

Vol. 2 Consultation Report

Infrastructure for a Sustainable Resolute Bay



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Approved by the Hamlet Council
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Table 1. Acronyms

AHI	Affordable Housing Initiative
CEDP	Community Economic Development Plan
CGS	Department of Community and Government Services, GN
GN	Government of Nunavut
GTF	Gas Tax Fund
ICISP	Integrated Community Infrastructure Sustainability Plan
MFU	Multi-family unit
MTO	Municipal Training Organization
NAM	Nunavut Association of Municipalities
NCIAC	Nunavut Community Infrastructure Advisory Committee
NHT	Nunavut Housing Trust
NPC	Nunavut Power Corporation
SAO	Senior Administrative Officer
SFU	Single family unit

Table 2. Key Definitions and Terms

Cultural Sustainability	A community's capacity to develop, retain and protect its culture and identity, and transmit that culture to future generations.
Economic Sustainability	The capacity of a community to maintain a stable and diversified economy that has minimal negative impacts on the environment and uses appropriate technologies and renewable resources where possible.
Environmental Sustainability	The capacity of a natural environment to meet human needs while remaining balanced and healthy, without damage to air, land, water or wildlife.
Social Sustainability	The ability of the community, individuals and families to ensure the basic needs of all residents with respect to food, shelter and safety are met, that there are opportunities for community and personal development, and that there is social equity in the community.
Goal	A broad statement that describes some aspect of the future the community hopes to achieve.
Sustainability goals	Goals that will preserve and enhance the culture, the society, the economy and the environment of a community, at a cost that the community can afford over time.
Infrastructure	The facilities, systems and equipment that provide public services and support private sector economic activity, including network infrastructure (e.g., roads, bridges, water and wastewater systems), buildings, machinery and equipment.
Infrastructure System	A set of linked infrastructure elements that collectively make up a "system". For example, a reservoir, pipes, a water truck, a purification plant, and a pumping station are all parts of a water infrastructure system.
Planning	The process of developing a long-term vision of what a community will be like in the future, and determining what specific steps and resources it will need to achieve that vision.

1 Introduction

1.1 Guide to the Report

This report summarizes the findings and recommendations of a planning process conducted by the Government of Nunavut and the Hamlet of Resolute Bay from fall 2009 to spring 2010.

Volume One of the report is set up as follows:

Section 1, the Executive Summary, describes the background and goals of this planning process, and summarizes the key findings set out in these two volumes.

Section 3 provides a brief overview of community demographics.

Section 4 summarizes the criteria used by this project and by community participants to set sustainability infrastructure priorities.

Section 5 presents community infrastructure priorities of the community in tabular format, organized by priority. The table also identifies infrastructure projects eligible for funding under the Gas Tax Fund.

Section 6 identifies the community's existing infrastructure systems, and the main elements that make up each system. It describes the current condition and capacity of such systems and any issues identified in relation to them. Finally, this section identifies infrastructure investment that is already planned as well as recommendations for future infrastructure investment that supports community sustainability goals and is based on community priorities identified during consultations.

Volume Two of the report includes;

- A list of the documents consulted and people interviewed in the development of this plan;
- A list of participants at community meetings;
- A fuller profile of Resolute Bay, including a discussion of demographic and socio-economic conditions, and trends that are likely to influence community infrastructure needs and investments in the future, as well as existing community vision statements and major community goals related to infrastructure.
- A comprehensive set of community infrastructure sustainability goals based on document review, interviews, and the community consultation meetings.

1.2 Project Background

Between 2005 and 2015 the Government of Nunavut (GN) will receive \$97.5 million from the federal Gas Tax Fund to support environmentally sustainable municipal infrastructure projects that help ensure cleaner air, cleaner water and reduced greenhouse gas emissions. Those funds will be managed by the Nunavut Community Infrastructure Advisory Committee (NCIAC), which includes representatives from the Department of Community and Government Services (CGS); Nunavut Association of Municipalities (NAM); Department of Finance; and other GN departments, when needed.

This Committee was mandated to work with Nunavut communities to define their long-term infrastructure requirements and priorities, and to help link those needs to a framework of integrated community sustainability planning.

To achieve this, the Committee began a planning process, working with 24 communities in Nunavut¹ to develop community-specific plans identifying infrastructure investments that would meet the basic, current needs of individuals, families and the community as a whole, without imposing a burden on future generations.

The planning process focused specifically on infrastructure - primarily network infrastructure like roads, bridges, water and wastewater systems), buildings, and equipment. While many infrastructure projects in the past have focused on immediate needs, this planning process encouraged communities to take a longer term view, looking ahead for five or more years into the future.

In the summer of 2009, GN and the NCIAC developed a detailed consultation plan, data collection tools, and research schedule. They also prepared a set of draft sustainability goals to begin discussions at the community level.

Preparation for the Resolute Bay ICISP began in the fall of 2009. Background information was collected, analyzed, and organized into a detailed community profile (see Volume 2, Section 5).

A community consultation meeting was held in Resolute Bay on March 9, 2010. Initial findings from the research were presented to a group of community representatives, who used that background information to help determine what sustainability means to the community, what the sustainability goals of Resolute Bay are, and what infrastructure investments could help achieve those goals in the next five to twenty years. A community radio phone-in show was held in the evening to gather further community input on infrastructure issues and priorities. This public input was included in the development of the plan.

Input from the research and community meetings was analyzed into a draft ICISP, which was then submitted to CGS for review.

¹ Iqaluit was not included in this process.

The draft ICISP was finalized, translated, and provided to the Hamlet Council. The ICISP was then revised to reflect their input, and was submitted to CGS as a final report on this community's planning process.

2 Conditions Influencing Sustainable Infrastructure Needs and Priorities

The geography and climate of Nunavut contribute to the high cost of acquiring materials and services, and building and maintaining community infrastructure. Buildings, facilities, equipment and vehicles depreciate very quickly as a result of the harsh climate, conditions of use (e.g. local road conditions), poor storage conditions and inferior maintenance (e.g. lack of proper staff training and certification).

Nunavut's population is young and growing. This growth will put pressure on already overburdened infrastructure, including in areas such as housing, water, sewage and solid waste, and infrastructure systems in the public safety, education, health care and recreational sectors.

According to the 2008 Nunavut Economic Outlook, the key areas of employment in Nunavut are likely to be the public sector, mining, fisheries, oil and gas exploration, transportation and tourism. Sustainable community infrastructure must support existing economic activity and emerging opportunities in these sectors, stimulate economic diversification, and enable greater participation in mainstream and traditional economic activities.

The traditional economy is also an important component of life, well-being and sustainability. It contributes in-kind income, provides country food and traditional medicines, and incorporates commercial activity like soapstone carving, arts and crafts.

