along the shorelines). Short steep slopes in excess of 30° are present; however mainly limited to undeveloped bedrock terrain."

Nunami Stantec Geotech report indicates: "Rankin Inlet is located within the continuous permafrost zone (Brown et al. 2002). In the region, the permafrost was estimated to reach 300 m below ground surface (bgs) near the coast (Brown 1978), and from 360 to 495 m bgs when inland (Golder Associates 2014). Based on permafrost and ground ice conditions mapping from Brown et al. (1997), low ground ice content is generally expected near Rankin Inlet. Because of postglacial land emergence in the area and general low elevation of Rankin Inlet (<30 m asl), it is expected that saline permafrost is present."

"The overall sensitivity of permafrost to climate change is anticipated to be variable ranging from low to high depending on site conditions."

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Nunami Stantec Geotech report indicates: "Rankin Inlet has a high arctic ecoclimate. Summers are relatively short, cool, and moist, while winters are long and cold. The total annual precipitation was 314 mm, of which 41% fell as snow. Mean daily air temperatures varied from 10.5°C in July to -30.8°C in January, and mean annual air temperature (MAAT) was -10.5°C. The average thawing and freezing indices were 897°C days and 4698°C days, respectively."

Drainage

2024 NHC Tour: Utilidor masterplan is being revised and upgrade going on.

2024 L4H tour: CGS responsible for utilidor, indicate lack of staff and funding limiting ability to conduct long-term planning for utilidor system, particularly for future subdivisions.

2024 NHC Tour: Expansion of waste water treatment plant. Initial stages of design.

Risk to planning, design or construction: High

2024 L4H tour: CGS responsible for utilidor, indicate lack of staff and funding limiting ability to conduct long-term planning for utilidor system, particularly for future subdivisions.

2024 NHC Tour: Building new water treatment plant anticipated to be completed in 2027.

Risk to planning, design or construction: High

2024 L4H Tour: SAO and PLO indicate Hamlet has equipment but hasn't been used in while, has existing source, looking for second

2024 NHC Tour: Councillor suggested use of mining waste for granular fill.

2024 NHC Tour: Hamlet planning to extend the pit. Inukshuk manages the pit and supplies gravel in the community. Gravel quality is good but pricey. Inukshuk has the equipment.

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NEIGHBOURHOOD 'A' – PLANNING AND LANDS

Plan Number: 3942

Block Number: 8

General Description: Neighbourhood A- Northwest subdivision (Area 6)



Figure 2: NEIGHBOUHOOD 'A' MAP

NEIGHBOURHOOD 'A' – GENERAL

Local Input Development Priorities or Concerns – Neighbourhood

2024 L4H tour: Municipal Staff mentioned next priority for development once neighbourhood by Healing Facility developed.

Current Land Uses and Activities – Neighbourhood

- Outdoor storage
- Residential
- Vacant land
- Recreation

2024 L4H Tour: There appears to be informal trail access from this area, sheds.

Risk to planning, design or construction: Low

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Land Form Characteristics – Neighbourhood

- Flat
- Hilly
- Other
- Pond
- Tundra
- Rock outcrop

2024 L4H Tour: Newer lots proposed on outcrop. Rock outcrop along north and west edge of neighbourhood, which will be difficult to develop given the irregular topography. Large pond covering parts of planned road and Lots 5-7. Tundra with multiple ponded areas along NE corner of neighbourhood.

Risk to planning, design or construction: Low

Built Form Characteristics – Neighbourhood

- Mostly 1 storey

2024 L4H tour: Mostly single unit dwellings

Risk to planning, design or construction: Low

Important Flora/Fauna – Neighbourhood

- Not Known

Views and Vistas – Neighbourhood

2024 L4H Tour: Partial view of ocean, tundra. View of bay to north tundra to west

Risk to planning, design or construction: Low

NEIGHBOURHOOD 'A' – TECHNICAL

Geotechnical Characteristics – Neighbourhood

2024 L4H Tour: Sand/granular mix (depth unknown) abuts east and south side of outcrop. Tundra with multiple ponded areas along NE corner of neighbourhood. The lots planned for the north part of the community are located on a large rock outcrop, with pockets of lichen that backs onto the existing homes abutting these lots. These observations are consistent with a 2022 geotechnical and drainage report prepared by Nunami Stantec Ltd.

