



April 4th, 2019

Mackenzie Valley Land and Water Board  
7<sup>th</sup> Floor, 4922 48 Street  
Yellowknife, NT  
X1A 2P6

Attention: **Erica Janes**  
**Regulatory Specialist**  
[ejanes@mvlwb.com](mailto:ejanes@mvlwb.com)

RE: **Fort Liard Water Licence Renewal**  
**Current License number: MV2009L3-0025**  
Licence no longer in effect as of February 29th 2020

Dear Ms. Janes,

The Hamlet of Fort Liard is pleased to submit the following application for a Water Licence renewal, effective March 1st 2020. The following documents have been included for the complete submission of the Water Licence application:

- Fort Liard WL Application Form
- Fort Liard WL Questionnaire Application
  - Fort Liard Background Report 2019
- O&M Plan for SWDF
  - Fort Liard SWDF and SDF Maps
  - Fort Liard SWDF Drawings
- O&M Plan for SDF
  - Fort Liard Desludging Plan
  - Fort Liard Water Quality Results P1
  - Fort Liard Water Quality Results P2
  - Fort Liard Water Quality Results P3
  - Fort Liard Water Quality Results P3
  - Fort Liard Water Quality Results P5
  - Fort Liard Sewage Lagoon Capacity Study - Dec 2015
- O&M Plan for WTP
  - Fort Liard WTP Drawing P1
  - Fort Liard WTP Drawing P2
  - Fort Liard WTP Drawing P3
- Spill Contingency Plan
  - Fort Liard Community Plan
  - Fort Liard Spill Contingency Map
  - Fort Liard MSDS Sheets

Please note that preliminary screening has not been completed since 2003; as the municipal operations have undergone changes since that, it is recommended that preliminary screening be performed again. Please do not hesitate to contact the Hamlet with any comments or concerns. The Hamlet Senior Administrator, Mike Rudkin, can be reached at 867-770-4104 extension 104 ([sao@fortliard.com](mailto:sao@fortliard.com)). Thank you for your time and consideration throughout the completion of the application process.

Alan Harris  
Manager Municipal Operations  
Hamlet of Fort Liard  
867-770-4104 ext.103  
[mws@fortliard.com](mailto:mws@fortliard.com)



Received: May 16, 2019  
File #: MV2019L3-0007  
Copied to: EJ / Reg



# Mackenzie Valley Land and Water Board

7th Floor - 4922 48th Street, PO Box 2130

Yellowknife, NT. X1A 2P6

☎ 867-669-0506

☎ 867-873-6610

🌐 mvlwb.com

## Water Licence Application Form

(Subsection 6(1) of the Northwest Territories Water Regulations)

APPLICATION/LICENCE NO: MV2009L3-0025

(Amendment or Renewal only)

### 1. NAME AND MAILING ADDRESS OF APPLICANT

Applicant's Name	<u>Hamlet of Fort Liard</u>		
Mailing Address	<u>174 Valley Main Street</u>		
Community	<u>Hamlet of Fort Liard</u>		
Prov/Terr	<u>NT</u>	Postal Code	<u>X0G 0A0</u>
Telephone	<u>867-770-4104</u>	Fax	<u>867-770-4004</u>
Email	<u>sao@fortliard.com</u>	Other	<u></u>

### 2. ADDRESS OF HEAD OFFICE IN CANADA IF INCORPORATED

Mailing Address	<u></u>		
Community	<u></u>		
Prov/Terr	<u></u>	Postal Code	<u></u>
Telephone	<u></u>	Fax	<u></u>

### 3. LOCATION OF UNDERTAKING

(Describe and attach a map, indicating watercourses and location of any proposed waste deposits)

Please see attached map.

Longitude 123° 28' W

Latitude 60° 14' N

**4. DESCRIPTION OF UNDERTAKING**

(Describe and attach plans)

Water License is required to (a) obtain water for consumption and (b) dispose of municipal sewage and solid waste. See attached plans of all relevant facilities.

**5. TYPES OF UNDERTAKING**

Municipal

Water and waste used/generated by the population of Fort Liard from daily lifestyle activities.

**6. WATER USE**

To obtain water

Water use for residential purposes.

**7. QUANTITY OF WATER INVOLVED**

(Litres per second, litres per day or cubic metres per year, including both quantity to be used and quality to be returned to source)

Maximum water use of 40,000 cubic meters.

**8. WASTE DEPOSITED**

(Quantity, quality, treatment and disposal)

Sewage Waste is predicted to be equivalent to water use. Sewage is treated in a lagoon, please see attached O&M manual for details. Using MACA standard formula for estimating the amount of solid waste deposited into a Solid Waste Facility: Volume per person per day (0.015 cubic meters) X number of days X population (2018 = 658) = domestic trash deposited into Solid Waste Facility. Based on this year's total (0.015 X 365 X 658 = 3602.550 cubic meters) the predicted waste generation for the next 10 years is 36,025.5 cubic meters.

**9. OTHER PERSONS OR PROPERTIES AFFECTED BY THIS UNDERTAKING**

(Give name, mailing address and location; attach list if necessary)

Environment and Climate Change Canada, 351 St Joseph Blvd, Room 7034,  
Gatineau Quebec, K1A 0H3  
Environment and Natural Resources, PO Box 1320, Yellowknife, NT, X1A 2L9

**10. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION**

Possible impact on environment due to waste treatment is monitored via groundwater sampling and maintenance of facilities. Please see attached O&M manuals for details.

**11. CONTRACTOR AND SUB-CONTRACTORS**  
(Names, addresses and functions)

ROH20  
#4, 26312 Township Rd 514  
Spruce Grove, AB T7Y 1C8  
(780) 478 4507

**12. STUDIES UNDERTAKEN TO DATE**  
(Attach list if necessary)

Please see attached O&M manuals for relevant studies.