Social conditions are similar in most Nunavut communities. The number and condition of housing units is inadequate, a problem exacerbated by the lack of serviceable lots the poor condition of heavy equipment in the community, and lack of capacity to build access roads to new lots.

Overcrowding and poor housing conditions contribute to high rates of infant mortality, respiratory illness and violence.

Social conditions and trends suggest both a short-term and ongoing need for investment in community education, housing, health and recreation and related infrastructure systems.

While Inuit culture and language remain strong, these are increasingly under threat from southern cultural influences via modern communications technologies, reduced reliance on traditional foods and economic pursuits, the continued loss of Elders and traditional language speakers, and a growing disconnection between Elders and youth.

The protection and promotion of Inuit culture, language and heritage can be achieved through investment in infrastructure systems that support the traditional economy, recreational infrastructure and facilities that bring community members together to share and transmit culture, language and heritage.

2.1 Existing vision statements and major community goals that relate to the ICISP

As described in its CED Plan, Resolute Bay's approach to development is based on the Inuit connection to the land and on the principles of:

- Respect for Inuit *Qaujimajatuqangit* and modern knowledge;
- Sharing – having “enough” (not too little or too much);
- Community participation and ownership (local accountability);
- Building on strengths and assets that already exist;
- Meeting social goals by business/economic means;
- Simplicity and plain language;
- Collaboration, good relationships and partnerships;
- People working in association to use their individual talents and abilities for the benefit of the community.

The above principles, especially those highlighted in italics are closely tied to infrastructure sustainability goals that have been articulated for the ICISP project.

The CED also articulates the following elements of a community vision:

- Resolute Bay is a thriving, warm and inviting place
- Residents are well trained and employable
- Residents are adept in Inuit culture
- The local economy includes adequate infrastructure to meet the communities future needs, and a diverse set of businesses;
- The community looks after elders and youth
- The community has adequate resources to deal with social issues
- The community work effectively with governments and other organizations in providing strong recreational facilities
- The community encourages the development of Inuit traditional skills by building access roads to hunting and fishing locations
- Tourism is promoted by building a museum/visitors centre
- Resolute Bay is a hub of the high Arctic and for those travelling to the North Pole and magnetic north, utilizing its airport facilities with frequent jet services and establishing a breakwater to accommodate ships and small vessels
- The community encourages scientific research from all over the world.

3 Community Sustainability Goals and Priorities

As part of the Resolute Bay planning workshop, community participants reviewed eight general sustainability goals developed to help guide the preparation of ICISPs. These propose that sustainable community infrastructure should:

- Meet basic human needs.
- Achieve a sustainable economy and self-reliance.
- Ensure equitable access for all residents and financial sustainability.
- Promote individual and community health and well-being.
- Use resources efficiently.
- Reduce waste and hazardous waste.
- Protect and promote Inuit culture, heritage and language.
- Protect the environment and eco-systems.

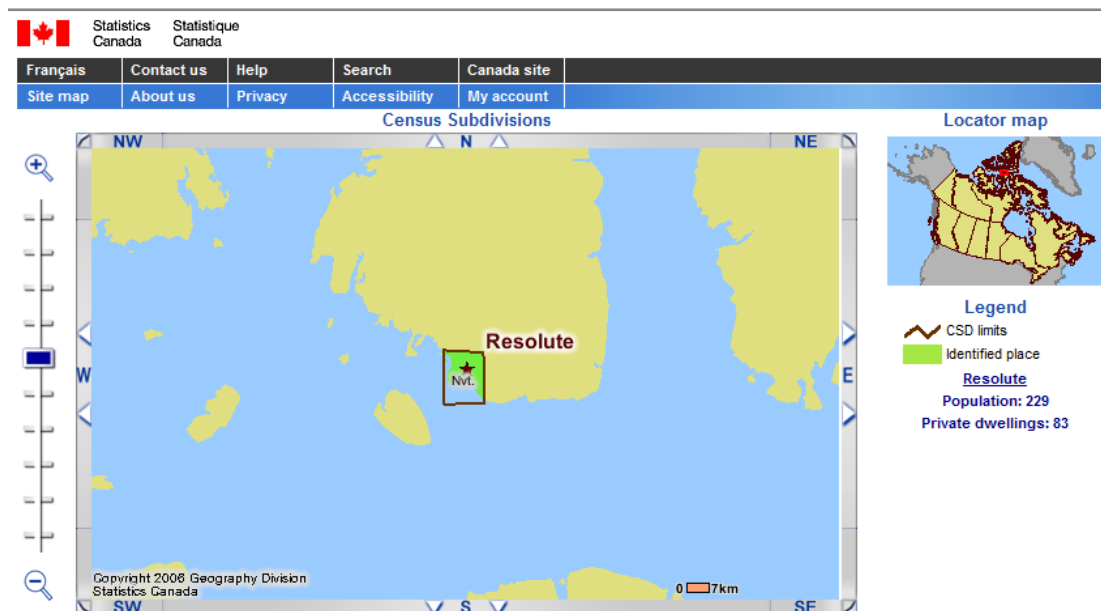
During the community consultations, stakeholders said that the community's two priority sustainability goals would be:

1. Infrastructure that protects and promotes Inuit, culture, heritage and language
2. Infrastructure that supports and maintains the requirements for life, providing access to clean drinking water, and an affordable, adequate and secure local food supply (both traditional and conventional).

4 Community Profile

4.1 Location and History

Resolute Bay, or *Qausuittuq*, is on the southern tip of Cornwallis Island facing the North West Passage, and is the second most northern community in Nunavut after Grise Fiord, at 74 degrees 42'N, 94 degrees 52' W.



Map 1 – Community of Resolute Bay

4.2 Demographics

The 2006 Census reported the total population of Resolute Bay to be 230, of which approximately 52.2% were female and 47.8% male.

The population grew 7.5 % between 1996 and 2001, and 7% between 2001 and 2006. This rate of growth was slightly lower than the territorial average of 10.2% in the same time period. Based on these rates of growth the estimated population of Resolute Bay in 2020 is 288.

Table 3. Total Census Population

Year	1996	2001	2006
Total Population	200	215	230
Females	100	115	120
Males	100	100	110

Source: Statistics Canada, 2006 Census, Community Profiles – Resolute Bay

Table 4 below provides a picture of the age composition of Resolute Bay's population, based on Census data. The average age of residents is 22.7 years, just slightly lower than the average age of all Nunavut residents at 23 years, and significantly lower than the general Canadian population which averages 39 years of age.

Resolute Bay's population is relatively young, with nearly 34.8% of the population under the age of 15. In Nunavut 34% of the population is under the age of 15 compared with the 18% of the Canadian population in this age cohort.