Risk to planning, design or construction: Medium

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Surface Drainage Characteristics – Neighbourhood

Nunami Stantec Geotech report indicates: "Block 8 is an approximately 7.4 ha area which is split between 5 catchments. Block 8 is at the headwaters of each of these catchments; no external catchments drain onto Block 8 lands. A pond or depression area currently exists in the northeast side of Block 8. There are currently no existing culverts or ditches within.

Topography Characteristics – Neighbourhood

2024 NHC Tour: Challenging topography, requires detail design of roads and building sites. 2024 L4H Tour: Outcrop on west edge. Variable due to rock outcrop, especially along top of outcrop. Nunami Stantec Geotech report indicates: "Block 8 is located on a low hill (southwest-northeast oriented) with elevations ranging from 10 to 21 masl. The dominant slope is oriented towards the east and range between 5 and 10°. The west-facing slope is steeper, with areas reaching above 15°."

Risk to planning, design or construction: Medium

Climate Characteristics – Neighbourhood

2024 L4H Tour: Wind due to relative elevation of neighbourhood.

Risk to planning, design or construction: Medium

Environmental Contamination or Noxious Uses – Neighbourhood

2024 L4H Tour: Gravel stockpile was present on Lot 19 during Community Visit

NEIGHBOURHOOD 'A' – INFRASTRUCTURE

Road Infrastructure – Neighbourhood

- Partially complete

2024 L4H Tour: Road have not been constructed in this area. Lots 1-7 road access thru onto IOL north of neighbourhood.

Drainage Infrastructure – Neighbourhood

2024 L4H Tour: Drainage infrastructure have not been constructed in this area. No ditches or culverts observed. Infrastructure needed to address ponding within neighbourhood.

Risk to planning, design or construction: Medium

Wastewater Utilidor Infrastructure (if applicable) – Neighbourhood

- Planned

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2024 NHC Tour: No schedule or funding for utilidor. 2024 L4H Tour: CGS Infrastructure did not have timeline to complete Master Plan needed to extend utilidor. Capacity may be a concern.

Water Infrastructure – Neighbourhood

- Planned

2024 NHC Tour: No schedule or funding for utilidor. 2024 L4H Tour: CGS Infrastructure did not have timeline to complete Master Plan needed to extend utilidor. Capacity may be a concern.

Power Distribution Infrastructure – Neighbourhood

- Partially Complete

2024 L4H Tour: Power infrastructure have not been constructed in this area. Lots 1-7 -Infrastructure extended to existing housing in neighbourhood.

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NEIGHBOURHOOD 'B' – PLANNING AND LANDS

Plan Number: 4444

Block Number: 7

General Description: Neighbourhood B- South West Subdivision (Area 5) near jail



Figure 3: Neighbourhood B Map

NEIGHBOURHOOD 'B' – TECHNICAL

Topography Character

2024 NHC Tour: Suitable topography. Fairly flat

Climate Characteristics – Neighbourhood

2024 NHC Tour: Possible snow accumulation risk for this subdivision.

NEIGHBOURHOOD 'B' – INFRASTRUCTURE

Road Infrastructure – Neighbourhood

2024 NHC Tour: Road on lot 113-111 need to removed.

Drainage Infrastructure – Neighbourhood

2024 NHC Tour: Drainage infrastructure in place

Wastewater Utilidor Infrastructure (if applicable) – Neighbourhood

2024 NHC Tour: Utilidor is in place

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Water Infrastructure – Neighbourhood

2024 NHC Tour: Utilidor is in place

Power Distribution Infrastructure – Neighbourhood

2024 NHC Tour: Power poles in place

PHOTOGRAPHS

(From 2024 NHC Community Tour)



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APPENDICES



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