**13. PROPOSED TIME SCHEDULE**

Start Date: 01-Mar-2020  
Completion Date: 2/28/30

Mike Rudkin

\_\_\_\_\_  
Name (Print)

SAO

\_\_\_\_\_  
Title (Print)

  
\_\_\_\_\_  
Signature

28-Mar-2019

\_\_\_\_\_  
Date

**FOR OFFICE USE ONLY**

Application Fee      Amount: \_\_\_\_\_      Receipt No.: \_\_\_\_\_  
Water Use Deposit    Amount: \_\_\_\_\_      Receipt No.: \_\_\_\_\_

*Please make all cheques payable to the Receiver General for Canada.*

# MVLWB

## Municipal Water Licence Questionnaire Application

May 19, 2016

Mackenzie Valley Land and Water Board  
Gwich'in Land and Water Board  
Sahtu Land and Water Board  
Wek'èezhii Land and Water Board



*Mackenzie Valley Land and Water Board*

**Municipal Water Licence Questionnaire Application**

***Applicant Information***

<b>Community Name:</b>	
<b>Community Status:</b> (City, Village, Town, Hamlet, Settlement Corporation)	
<b>Contact Person:</b>	
<b>Contact Phone Number:</b>	
<b>Contact Email:</b>	
<b>Fax Number:</b>	
<b>Postal Address:</b>	

***Community Population (Refer to: <http://www.statsnwt.ca/population/community-projections/>)***

	<i>Year</i>	<i>Population (Use Projections from www.statsnwt.ca)</i>
<b>Current Year:</b>		
<b>Year +1:</b>		
<b>Year +2:</b>		
<b>Year +3:</b>		
<b>Year +4:</b>		
<b>Year +5:</b>		

***Health Concerns***

Please indicate if there have been any health concerns with the operation or maintenance of any facilities.

<b>Facility</b>	<b>Concerns</b>
Water Treatment Plant	
Water Storage Facility (Reservoir)	
Wastewater Treatment System (Lagoon)	
Solid Waste Facility (Landfill)	



**Environmental Concerns**

Please indicate if there have been any environmental concerns with the operation or maintenance of any facilities.

Facility	Concerns
Water Treatment Plant	
Water Storage Facility (Reservoir)	
Wastewater Treatment System (Lagoon)	
Solid Waste Facility (Landfill)	

**Facility Condition**

Please indicate the general condition of the existing facilities.

Facility	Condition (Satisfactory/Unsatisfactory)	If unsatisfactory, please explain
Water Treatment Plant		
Water Storage Facility		
Wastewater Treatment System (Lagoon)		
Solid Waste Facility (Landfill)		



### **Upgrades**

Please indicate if any changes or upgrades to the existing facilities are planned. If yes, please describe changes and attach a copy of the plan, if available.

<b>Facility</b>	<b>Planned Upgrade</b>	<b>Reason for Upgrade</b>	<b>Date of Planned Upgrade</b>
Water Treatment Plant			
Water Storage Facility			
Wastewater Treatment System (Lagoon)			
Solid Waste Facility (Landfill)			

### **Abandoned and Restored Facilities**

<b>Abandoned Facilities</b>	<b>Location(s)</b>	<b>Abandoned? (Y/N)</b>	<b>Restored? (Y/N)</b>
Water Treatment Plant			
Water Storage Facility			
Wastewater Treatment System (Lagoon)			
Solid Waste Facility (Landfill)			



## Studies

Please list and attach any relevant reports and studies related to regional or local water quality, water use, water storage, water treatment, wastewater treatment and solid waste management in the community

Study Name	Year	Information Covered	Please attach or provide hyperlink here

## The Mackenzie Valley Land and Water Board

[www.mvlwb.com](http://www.mvlwb.com)

Box 2130  
7th Floor - 4922 48th Street  
Yellowknife, NT X1A 2P6

Phone: (867) 669-0506  
Fax: (867) 873-6610



**DILLON**  
CONSULTING

HAMLET OF FORT LIARD

# Background Report

Community Plan and Zoning Bylaw Update

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A	Community Consultation Record
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## 1.0 Introduction

The background research and recommendations contained in this report assembles information and knowledge that was considered in preparing a Community Plan for the Hamlet of Fort Liard. The results and analysis contained in the Background Report will provide the Hamlet with a record of the process used to create a Community Plan, including feedback from stakeholders and community consultation. Data collected will also be useful for the next regular review of the Community Plan, by providing a baseline for measuring change.

It should be recognized that accurate information is not always available, or may be incomplete. Recommendations are included in this report, identifying where better information could assist the community in future land use planning.

Comments or questions about the report should be directed to:

Margaret Kralt  
Project Manager  
Dillon Consulting Limited  
Phone: (867) 920 4555 ext. 4105  
Email: [mkralt@dillon.ca](mailto:mkralt@dillon.ca)

## 2.0 The Community: Setting and Character

Fort Liard (Echaot'ie Kųę) is a Hamlet located in the south west corner of the Northwest Territories, at the confluence of the Liard and Petitot Rivers. Located within the Dehcho Region, it is referred to as the Territories Garden Spot, where trees grow tall in the lee of the Mackenzie Mountains (Hamlet of Fort Liard, 2017a).

### 2.1 Location

The Hamlet of Fort Liard is a small community of approximately 500 residents located in the Dehcho Region in the southwest corner of the Territory. Located approximately 23 km north of the British Columbia border and 32 km east of the Yukon border; at a latitude of 60° 14' N and longitude of 123° 28'W. Fort Liard is located at the confluence of the Liard and Petitot Rivers, with watersheds that extend along the northern border of Alberta, British Columbia and southern Yukon before joining the Mackenzie River system at Fort Simpson, Northwest Territories. Fort Liard lies southeast of the Mackenzie Mountains at the edge of the interior plains and cordillera ecoregions. Fort Nelson, British Columbia is 209 km to the south, with Netla and Nahanni Butte, Northwest Territories 108 km to the north. The Liard Highway (Northwest Territories Highway 7) was completed in 1984, and is an all-season gravel road which connects the Hamlet to the broader area.



### 2.2 Climate

Fort Liard's climate is referred to as the Tropics of the Territories, due to its southern location in the Northwest Territories with warm and comfortable summers, and occasional warm winds (chinook) from the mountains in winter (Northwest Territories Tourism, 2018). Winters are generally cold and snowy, with cloud cover extensive throughout the year.