Table 4. Age Characteristics

Age Group	Total Population		
	1996	2001	2006
Total	200	215	230
Age 0 – 4 yrs	20	25	20
Age 5 – 14 yrs	40	45	60
Age 15 – 19 yrs	20	20	25
Age 20 – 24 yrs	15	20	15
Age 25 – 54 yrs	90	95	90
Age 55 – 64 yrs	5	15	15
Age 65 – 74 yrs	0	0	0
Age 75 yrs and over	5	0	0
Average age	27	24.5	22.7

Source: Statistics Canada, 2006 Census, Community Profiles – Resolute Bay

Table 5. Total Census Families

	Census	
	2001	2006
Total number of census families	50	55

Source: Statistics Canada, 2006 Census, Community Profiles – Resolute Bay

4.3 Economy

The economy in Resolute Bay can be characterized as mixed, with traditional subsistence activities, including hunting, fishing, trapping and gathering, coinciding with wage based economic activities.

Resolute Bay experiences higher participation rates² and higher unemployment rates than for the Territory as a whole. In the 2006 Census it was reported Resolute Bay had a participation rate of 80.6% and an unemployment rate of 16%. This compares to the territorial participation rate of 65.3% and an unemployment rate of 15.6% in 2006.

Table 6. Participation and Unemployment Rates

	Census		
	1996	2001	2006
Participation rate	74.1	71.4	80.6
Unemployment rate	0	10	16

Source: Statistics Canada, 2006 Census, Community Profiles – Resolute Bay

Table 8 below shows that residents participate in a variety of occupations, but are predominantly employed in: sales and service occupations; trades, transport and equipment operators and related occupations; and social science, education, government service and religion occupations.

Table 7. Experienced Labour Force by Occupation

	Census	
	2001	2006
Total experienced labour force 15 years and over	95	120
Management occupations	10	10
Business, finance and administration occupations	15	15
Natural and applied sciences and related occupations	10	10
Health occupations	0	0

² The participation rate is defined as the percentage of the population aged 15 and over that is in the labour force and either employed or unemployed.

	Census	
Social science; education; government service and religion	10	20
Art; culture; recreation and sport	0	10
Sales and service occupations	30	30
Trades; transport and equipment operators and related occupations	20	25
Occupations unique to primary industry	0	0
Occupations unique to processing; manufacturing and utilities	10	10

Source: Statistics Canada, 2006 Census, Community Profiles – Resolute Bay

4.4 Education

With respect to educational achievement the 2006 Census reported that, among the population age 15 and over, 53.3% had no certificate, diploma or degree (including high school), while 10% reported the highest level of educational achievement to be high school certificate or equivalent.

16.7% of the population reported a trades or apprenticeship-related certification or diploma as their highest level of educational achievement. With respect to other post-secondary education outcomes, 10% of residents reported a non-university diploma or certificate and 6.7% reported a university certificate, diploma or degree.

Table 8. Educational Attainment (Census 2006)

	Total	Male	Female
Total population 15 years and over	150	85	70
No certificate; diploma or degree	80	40	45
High school certificate or equivalent	15	15	0
Apprenticeship or trades certificate or diploma	25	15	10
College; CEGEP or other non-university certificate or diploma	15	10	0
University certificate or diploma below the bachelor level	0	0	10
University certificate; diploma or degree	10	10	10

Source: Statistics Canada, 2006 Census, Community Profiles – Resolute Bay

4.5 Housing

Table 9. Number of Private Dwellings

	Census	
	2001	2006
Total - Number of private occupied dwellings	70	70
Number of owned dwellings	20	20
Number of rented dwellings	50	45

Source: Statistics Canada, 2006 Census, Community Profiles – Resolute Bay

Table 10. Dwellings Requiring Major Repair

	Census	
	1996	2006
Dwellings requiring major repair - as a % of total occupied private dwellings	15=21.4%	35.7

Source: Statistics Canada, 2006 Census, Community Profiles – Resolute Bay

Table 11. Dwellings With More Than One Person Per Room

	Census	
	1996	2006
% of occupied dwellings with more than one person per room	19.9	0

Source: Statistics Canada, 2006 Census, Community Profiles – Resolute Bay

4.6 Summary

In view of demographic and socio-economic conditions in Resolute Bay reported above, it can be anticipated that overall growth and the aging of the 45% of the population under the age of 19 (as of 2006) will influence the demand for community infrastructure in key sectors for the next 15-20 years.

In the short and medium term housing, education and recreation infrastructure, and essential infrastructure systems such as water and waste will have increased demands placed upon them. In the medium term the need for infrastructure systems that support the economy and provide opportunities for economic diversification and stability will gain prominence. During the next twenty years other infrastructure systems, including

health services and facilities, public safety and security systems, and infrastructure that supports heritage, culture and arts will remain critically important to Resolute Bay as a sustainable community.

If development of high Arctic military, research or marine transport infrastructure occurs in the community, additional infrastructure development will occur in the community to support the growing demand for services. These developments will result in additional housing requirements, waste disposal and increased opportunities for employment of the local population as well as the addition of residents from other communities coming to Resolute Bay for permanent or temporary employment.

5 Infrastructure Worksheets

5.1 Hamlet Office

5.1.1 System ID

Infrastructure Category	Public Services / Community Governance
Infrastructure System	Hamlet Office

5.1.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
Hamlet Office with Gymnasium	1995	2035	25		Fair / Good
GN Government Office					

- Hamlet office was built onto / attached to the gymnasium
- Hamlet office is in fair/good physical condition. Carpeting should be removed. Walls between offices are too thin. New paint is required in the interior and protective coating on the exterior. Short-term investment is required. Investment in a Back-up generator for Community Gymnasium was identified as a community infrastructure priority for emergency preparedness.

- Office space is insufficient for current staff. Need another 2-3 offices to house all staff. Currently leasing space from GN. Small addition to the back of the building would add 3 more offices. Short-term investment is required.
- Plumbing needs to be addressed. Pipes freeze occasionally in staff area/kitchen – some insulation has been added but not properly installed. Skirting on building may cut down on wind underneath which would protect pipes from freezing and conserve heat.
- GN office building – houses Municipal Liaison Officer, Income Support and Community Justice worker (employees of hamlet but housed with GN) – condition of this building is not poor but facility is too small to accommodate staff.

5.1.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.1.4 Infrastructure Priorities (No Resources Have Been Committed)

NCIAC Priorities	2006	2008	2010
Expansion/Reno to Hamlet Office			1 out of 8
Hamlet Office Expansion	9 out of 10		4 out of 8*

*Hamlet office expansion was listed twice on the 2010 NCIAC list (as priority 1 and priority 4). It is unclear if there is a distinction between the two priorities.