**Table 1: Climate Normals for Fort Liard, NT (1981-2010)**

	Fort Liard	Yellowknife	Fort Simpson	Whitehorse
Annual rainfall (mm)	294.1	170.7	238.6	160.9
Annual snowfall (cm)	165.4	157.6	187.0	141.8
January daily average temp. (°C)	-21.8	-25.6	-24.2	-15.2
July daily average temp. (°C)	17.3	17.0	17.4	14.3
Days with minimum temp. below -20	79.6	105.2	101.1	48.7

Adapted from Government of Canada: [www.climate.weather.gc.ca/climate\\_normals](http://www.climate.weather.gc.ca/climate_normals) (1981-2010)

Hamlet of Fort Liard climate projections for temperature and precipitation forecast greater annual precipitation and higher annual temperatures. These projections could demonstrate the need for infrastructure adaptation, a loss of seasonal ice roads to neighbouring communities, and further loss of any discontinuous permafrost present. Additionally, longer growing seasons and warmer temperatures could result in greater agricultural and forestry opportunities in addition to an increase in invasive species (SNAP, 2018).

## 2.3 Natural Features

The natural environment influences the form of a community, presenting opportunities and constraints for the physical development of the Hamlet of Fort Liard.

### 2.3.1 Water

The Liard and Petitot Rivers frame the western and northern boundaries of the community. Additionally, Hay Lake serves as a recreational area to the east, draining north into the Liard River. Water quality within the Liard River limits withdrawals for community drinking water use, and the Hamlet operates two groundwater wells to obtain the communities drinking water.

Fort Liard is located within a floodway and flood fringe area. This area is located along the riverbanks of the Liard and Petitot Rivers and extends approximately 500 m – 1 km inland. The majority of residential development in Fort Liard is located in the floodway and flood fringe which, in turn, creates the need for natural hazard consideration in community planning.

Mapping of flood risk hazards was completed in the 1970's through 80's as part of the Canada Flood Damage Reduction Program with mapping completed for nine flood prone communities across the Northwest Territories, including Fort Liard. This modelling led to mapping tools which are made publicly available through the Territorial ATLAS program, as originally produced in 1987. With flooding occurring in the community in 1989, these modelling tools were ground-truthed in real world circumstances.



**Figure 1: Northwest Territories ATLAS Flood Modelling for Fort Liard**

As part of monitoring flood risk, the Territorial Departments of Environment and Natural Resources (ENR) and Municipal and Community Affairs (MACA) work jointly to monitor flood levels and indicators, while working with communities to share awareness and ensure preparedness. If circumstances result in

an emergency, MACA Emergency Measures Office staff will assist the community in a response as required by the impacts of the natural hazard event.

Further work is currently being considered by the Territorial Department of Lands to undertake modern flood risk mapping, building upon the models initially developed 30-40 years previously.

The Hamlet has made use of the available historical modelling and additional awareness from the 1989 flood event to ensure some key infrastructure is located above these flood risks, including the water treatment plant, and school. However, other important infrastructure remains within areas with some associated risks, including the Health Centre, Hamlet RCMP detachment, Seniors Centre, and access to the First Nations Office, fuel centre and out of the Highway System.

### 2.3.2 Geology and Permafrost

Underlying the community are layers of alluvial silt, sand, and gravel deposits. Underneath this fertile layer is bedrock with depths ranging from 18 – 24 m (Dillon Consulting Ltd., 2006). Fort Liard is located in the sporadic discontinuous permafrost zone, with generally low ground ice content (GWNT, 2014).

### 2.3.3 Vegetation

Fort Liard is located within the Taiga Plains Ecoregion within the boreal forest while exhibiting a climate similar to Edmonton, Alberta. Tree species observed in the community included southern deciduous species more common to southern Canada, and forest growth is noted as being much greater than other regions across the territory.

One Species-At-Risk (SAR) plant species the Raup's Willow was noted within the recent Northwest Territories 2018 assessment. The willow is noted in gravel floodplains and treed bogs only being found in two locations in southwestern Northwest Territories (GNWT, 2018).

### 2.3.4 Wildlife

The warmer Dehcho Regions climate has led to plentiful vegetation and a variety of wildlife. Mammals, migratory birds and fish include species found throughout the Territory. Migratory species make use of the vast undeveloped lands with ranges extending upwards into the nearby Mackenzie Mountains and along the Fort Liard and smaller watershed valleys. Species-At-Risk (SAR) noted for the area include Boreal Caribou, Collared Pika, Grizzly Bear, Little Brown and Northern Myotis (Bat), Northern Mountain Caribou, Wood Bison, Canada Warbler, Western Toad, and Western and Yellow Banded Bumble Bee. These species have historical ranges or observances within the Dehcho Region and lands around Fort Liard (GNWT, 2018).

As with many other communities, traditional land use activities, including hunting, fishing, and foraging are important for the residents of Fort Liard. Future development must consider potential impacts to animal habitats, migration routes, trap lines and trail systems.

### 2.3.5 Topography

The community of Fort Liard is located on an alluvial river terrace approximately 0.8 km wide. On the terrace, ground elevation ranges between 7.5 – 10.5 m above the normal river level. The community is prone to occasional ice-jam flooding; however, the riverbank is stable (Dillon Consulting Ltd., 2006). No slumping or deterioration of this slope was noted in a recent community visit in September 2018. South of the community, the land rises sharply from approximately 210 to 322 metres above sea level (masl). From this location at the junction with Northwest Territories Highway 7, the territorially dividing Mackenzie Mountains can be viewed to the west. This physical rise within the community boundary serves as a resource for material extraction (Territorially owned quarry) and tourism and recreational opportunity with an established community ski hill at Hay Lake.

## 2.4 Community Character and Urban Form

Fort Liard follows a similar story for its development, to other communities across the north. A traditional hunting and gathering place, the formal settlement developed around a North West Company and later Hudson Bay Company store, with the post referred to as the Riviere aux Liards (River of Aspens). Catholic Missionaries constructed a mission church in the community in 1921. Since this earlier time, the community has grown with the oil and gas industry and connections to the national highway system (Hamlet of Fort Liard 2017b).

### 2.4.1 Urban Form

The Hamlet of Fort Liard follows a linear form, stretching from the Petitot River's confluence and continuing along the east bank of the Liard River surrounding the regional airport and following the road connection out to the Territorial Highway. Many buildings were constructed by private landowners and the local housing authority in the 1970's through 1980's. Single storey clapboard and wood frame structures predominate in the community, with one more recent subdivision, the 'Two-Mile' allowing for mobile home installation. Distinct neighbourhoods are noted throughout the community, comprising historical or older developments along the river which follow a dense development pattern and are generally constructed from local log timbers. More recent subdivisions away from the river, and surrounding the school, have larger lots and more modern construction materials used.

## 2.5 Transportation

Fort Liard is connected to the Territorial Highway System (Highway 7); commonly referred to as the Liard Highway. This road, while not hard surfaced, is well maintained by the Territorial Government and is chip-sealed and asphalted near to Fort Simpson NT, and across the British Columbia border heading south. This route is not as heavily trafficked as other highways in the Territory; however, still sees some tourism traffic and provides regional access to the winter access roads to Nahanni Butte and Trout Lake.

The local airport has reportedly had regular service to other communities at times, and the Acho Dene Koe First Nation business has partnered with helicopter operators to support mining and gas

development; however, at this current time there does not appear to be regular activity occurring at the airport.

While the Liard River was historically an active transportation route, at this time it is only used for hunting fishing and recreational needs with no regular tourism or barge service in the area.

**2.6 Community Vision and Aspirations**

This background report considered recent community plans as completed by the Hamlet including:

- The 2018-2023 Strategic Plan
- Fort Liard 5-year Detailed Capital Plan

Additional reports, as previously completed for the area, were also considered; including:

- Tourism Potential in the Deh Cho, NWT: A Literature Review and Spatial Analysis (2003)
- Fort Liard Community Wildfire Protection Plan (2011)
- Acho Dene Koe and Fort Liard Metis Traditional Use Study (2012)

Report	Content
2018-2023 Strategic Plan	<p>2018 Vision Statement:  <i>“The Hamlet of Fort Liard is a progressive, healthy and safe community that balances municipal services and programs to provide opportunities to the community while respecting the traditions and culture of its residents. We are leaders in fostering social integrity, economic development and environmental sustainability.”</i></p> <p>Recognizes that there must priorities between what the Hamlet must provide (potable water and treat wastewater), what is desirable (street addressing) and what would be beneficial (tourism plan).</p> <p>Strategic Goals related to the Community Plan and Land Uses included:  <b>Goal 1: Balanced Infrastructure</b></p> <ul style="list-style-type: none"> <li>• Water and Waste                             <ul style="list-style-type: none"> <li>○ Sewage lagoon upgrades</li> <li>○ Old solid waste site closure</li> <li>○ Solid waste site improvements</li> <li>○ Water treatment plant repairs and upgrades</li> <li>○ Service vehicle renewal</li> </ul> </li> <li>• Fire Protection                             <ul style="list-style-type: none"> <li>○ Vehicle assessment</li> <li>○ Volunteer recruitment</li> </ul> </li> <li>• Facilities and Public Buildings                             <ul style="list-style-type: none"> <li>○ Recreation complex upgrade</li> <li>○ Energy efficiency and lighting upgrades</li> </ul> </li> </ul>

Report	Content
	<ul style="list-style-type: none"> <li>○ Parks and playgrounds, campground upgrades</li> <li>○ Cemetery gravesites upgrade</li> <li>○ Staff housing upgrades</li> <li>○ Community dock</li> <li>● Safe Roads <ul style="list-style-type: none"> <li>○ Chip seal and upgrade roads</li> <li>○ Drainage improvements</li> </ul> </li> </ul> <p><b>Goal 2: Land Development</b></p> <ul style="list-style-type: none"> <li>● Community Plan and Zoning Bylaw <ul style="list-style-type: none"> <li>○ Acquire more land to provide more services</li> </ul> </li> </ul> <p><b>Goal 3: Health and Wellness</b></p> <ul style="list-style-type: none"> <li>● Expand Community Garden <ul style="list-style-type: none"> <li>○ Obtain land</li> </ul> </li> <li>● Long Lasting Recreation and Wellness Programs for All Ages <ul style="list-style-type: none"> <li>○ Identify and secure facilities and space</li> <li>○ Fitness facility</li> <li>○ Childcare centre</li> </ul> </li> </ul> <p><b>Goal 4: Safe Community</b></p> <ul style="list-style-type: none"> <li>● Animal Control <ul style="list-style-type: none"> <li>○ Address on-going issue of stray dogs</li> </ul> </li> <li>● Staffing <ul style="list-style-type: none"> <li>○ Recruit and hire a Bylaw Officer</li> </ul> </li> <li>● Emergency Plan <ul style="list-style-type: none"> <li>○ Complete community emergency plan</li> </ul> </li> <li>● Fire Smart Community <ul style="list-style-type: none"> <li>○ Assessment of capacity for fire smart community program</li> </ul> </li> </ul> <p><b>Goal 5: Politically Interactive Community</b></p> <ul style="list-style-type: none"> <li>● Engage ADKFN on Community Issues</li> </ul> <p><b>Goal 7: Economic Development and Tourism</b></p> <ul style="list-style-type: none"> <li>● Increase Tourism Opportunities <ul style="list-style-type: none"> <li>○ Develop community tourism plan</li> <li>○ Identify potential projects</li> </ul> </li> </ul> <p><b>Goal 9: Sustainability</b></p> <ul style="list-style-type: none"> <li>● Energy Alternatives <ul style="list-style-type: none"> <li>○ Promote use of green energy</li> </ul> </li> <li>● Energy Efficiencies <ul style="list-style-type: none"> <li>○ Energy retrofits</li> </ul> </li> <li>● Composting <ul style="list-style-type: none"> <li>○ Promote composting</li> </ul> </li> <li>● Recycling <ul style="list-style-type: none"> <li>○ Promote recycling</li> </ul> </li> <li>● Organic Foods</li> </ul>