5.1.5 Infrastructure Priorities Identified in Community Consultations

- Expand / Renovate Hamlet Office (short-term)

5.2 Municipal Garages

5.2.1 System ID

Infrastructure Category	Public Services / Municipal Services
Infrastructure System	Municipal Parking Garages, Warehouses and Related Buildings

5.2.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
2-Bay Maintenance and Storage Garage	Not known			Inadequate, requires the addition of 2-3 bays	Poor ventilation and wiring, code compliance issues
GN Public Works Garage (1 Bay)					

- No space in garage presently to perform maintenance and repairs. Vehicles and equipment must be repaired outdoors.
- Currently used to store loader and maybe one of graders. Otherwise, the majority of equipment must be stored outside.
- CGS is considering a new garage for community to allow separation of maintenance and parking/storage.

- Community consultations revealed that the 2-Bay Maintenance and Storage Garage needs 2-3 additional bays. Also need a lifter for motor engines. Needs more storage space for snow bucket, gravel bucket and forks as they are buried / freeze in yard. It was suggested a Quonset Hut could be used to store Hamlet equipment, which could also be used by Airport.

5.2.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.2.4 Infrastructure Priorities (No Resources Have Been Committed)

NCIAC Priorities	2006	2008	2010
Maintenance Garage Addition	3 out of 10		
Expansion / renovation of Hamlet Garage (2 bay)		3 out of 3	Not ranked
Workshop	10 out of 10		

5.2.5 Infrastructure Priorities Identified in Community Consultations

- Expand / Renovate 2-Bay Maintenance and Storage Garage (short term)

5.3 Municipal Vehicles

5.3.1 System ID

Infrastructure Category	Public Services / Municipal Services
Infrastructure System	Municipal Vehicles

5.3.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
2005 Chevrolet Silverado	2006	2013	3		Poor- need to be replaced
2003 Chevrolet Silverado	2003	2010	0		Poor- need to be replaced
2003 Chevrolet Tracker	2001	2008	(-2)	Used strictly as back-up	End of useful life
2009 Toyota Tacoma	2009	2016	6		
2009 Toyota Tacoma	2009	2016	6		
12ft x48ft Atco Trailer				Used for storage	

- Maintenance is a problem / challenge. Mechanic is not certified and because vehicle systems are computer based they are hard to maintain with local resources.
- Two new pickup trucks are needed as two of the old Silverados are in poor condition
- Municipal Vehicles need to be replaced on a regular cycle. Plan is required for rotating replacement of municipal vehicles.

5.3.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.3.4 Infrastructure Priorities (No Resources Have Been Committed)

- No priorities were identified by Council for NCIAC in 2006, 2008 and 2010.

5.3.5 Infrastructure Priorities Identified in Community Consultations

- Replace Municipal Vehicles that are at end of useful life (short term)
- Replace all Municipal Vehicles on a five-year rotating cycle (medium term)

5.4 Law Enforcement/RCMP Infrastructure

5.4.1 System ID

Infrastructure Category	Public Services / Public Safety
Infrastructure System	RCMP

5.4.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
RCMP Detachment	1997			2 officers, 3 cells - currently adequate	Good
Member Residence 1				Inadequate	Old, needs to be replaced
Member Residence 2				N/A	Old and burned, needs to be replaced

- Need to invest in new duplex to attract members. Will contribute to social and economic sustainability. Inadequate housing deters staff to transfer to Resolute and results in inconsistent service.

5.4.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund.
- Plan is in place to build one new two-plex to replace the two member residences in the short-term (2-5 years). Plan should be confirmed by end of March 2010 and would see the materials arrive on the 2010 barge and construction in summer of 2011.

5.4.4 Infrastructure Priorities (No Resources Have Been Committed)

- No priorities were identified by Council for NCIAC in 2006, 2008 and 2010.

5.4.5 Infrastructure Priorities Identified in Community Consultations

- Replace Staff Housing for RCMP (short term)

5.5 Fire Services Infrastructure

5.5.1 System ID

Infrastructure Category	Public Services / Fire Services
Infrastructure System	Municipal Vehicles

5.5.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
Fire Hall	1977	2017	7		Poor and is shifting. Costly to fuel and power because of little to no insulation.
Ford Fire Truck	1977	1997	(-13)		Poor
Freightliner Model FL80 Fire Truck	2003	2023	13		Good

- Community consultations identified that short-term investment is needed for retrofit of Fire Hall (i.e. new insulation, updated heating system, some electrical issues etc) and that Old Fire Truck is in poor condition and could use repair.

5.5.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.5.4 Infrastructure Priorities (No Resources Have Been Committed)

NCIAC Priorities	2006	2008	2010
Retrofit Hamlet fire hall	8 out of 10		3 out of 8

5.5.5 Infrastructure Priorities Identified in Community Consultations

- Repair Fire Hall (short term)
- Repair Fire Truck (medium term)

5.6 Search and Rescue Infrastructure

5.6.1 System ID

Infrastructure Category	Public Services / Search and rescue
Infrastructure System	Municipal Vehicles

5.6.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating

5.6.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.6.4 Infrastructure Priorities (No Resources Have Been Committed)

- No priorities were identified by Council for NCIAC in 2006, 2008 and 2010.

5.6.5 Infrastructure Priorities Identified in Community Consultations

- None identified

5.7 Power / Energy System Infrastructure

5.7.1 System ID

Infrastructure Category	Public Services
Infrastructure System	Power / Energy

5.7.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
QEC power plant	1971		10-15	More than what is needed	Good
Generator	2009	2031	21	320 kW	
Generator	1974	2035	25	350 kW	
Generator	2009	2043	33	550 kW	
Generator	2001	2019	9	320 kW	
Generator	2001	2115	115	320 kW	
5 diesel tanks				13,663,313 L	1 tank not used
8 gasoline tanks				4,332,584 L	3 tanks not active, 1 tank at the airport

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
7 Jet A-1 tanks				13,987,634 L	4 tanks at the airport

- Resolute has occasional power outages i.e. once per month, lasting 10-15 minutes, but system overall is robust. One tank farm can be good for a month if not filled weekly
- 2 new generators were installed fall 2009 which brings total to 5 inside and 1 emergency unit outside, but it will be shipped out soon so will no longer be part of the inventory.
- Diesel – The average growth in the yearly sales for diesel for the period 1999 – 2010 has been at the rate of 14.6%. Based on this rate, the existing capacity in the community will be adequate for the next five years.
- Gasoline – The average growth in the yearly sales for gasoline for the period 1999 – 2010 has been at the rate of 13.7%. Based on this rate, the existing capacity in the community will be adequate for the next five years.
- Jet A-1 – The average growth in the yearly sales for gasoline for the period 1999 – 2010 has been at the rate of 4.8%. Based on this rate, the existing capacity in the community will be adequate for the next five years.

5.7.3 Infrastructure Planned Investment (Resources Have Been Committed)

GN Capital Estimates	Dept.	Budget	Cap. Fund.	Years
Upgrade fuel facility and code compliance	PPD	2000k	GN main	2009-10

- GN has plans to introduce a new fuel efficient generator in Resolute. It will be shipped in 2010 and will be installed in the fall.

5.7.4 Infrastructure Priorities (No Resources Have Been Committed)

NCIAC Priorities	2006	2008	2010
Tank Farm Capacities and Code Compliance	Not ranked		
Wind Generator			8 out of 8

5.7.5 Infrastructure Priorities Identified in Community Consultations

- New Wind Generator (long term)

5.8 Infrastructure Supporting the Traditional Economy

5.8.1 System ID

Infrastructure Category	Economic Infrastructure
Infrastructure System	Traditional Economy

5.8.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
Freezer/Wildlife Building	1977	20+	-13	80%	Old, and in poor condition and breaking down

- Community freezer is maintained by CGS. There are some issues with the freezer and meat has been spoiled because of break-down. Parts need to be ordered and long-term investment is needed to replace both refrigeration systems which are no longer functional and to replace the electrical power pole and wiring and needs annual repair. External and internal condition of the building is good on appearance. Public Works has contracted maintenance to private company and it hasn't been fixed or maintained
- HTO rents an office from the Hamlet in the Recreation Hall, but is trying to get their own building and definitely needs their own space. HTA has future plans to start selling country food to other countries such as Japan and China so they will need a bigger freezer and they will charge to use the community freezer. Plus with climate change, the need for a freezer is even more important because of the warmer weather.

5.8.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.8.4 Infrastructure Priorities (No Resources Have Been Committed)

- No priorities were identified by Council for NCIAC in 2006, 2008 and 2010.

5.8.5 Infrastructure Priorities Identified in Community Consultations

- Replace Community Freezer and include Office for HTO (short term)

5.9 Transportation System – Road Maintenance Equipment and Vehicles

5.9.1 System ID

Infrastructure Category	Economic Infrastructure / Transportation
Infrastructure System	Transportation System - Equipment and Vehicles

5.9.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
Resolute Dump Road Bridge	1993				Fair/good
CAT Wheel Loader 936E	1991	2009	(-1)	In constant repair.	Beyond economic life, needs replacement. It needs an articulatory blade.
CAT Grader 140GVHP	1993	2011	1		Fair/good
CAT Loader 966	1975	1993	(-17)		Fair/good
Cat Bulldozer D6H Series II	1992	2010	0		Old, requires constant maintenance and needs to

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
					be replaced Needs new motor
International Harvester Backhoe 60	1972	1990	(-20)		
Snowblower Machine w/Attachments	2008	2026	16		
Ford F-800 Dump Truck	1991	1998	(-12)	Inadequate	
Ford LT8513 Dump Truck	1998	2005	(-5)		

- Cat Bulldozer is the only vehicle that is currently a significant problem as a result of age and requirement for constant maintenance. Considerations regarding maintenance in the community with computerized equipment. Need for replacement. All other equipment is in fair (and in some instances good) condition despite age.
- F-800 Dump Truck: too small, needs 18 foot box to carry a sustainable load. It lacks a computer so is also fuel inefficient.
- Compactor: need a stand alone compactor for gravel on road for dust control for health.

5.9.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.9.4 Infrastructure Priorities (No Resources Have Been Committed)

NCIAC Priorities	2006	2008	2010
Dozer	2 out of 10		

- 10.8 m Bridge to dump –monies may be allocated to replace the bridge under federal funding (running board removed and new timbers replaced) in 2010/11

5.9.5 Infrastructure Priorities Identified in Community Consultations

- Replace Resolute Dump Road Bridge (short term)
- Replace Loader (short term)
- Replace Dozer (short term)
- Replace Dump Truck (medium term)
- New Compactor (medium term)

5.10 Transportation System- Airport Infrastructure

5.10.1 System ID

Infrastructure Category	Economic Infrastructure
Infrastructure System	Airport

5.10.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
Airport Terminal	1998			648 m2. No issues	Good, but insulation requires repair
Garage (large, multi bay)	1999				Good
Taxiway/Apron	2003			56 620 m2. No issues	Good
Runway	2003			120,841 m2. No issues	Good
FEC	2005				Good
Runway Edge Lighting	2009				Good
Ford Pickup Truck - Administrative	2008				Good

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
Ford Pickup Truck - Runway	2003				Good
Ford Pickup Truck - Runway	1996				Fair
Suburban Truck - Trades	1989				Fair
Truck - Dump/Plow S/A	1991				Fair
Truck - Tractor	1979				Fair
Trailer - Dump	1979				Fair
Volvo Wheel Loader	1985				Fair
Champion Motor Grader	1995				Good
Snowblower - Self-Propelled	1985				Fair
Loader 950H	2006				Excellent
Snowblower Attachment	2008			No issues	Excellent

- Hamlet has contract for airport maintenance
- Airport terminal is in good condition. However, insulation was not properly installed in walls. Funding is required to address this.

- Maintenance Garage is used for storage of equipment.
- Old 5-bay garage not used except for storage of one vehicle, parts and airport junk.
- Gravel runway causes high cost of freight because only old aircrafts can be used as new jets aren't gravel runway certified. Paving of runway is required to reduce cost of travel and freight.

5.10.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.10.4 Infrastructure Priorities (No Resources Have Been Committed)

- No priorities were identified by Council for NCIAC in 2006, 2008 and 2010.
- Community consultation revealed that funding is required to tear-down two old buildings. Will happen this summer if funding is available.

5.10.5 Infrastructure Priorities Identified in Community Consultations

- Renovate Airport Runway (short to long term)
- Repair Airport Terminal (short term)

5.11 Transportation System- Marine Infrastructure

5.11.1 System ID

Infrastructure Category	Economic Infrastructure / Marine
Infrastructure System	Marine Infrastructure Systems

5.11.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating

- Sea lift makes use of open beach area. Otherwise, there is no dedicated infrastructure

5.11.3 Infrastructure Planned Investment (Resources Have Been Committed)

- Tender made and contractor hired to build a small harbour area with installation of new floating dock in 2010/11.

5.11.4 Infrastructure Priorities (No Resources Have Been Committed)

- No priorities were identified by Council for NCIAC in 2006, 2008 and 2010.
- Community consultations did not identify any infrastructure needs, but the Nunavut Transportation Strategy identified the following priorities:
 - Breakwater (but there is a lack of local material).

- SCH marine breakwater facility to protect local boaters.

5.11.5 Infrastructure Priorities Identified in Community Consultations

- New Breakwater (short term)

5.12 Communications

5.12.1 System ID

Infrastructure Category	Economic Infrastructure / Communications
Infrastructure System	Communications

5.12.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
Post Office	1978	2018	8		

- Investment in cell phones service would contribute to social sustainability
- Developing a new independent community radio frequency would contribute to cultural and social sustainability. Investment is also needed at the current station as it goes down because of weather and bad lines- currently it needs a new mixer and microphone equipment.