Report	Content
	<ul style="list-style-type: none"> <li>○ Support and enhance community gardens</li> <li>○ Expand community garden</li> <li>● Regional Waste Management <ul style="list-style-type: none"> <li>○ Support regional waste management strategy</li> </ul> </li> </ul> <p><b>Goal 10: Traditions and Culture</b></p> <ul style="list-style-type: none"> <li>● Maintain Traditions and Culture <ul style="list-style-type: none"> <li>○ Fall harvest celebration</li> <li>○ Signage</li> <li>○ Engage elders</li> </ul> </li> </ul>
Fort Liard 5-year Detailed Capital Plan	<p>A review of the available and projected funding and costs which will need to be both saved for and paid out over the short term (5-year) period.</p> <p>These budgeted items relate directly to the Strategic Plan above.</p> <p>Costs identified which relate to the Community Plan include:</p> <ul style="list-style-type: none"> <li>● Sewage Treatment Lagoon upgrades</li> <li>● Water Treatment Plant upgrades</li> <li>● Old Solid Waste Site closure and remediation</li> <li>● Waste Site parking and storage improvements</li> <li>● Replacement or the rebuild of the Childcare Centre</li> <li>● Road resurfacing</li> <li>● Fitness Centre construction</li> <li>● Fencing of Warehouse, playgrounds and cemetery</li> <li>● Upgrades to the Campground</li> </ul>
Tourism Potential in the Deh Cho, NWT: A Literature Review and Spatial Analysis (2003)	<p>A third party review of the tourism potential of the Deh Cho Region, with specific reference to Fort Liard. Identifying the significant potential of routing tourists from the Alaska Highway toward the region, particularly due to the strong highway network connections.</p> <p>Fort Liard and the nearby rivers and mountain features offer some significant potential destinations, but would be natural progressions from the existing tourism route and awareness of crafting excellence in the area.</p>
Fort Liard Community Wildfire Protection Plan (2011)	<p>Assessment of wildfire risks for the Hamlet and surrounding area, including vegetation, ignition sources and predominant weather patterns. Included recommendations for vegetation management, and fuel reduction, education and cooperation. Risk reduction offered a phased approach to addressing risks to areas of the community.</p>
Acho Dene Koe and Fort Liard Metis Traditional Use Study (2012)	<p>Identification and mapping of Traditional Use Study (TUS) Sites within the ADK Traditional Territory, as part of decision-making and consultation with the federal government and provincial and territorial governments.</p> <p>Identification of the annual and seasonal patterns to traditional land uses, history of Hudson's Bay Company impact upon the land and trap line boundaries</p>

## 3.0 Population

This section of the report examines the past influence of population on the development and form of the hamlet as well as future population projections.

### 3.1 Current Trends

The Northwest Territories Bureau of Statistics provides a statistical profile for the Hamlet of Fort Liard, detailing population changes for the past two decades. The population has fluctuated considerably in recent years with a decline and subsequent increase since 2011. Total population growth over this eighteen year period was 1.2%, with much of this growth in the elderly population, and a decline in the youth population for those under fifteen years of age. Community members noted considerable declines in the local population in recent years which may not yet be captured in available data.

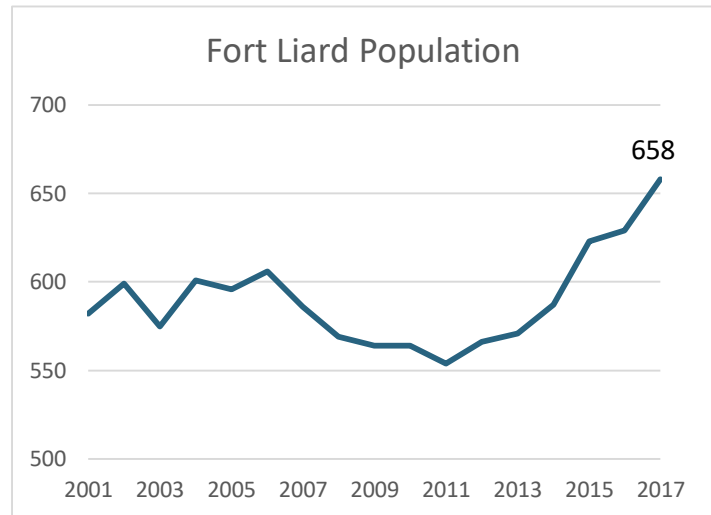


Figure 2: Population of Fort Liard 2001-2017 (NWT Bureau of Statistics, 2017)

### 3.2 Future Trends

The Bureau of Statistics projects population declines for the Hamlet of Fort Liard for the future, following trends within the Dehcho Region and across the Northwest Territories. All regions apart from the South Slave and Capital Region are projected to decline due to declining birth rates and net migration to urban centres.

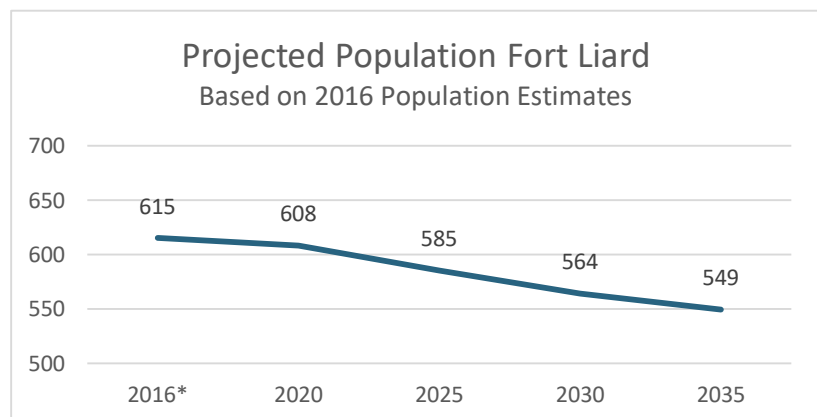
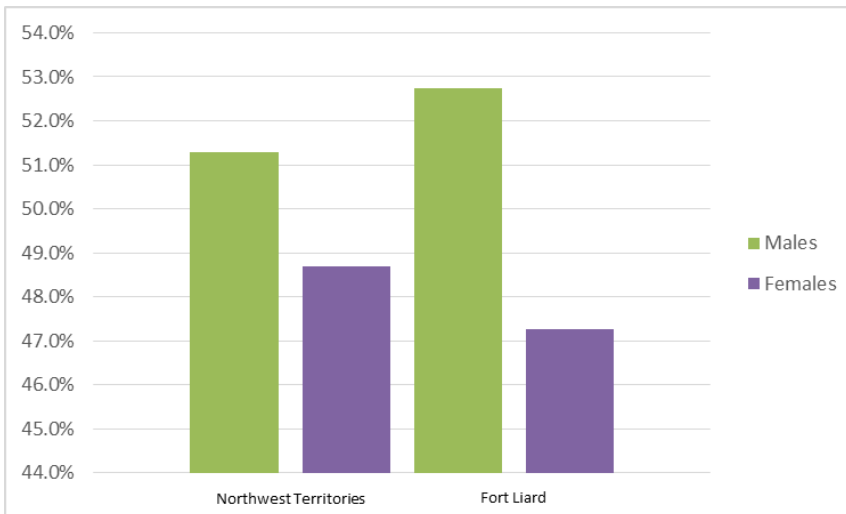