5.12.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.12.4 Infrastructure Priorities (No Resources Have Been Committed)

- No priorities were identified by Council for NCIAC in 2006, 2008 and 2010.

5.12.5 Infrastructure Priorities Identified in Community Consultations

- New Independent Radio Station or Repair Radio Station (short term)
- New Cell Phone Service (medium term)

5.13 Commercial Facilities

5.13.1 System ID

Infrastructure Category	Economic Infrastructure / Commercial
Infrastructure System	Commercial Facilities

5.13.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
Tudjaat Co-op					
Qausuittuq Inns North					
South Camp Hotel					
Narwhal Hotel					

- Community consultation suggested another store be set up to compete with Northern
- Additional hotel being built in 2010

5.13.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.13.4 Infrastructure Priorities (No Resources Have Been Committed)

- No priorities were identified by Council for NCIAC in 2006, 2008 and 2010.

5.13.5 Infrastructure Priorities Identified in Community Consultations

- New Retail Store (medium to long-term)

5.14 Heritage, Language and Arts

5.14.1 System ID

Infrastructure Category	Cultural Infrastructure
Infrastructure System	Heritage, Language and Arts

5.14.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating

- Community wants to establish a Heritage and Cultural Centre. It would need to be independent and run their own programs, but could be part of a larger Recreation Centre and be combined with a Library, offices, weight room, indoor playground area, skatepark, basketball courts, rollerblading.

5.14.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.14.4 Infrastructure Priorities (No Resources Have Been Committed)

NCIAC Priorities	2006	2008	2010
Elders & Heritage Centre	5 out of 10		5 out of 8

5.14.5 Infrastructure Priorities Identified in Community Consultations

- New Heritage Centre with an Elders and Youth and Recreation Centre (medium term)

5.15 Recreation Infrastructure

5.15.1 System ID

Infrastructure Category	Cultural Infrastructure
Infrastructure System	Recreation Infrastructure

5.15.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
Hamlet Gymnasium	1989	2029	19		Fair to Poor
Recreation Hall (Quonset Hut)	1977	2007	(-3)		Fair
Baseball Diamond	1994	2012	2		Poor- not really a diamond, needs replacement
Playground	1994	2012	2		Poor- small, needs replacement

- Elders and Youth Centre: long-term investment is required for a new Elders and Youth Centre and would contribute to social and cultural sustainability. They would need to be independent and run their own programs, but they could be part of a larger

Recreation Centre and be combined with a Library, an office with the HTO, weight room, indoor playground area, skatepark, basketball courts, rollerblading.

- Recreation Hall is a Quonset and includes post office and radio station in upper area. Condition is fair – could use paint job or carpeting. Community would like to expand upstairs of Recreation Hall to increase floor space. Need a new Recreation Hall.
- The school has no gym but the Hamlet does. The gymnasium attached to Hamlet Office is used for community meetings- needs repair and renovations. Condition is below fair though not completely poor; serious structural issues are developing i.e. beams popping up in flooring; one of the walls looks like it is separating and large crack is developing. Has been mentioned to CGS as a need for an engineering review. Needs preventative maintenance before condition worsens. Original plan called for backup generator for emergency purposes in the community. May be an infrastructure need now. Also original plan called for shower facility in gymnasium but this was never built.
- Community would like bike paths and picnic area that is closer, and additional summer recreation programming.
- Community wants to establish a Heritage and Cultural Centre combined with a recreation centre - New Arena, work-out gym and equipment.
- The development of a new arena is currently on hold because there are problems with the design. It will be delayed if not resolved. Consultations revealed a desire for a new recreation centre over a new arena.

5.15.3 Infrastructure Planned Investment (Resources Have Been Committed)

GN Capital Estimates	Dept.	Budget	Cap. Fund.	Years
Arena	CGS	9031k	8021k GN main 1010 MRIF	2010-12

5.15.4 Infrastructure Priorities (No Resources Have Been Committed)

NCIAC Priorities	2006	2008	2010
Arena/Community Hall	1 out of 10		
Gymnasium - backup generator	7 out of 10	1 out of 3	
Completion/Repair Hamlet Gym			2 out of 8
Arena	Not ranked		
Swimming Pool			7 out of 8

5.15.5 Infrastructure Priorities Identified in Community Consultations

- Repair Hamlet Gymnasium (short term)
- Replace Playground (short term)
- Replace Baseball Diamond (medium term)
- Replace Recreation Hall with Multi-purpose Recreation Centre (medium term)

5.16 Elders and Youth Facilities

5.16.1 System ID

Infrastructure Category	Cultural Infrastructure
Infrastructure System	Elders and Youth Infrastructure

5.16.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating

- Elders and Youth Centre (see RECREATION, ARTS AND HERITAGE)

5.16.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.16.4 Infrastructure Priorities (No Resources Have Been Committed)

NCIAC Priorities	2006	2008	2010
Elders & Heritage Centre	5 out of 10		5 out of 8

5.16.5 Infrastructure Priorities Identified in Community Consultations

- New Heritage Centre with an Elders and Youth and Recreation Centre (medium term)

5.17 Health Infrastructure

5.17.1 System ID

Infrastructure Category	Health Infrastructure
Infrastructure System	Health Infrastructure

5.17.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
Health Centre / Residence	1983			2 nurses. Too small	Fair
Office for Social Worker (in old School)				Inadequate, privacy concerns	Poor

- The Health Centre has two full time nurses. A doctor visits every three or four months. Optometrists and dentists visit a couple of times a year. Specialist services are obtained in Iqaluit or Ottawa. Serious medical situations are flown to Iqaluit, Ottawa, or Montreal.
- Health Centre was converted from the old Nursing Station and it's starting to show its age. There are issues with the windows letting in snow and wind which increases heating costs. The sewage part of the Utilidor is not functioning and there are horrible sewage smells, especially in the nurses' residence. The floor has started lifting after an earthquake. There are also electrical shortage issues (i.e. not enough power to run dentistry and do laundry at the same time) which also limit them from having additional computer equipment. A Structural Assessment Report was done by CGS last spring which included long-term planning.