Figure 3: Projected Population of Fort Liard 2016-2035 (NWT Bureau of Statistics, 2017)

The projected decline from 2016 through 2035 of 66 residents represents a projected decline in population of 10.7% over a twenty year period.

3.3

Demographic Profile



Fort Liard follows Territorial trends by having a greater proportion of the population being males, 52.7% than females, 47.2% (NWT Bureau of Statistics, 2016a). Nationally, females represent 50.9% of the population with males representing 49.1% (Statistics Canada, 2016).

An age cohort analysis of Fort Liard (**Figure 4**) identifies that youth populations are

Figure 4: Gender Proportion (NWT Bureau of Statistics, 2016a)

declining in the Hamlet while elderly populations are increasing, and now make up greater proportions of the overall population. This trend follows regional (Dehcho) and national averages where youth (0-14) as a percentage of population has declined 8.5%, and 2.5%, while the percentage of the population defined as elderly (65+) has increased by 7.81% and 4.7% respectively (NWT Bureau of Statistics – Community and Age Group 2017; Statistics Canada, 2016).

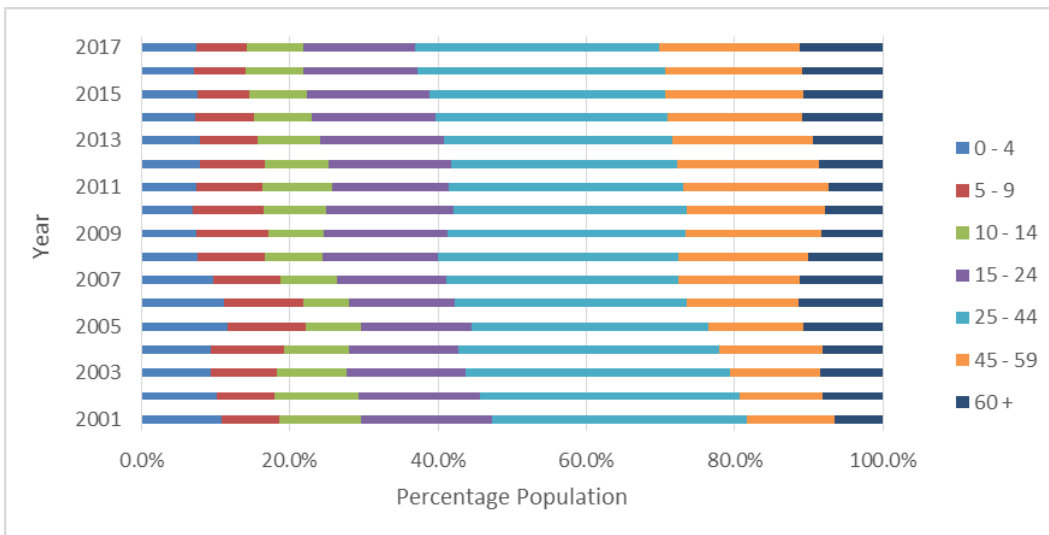


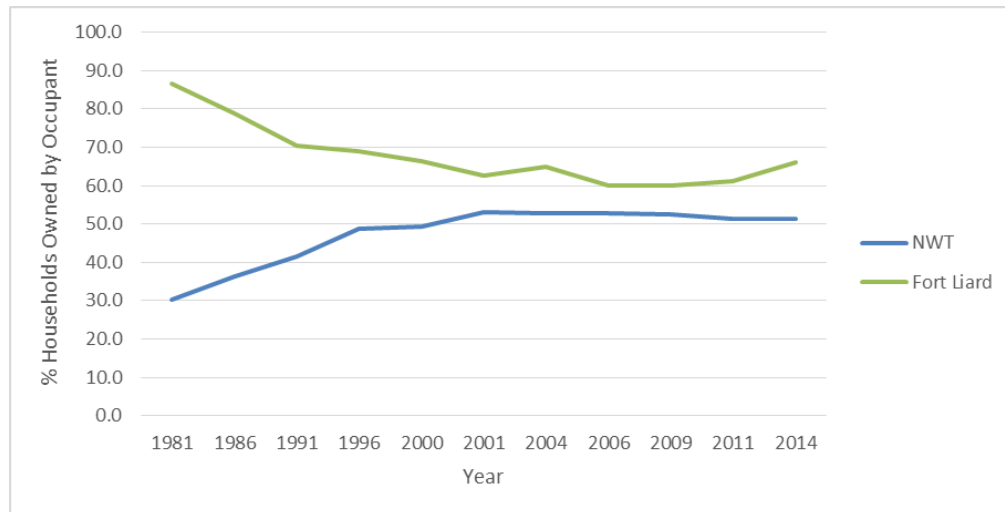
Figure 5: Age Distribution by Cohort (NWT Bureau of Statistics, 2016a)

The birth rate in the Hamlet of Fort Liard has remained relatively the same over the period 2001-2017, averaging 8 births per year. The death rate over this same period has averaged 4 per year (NWT Bureau of Statistics, 2016a).

## 3.4

**Households**

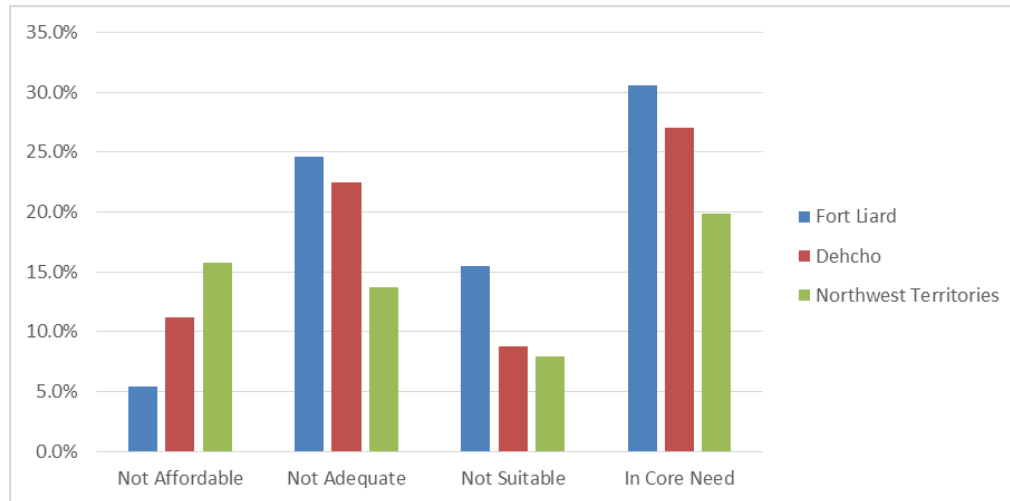
Based upon the 2016 Census – Housing Results, Fort Liard has 165 total households, with an average number of 3.0 persons per household. This is slightly higher than the Dehcho and Territorial average of 2.7 and national average of 2.4 residents per household (NWT Bureau of Statistics, 2016c).



**Figure 6: % Household Ownership (NWT Bureau of Statistics, 2014)**

Home ownership has increased within the Territory over the previous decades, however for Fort Liard ownership has been in decline, although from much greater levels of ownership than the Territorial average. Affordability is less of a limiting factor than elsewhere in the territory or region, while adequacy and suitability have led to housing concerns within the Hamlet. These conditions are defined by the NWT Bureau of Statistics (2014) as:

- 1) Affordability – the percentage of residents spending greater than 30% of income on housing
- 2) Adequacy – physical condition of the building (must have running water, indoor plumbing and not require major repairs)
- 3) Suitability – not enough space (bedrooms) for the number of people inhabiting the home



**Figure 7: Housing Conditions (NWT Bureau of Statistics, 2014)**

These statistical values were confirmed through the first community visit and in consultation with Hamlet council. The size and age of housing in the community are in poorer condition than elsewhere across the region and territory, and residents are being forced to live within homes in greater densities. Average number of persons per household (based upon the 2016 census) shows that the Hamlet of Fort Liard (at 3.0 persons/household) is only slightly above the Regional (2.7) and Territorial (2.7) averages. These census results may not capture recent declining employment opportunities and degrading housing stock as noted by Hamlet staff.

# 4.0 Economy

Fort Liard has benefitted greatly from its geographic location and available natural resources. The economic growth of the community can be connected with activity related to these two features, initially serving as a trading location, and more recently growing through activity in the oil and gas sector. Due to the small size of the community, outside investment and new employment has resulted in major changes to the local economy. With recent declines in the resource extraction sector in the broader region, Fort Liard’s economy has also been impacted.

## 4.1 Employment

Fort Liard’s past economy focused on subsistence hunting, trapping and gathering. While these practices are still followed by large portions of the population, wage employment has become the standard normal. The employment rate is low in comparison to regional, territorial and national averages, fluctuating between 57.5% and 36.4% in the most recent census.

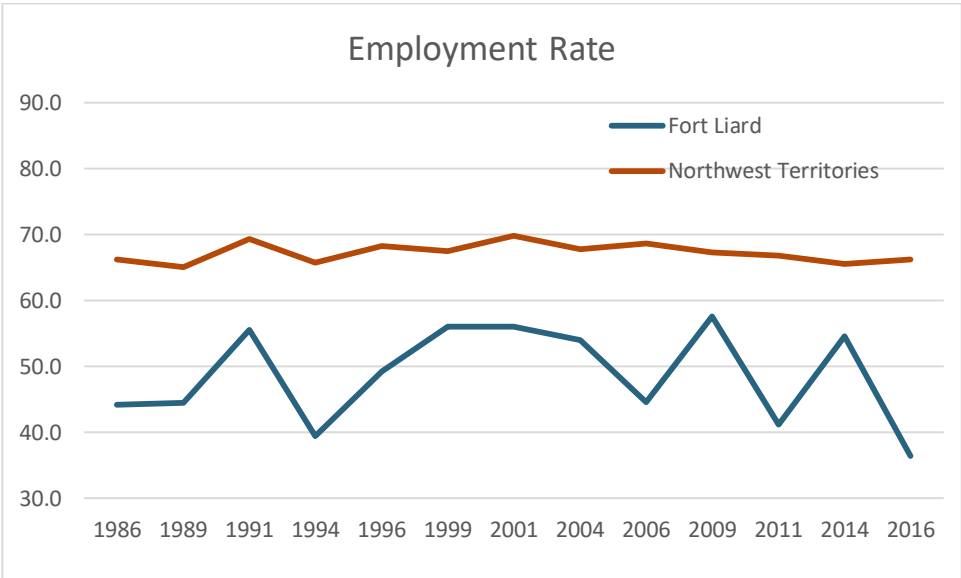


Figure 8: Employment Rate (NWT Bureau of Statistics, 2016a)

Employment in Fort Liard has experienced considerable changes in the past decades with rapid growth and similarly rapid declines associated with oil and gas extraction. With surrounding lands currently withheld from new development as the Territory, federal government and Acho Dene Koe First Nation finalize the negotiation of a land claim, development and employment has been further impacted. Future agreements and the eventual interests of the First Nation government in development are likely to have significant impacts upon local employment and wages.