- There are also issues with email system being inadequate as they share bandwidth with whole community and x-rays or urgent emails with specialists can't be sent because the school is using up the bandwidth. They are also at the limit of phone lines that they can use.
- Health Centre is too small for all the services that are currently offered or those that could be offered. There is no space for an office for the Social Worker and no space for a new position for a community health officer (if hired, would have to share office). There is a lack of space to store equipment (i.e. scanner is still in box because no room to set it up), so can't get supplies on sea-lift. One residence is used as storage and since there is no maintenance employee, nurses are forced to carry the supplies up and down the stairwell which is not up to code.
- The Social Worker's office is inadequate because it is in the old school that is shared with other organizations in the community and there are privacy concerns because the walls are thin - since the electrical panel is in the Social Worker's office, CGS has access for maintenance so there are confidentiality issues as well. The roof is also leaking into the office. Consequently, it is inappropriate to offer services in that office since you are dealing with abuse.
- Bringing the social worker to the Health Centre would require that there be a separation or doorway between the two to block access to the medical equipment and the residence and also to assure confidentiality and privacy.

5.17.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.17.4 Infrastructure Priorities (No Resources Have Been Committed)

- No priorities were identified by Council for NCIAC in 2006, 2008 and 2010.

5.17.5 Infrastructure Priorities Identified in Community Consultations

- Expand / Renovate / Repair Health Centre (short term)

5.18 Elementary and High School Infrastructure

5.18.1 System ID

Infrastructure Category	Education Infrastructure
Infrastructure System	Elementary/High School Infrastructure

5.18.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
Qarmartalik School	1985, ren. in 2004			559 sq. m 67 out of 104 students currently enrolled = 64% utilization rate	

- Qarmartalik School (K-12) was renovated 5-10 years ago with an extension. Investment to expand the school with a new School Gym, a Daycare and an office for learning disabilities was identified as the second highest priority by stakeholders during the community consultations. A School Gym is desired, because of the danger to children’s health (cold + sweat = sick) and safety (ice, polar bears, dogs, etc.).

5.18.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.18.4 Infrastructure Priorities (No Resources Have Been Committed)

NCIAC Priorities	2006	2008	2010
School gym (attached to school)		2 out of 3	6 out of 8

5.18.5 Infrastructure Priorities Identified in Community Consultations

- Expand School with a new School Gym, a Daycare and an office for learning disabilities (medium term)

5.19 Daycare Infrastructure

5.19.1 System ID

Infrastructure Category	Education Infrastructure
Infrastructure System	Daycares

5.19.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
Day Care Facility				Currently closed	Was flooded in 2009

- The daycare was flooded in 2009 and has been closed since. As far as they know, no repairs have been done by contractor. Investment is required to renovate/repair it.

5.19.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.19.4 Infrastructure Priorities (No Resources Have Been Committed)

- No priorities were identified by Council for NCIAC in 2006, 2008 and 2010.

5.19.5 Infrastructure Priorities Identified in Community Consultations

- Repair / Renovate Daycare (short term)

5.20 Adult Education Infrastructure

5.20.1 System ID

Infrastructure Category	Education Infrastructure
Infrastructure System	Adult Education

5.20.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
Adult Education Centre				Capacity of 15 to 20 students	Good, but old

- The Nunavut Arctic College Community Learning Centre has an office in the community. It has a capacity of about 15 students in one classroom and one computer lab. Generally in good repair, but is older. Investment will be required to renovate it in the long term, or possibly expand depending on what programs are run. Ongoing investment in NAC will support the successful delivery of cultural literacy, upgrading, academic and trades programs.

5.20.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.20.4 Infrastructure Priorities (No Resources Have Been Committed)

- No priorities were identified by Council for NCIAC in 2006, 2008 and 2010.

5.20.5 Infrastructure Priorities Identified in Community Consultations

- Renovate / Expand NAC (long term)

5.21 Public Housing

5.21.1 System ID

Infrastructure Category	Housing Infrastructure
Infrastructure System	Public Housing

5.21.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
29 Single Family Housing Units	19 Pre-1990 7 Post-1990 3 No Date				
4 Duplex	2 Pre-1990 2 Post-1990				
5 Multi-Family Units	5 Post-1990				
1 Office / Warehouse					
2 Storage					

- There is a need for increased housing infrastructure to provide affordable, adequate and appropriate housing to community residents.

- In 2008, there were a total of 38 units, of which at least 55% were constructed pre-1990. Unfortunately no condition rating data was available. Given this, it can be anticipated that investment in new public housing stock, replacement of aging housing stock and/or renovation of existing housing stock will be required within the medium to long-term.
- Need professionals to address the issue of new doors on public houses.

Number of Private Dwellings

	Census	
	2001	2006
Total - Number of private occupied dwellings	70	70
Number of owned dwellings	20	20
Number of rented dwellings	50	45

Source: Statistics Canada, 2006 Census, Community Profiles – Resolute Bay

Dwellings Requiring Major Repair

	Census	
	1996	2006
Dwellings requiring major repair - as a % of total occupied private dwellings	15=21.4%	35.7

Source: Statistics Canada, 2006 Census, Community Profiles – Resolute Bay

Dwellings With More Than One Person Per Room

	Census	
	1996	2006
% of occupied dwellings with more than one person per room	19.9	0

Source: Statistics Canada, 2006 Census, Community Profiles – Resolute Bay

5.21.3 Infrastructure Planned Investment (Resources Have Been Committed)

GN Capital Estimates	Dept.	Budget	Cap. Fund.	Years
M&I retrofit	NHC	487k	263k GN main 224k CMHC	2009-14

NHC Capital Projection (AHI)	SFD	Duplex	Multi-plex	Years
3 units	3			2010-11

5.21.4 Infrastructure Priorities (No Resources Have Been Committed)

- No priorities were identified by Council for NCIAC in 2006, 2008 and 2010.

5.21.5 Infrastructure Priorities Identified in Community Consultations

- Renovation of existing housing (short term)
- Service building lots zoned for residential development of various density (medium term)

- Construction of new units for single persons, and large families (medium term)
- Construction of new units of all sizes (long term)

5.22 Staff Housing

5.22.1 System ID

Infrastructure Category	Housing Infrastructure
Infrastructure System	Staff Housing

5.22.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
2 Staff Houses	1970s			In need of renovation before they can be used	Poor- old

- Community consultations revealed that there are no available municipal staff houses.
- The Polar Continental Shelf Project (scientific research) building houses 50-60 individuals and is being expanded in 2010 (Federal staff housing)

5.22.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.22.4 Infrastructure Priorities (No Resources Have Been Committed)

- No priorities were identified by Council for NCIAC in 2006, 2008 and 2010.

5.22.5 Infrastructure Priorities Identified in Community Consultations

- Renovate 2 Staff Houses (short term)
- Improve planning process to link staff housing unit development with new GN capital projects/infrastructure development (medium term)

5.23 Water

5.23.1 System ID

Infrastructure Category	Environmental Infrastructure
Infrastructure System	Water

5.23.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
Water Supply – Pump-house	1975	2005	(-5)		Good, but old
Water Treatment Plant & Tank	1975	2005	(-5)		Good
Utilidor					Very poor

- Trucked water service provided only to airport and RCMP under contract.
- Water system based on intake from lake to pumping station; pumping station to treatment plant; treatment plant includes storage tank and chlorination system; distribution through utilidor
- Water treatment plant had two new boilers installed in 2009 and is in good condition.
- Utilidor system is in very poor condition and needs replacement. System has never been subject to preventive maintenance. Considered at the point of catastrophic failure and it would cost approximately \$28 million to fix as it costs \$25-30k to replace a

line. Investment to replace Utilidor was identified by stakeholders as the highest infrastructure priority during community consultations.

- Utilidor system is owned by CGS but under service agreement Hamlet manages water and sewer services. Discussion has been around switching over to an all-trucked water and sewage service or major renovation or replacement of utilidor. Utilidor is presently being investigated and evaluated by Trow – review to be completed by end of April.
- Water costs have tripled because of increased heating costs for utilidor (i.e. costly to heat water).
- Houses likely cannot accommodate new water tanks making the trucked system less viable. Property boundaries are too small to allow septic systems to be installed.
- Water truck is owned by contractor who maintains the utilidor. This person is also the maintenance and fuel contractor for the utilidor.

5.23.3 Infrastructure Planned Investment (Resources Have Been Committed)

- No planned investments identified in GN Capital Plan Estimates, Gas Tax Fund, Municipal Rural Infrastructure Fund, Building Canada Fund, or other funds.

5.23.4 Infrastructure Priorities (No Resources Have Been Committed)

NCIAC Priorities	2006	2008	2010
Sewage and Water Works / Utilidor	Not ranked		Not ranked, but high priority

5.23.5 Infrastructure Priorities Identified in Community Consultations

- Replace Utilidor (short term)

5.24 Wastewater and Sewage Disposal

5.24.1 System ID

Infrastructure Category	Environmental Infrastructure
Infrastructure System	Wastewater and Sewage Disposal

5.24.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
Sewage Macerator and Building	1975	2005	(-5)	Not operational	
Utilidor					Very poor- see Water Infrastructure

- There is a grinding mechanism (macerator) at the end of the utilidor which is intended to make the waste lighter/smaller. SAO reports this is not functioning. Therefore there is no sewage treatment plant. All sewage is pumped into the bay creating problems with pollution and water quality- it contaminates, clams, fish, sea cucumbers and sea urchins.
- Project planning phase now with two consultants working. No conclusions yet re: new utilidor or trucked system.
- There are three water license (one for hamlet sewage lagoon, one for GN (??) and one for Airport sewage lagoon).
- There is a warehouse, but it is just an empty shell that is a fire hazard and would not meet government standards. It is used as storage for school, Hamlet, Housing and other organizations in the community.

As noted in the Water Infrastructure analysis above, the utilidor pipes are in poor condition. They were built in 1975 and had a 20-year design guideline. It was maintained by Public Works so it was easy, but then it was contracted out and the pipes have cracked and leaked and it's getting worse. The contractor had no experience.³ Utilidor break-down has caused the lake in front of Co-op to be 4-feet higher and land has been converted to mud and when the mud freezes, it cracks. Inuvik has an above ground utilidor with a solid cover- a study is being done to analyze this possibility.

5.24.3 Infrastructure Planned Investment (Resources Have Been Committed)

GN Capital Estimates	Dept.	Budget	Cap. Fund.	Years
Sewage and water works	CGS	5280k	2090 GN main 1100K CSIF	2009-11

- Currently in the Project planning phase to determine if new utilidor or trucked system, but no conclusions yet.

5.24.4 Infrastructure Priorities (No Resources Have Been Committed)

NCIAC Priorities	2006	2008	2010
Sewage and Water Works / Utilidor	Not ranked		Not ranked, but high priority

5.24.5 Infrastructure Priorities Identified in Community Consultations

- Replace Utilidor (short term)

³ The length of the contract was not known at the time of consultation.

5.25 Solid Waste

5.25.1 System ID

Infrastructure Category	Environmental Infrastructure
Infrastructure System	Solid Waste

5.25.2 System Description: Technical

Component Asset	Acquired (Year)	Projected Useful Life (Year)	Years of Remaining Life	Capacity / Utilization	Condition Rating
Ford F350 Garbage Truck	2008			Inadequate	Requires 4-wheel drive which would cost \$15-20k
Landfill Site				Inadequate and too close to water	Poor, lacks fencing

- Ford F350 is only two wheel drive while the community requires a four wheel drive garbage truck. A fix for this is available at a cost of \$15K to \$20K.
- Landfill site is in poor condition and inadequate- at capacity, too close to water, and lacks fencing. It is to the point where INAC and Water Board have concerns about waste management. There is a lack of segregation of metals and other wastes.
- Community has identified two potential sites for the new landfill site.
- Garbage Truck: engine is blown and it gets stuck. It is currently standard and would require to be automatic with a proper box

5.25.3 Infrastructure Planned Investment (Resources Have Been Committed)

GN Capital Estimates	Dept.	Budget	Cap. Fund.	Years
Landfill-Bulky Metals		900k	Gas tax	2009-10
Land Fill Site		750k	Gas tax	2009-10

5.25.4 Infrastructure Priorities (No Resources Have Been Committed)

NCIAC Priorities	2006	2008	2010
Landfill-Bulky Metals	4 out of 10		
Land Fill Site	6 out of 10		

5.25.5 Infrastructure Priorities Identified in Community Consultations

- Renovate Garbage Truck (short term)
- New Landfill Site (short term)

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7 Interviewees, consultation calendar, and list of local meeting participants

Consultations on the development of this Integrated Community Infrastructure Sustainability Plan included interviews with key officials responsible for or knowledgeable about existing infrastructure and infrastructure needs in Resolute Bay. This included interviews or informal meetings with the following individuals either prior to, during or following community based consultation activities:

Consultations on the Integrated Community Infrastructure Sustainability Plan were held in Resolute Bay on March 9, 2010. An initial planning workshop was held with representatives of governments and organizations, followed by a community radio phone in show in the evening to gather further community input on infrastructure issues and priorities. This public input was included in the development of the plan.

Workshop – Stakeholders

- Ryan Paquette, Electronics Technologist, NAV Canada
- Ted Munro, Constable, RCMP
- Duncan Walker, SAO, Hamlet of Resolute Bay
- Micheal Buurman, Community Social Services Worker, Government of Nunavut, Social Services
- Hanna Wolff, Adult Educator, Nunavut Arctic College
- Tracy Kalluk, Housing Chair, Resolute Bay Housing, Hamlet Council
- Joadamee Amagoalik, Recreation Coordinator, Hamlet of Resolute Bay
- Nancy Amarualik, Manager, Hunters and Trappers Association
- Tabitha Mullin, Translator, Public Interest
- Simon Idlout, Elder, Resolute Bay
- Monica Idlout, Chair, District Education Authority