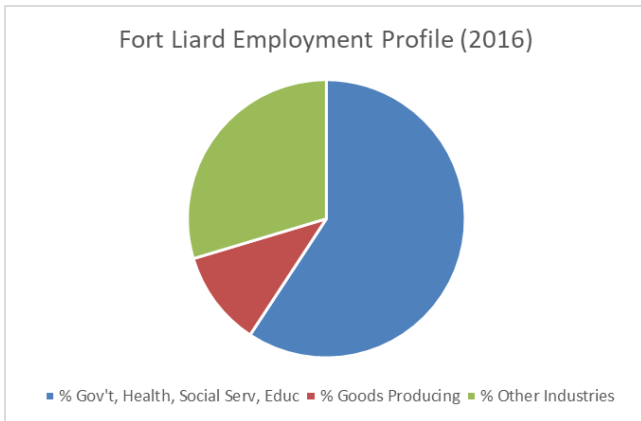


Figure 9: Fort Liard Employment Profile (NWT Bureau of Statistics, 2016a)

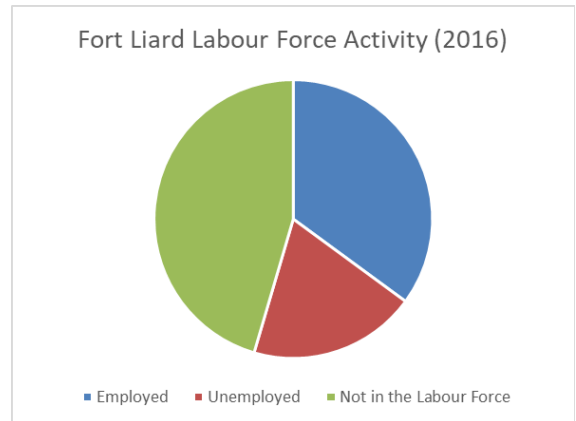


Figure 10: Fort Liard Labour Force Activity (NWT Bureau of Statistics 2016a)

## 4.2 Household Income and Cost of Living

The average household income in Fort Liard has risen in the past decade however stagnated at its current amount or slightly declined since its high in 2009. Within the year 2015 food prices are noted as being approximately 40% greater in Fort Liard in comparison to Yellowknife (NWT Bureau of Statistics, 2016a) as are other cost of living expenses in comparison to the Territory and rest of Canada.

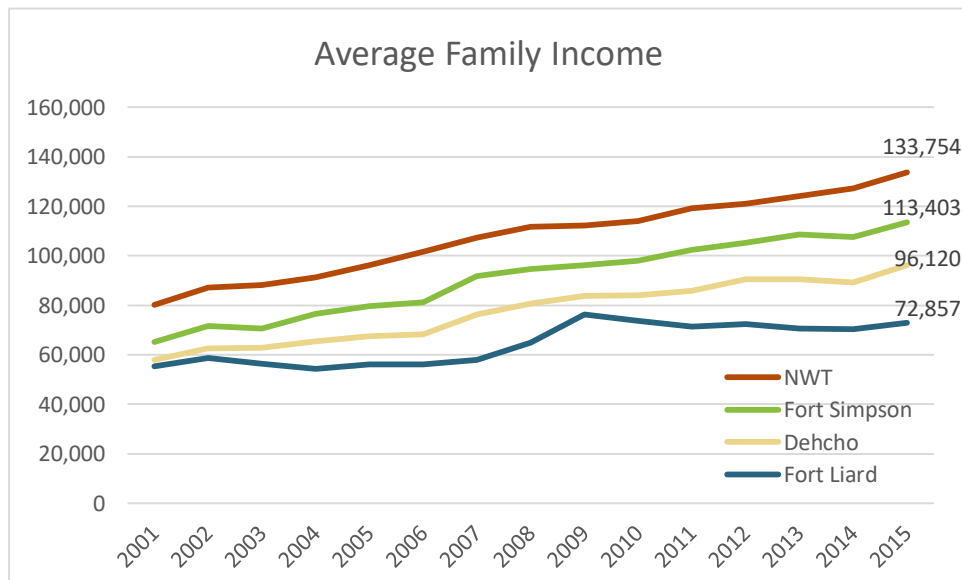


Figure 11: Average Family Income Comparison (NWT Bureau of Statistics, 2016a)

## 4.3

**Industry and Commercial Activities**

Industrial and commercial activities are dependent upon resource extraction and government infrastructure investment. Within the period from the late 1990's through 2009 considerable oil and gas exploration and extraction activities occurred which resulted in significant impacts to commercial businesses in the area. The Hamlet stores, restaurant (now closed), and motel experienced additional business and activity. Those oil and gas projects have ceased operation over the past 5 years and are dependent upon global markets and demand. It is not known if activity will resume with the resolution of land claim and self-government agreements in the area. The largest activity related to Imperial Oil whose facility was sold to Paramount Resources and subsequently ceased operations in the past 10 years.

## 5.0 Municipal Services

The Hamlet of Fort Liard provides servicing within the municipal boundary. Information about municipal infrastructure and servicing is considered in the background report as it will inform the Community Plan for several reasons:

- Cost effectiveness of service delivery may impact land development choices;
- Development restrictions in certain areas due to infrastructure;
- Development restrictions in certain areas due to natural hazards;
- Development restrictions due to ILA lands; and
- Land development should take into account infrastructure replacement and expansion over the next 20 year period.

More specific information about each municipal service follows, including:

- Roads and drainage;
- Water and Sewer;
- Solid Waste;
- Fire and Emergency Services;
- Administrative Services;
- Commercial Services; and
- Various Community Services.

### 5.1 Roads and Drainage

As noted, Fort Liard is connected to the Territorial Highway System (Highway 7), commonly referred to as the Liard Highway. This Highway is maintained by the Territorial Department of Transportation as a gravel road. Connecting with the highway is the Hamlet maintained Valley Main Street, which has been chip sealed by the municipality in the past few years. This road sealing was completed on almost all roads within the Hamlet apart from minor residential laneways. Hamlet staff note that by sealing the local roads, it has considerably reduced maintenance costs on the roads, and equipment. The chip seal will be required once again by 2022/2023.

Soils in the area are primarily sandy till resulting from historical river deposition. This material is well drained, with little to no ponding of water noted within the Hamlet. Appropriate ditches have been constructed throughout the community for seasonal melt and large rain events.

All water draining off of the steep valley ridge to the south of the community flows directly into the Petitot and Liard River or follows a minor drainage system to the east of the community.

## 5.2

## Water and Sewer

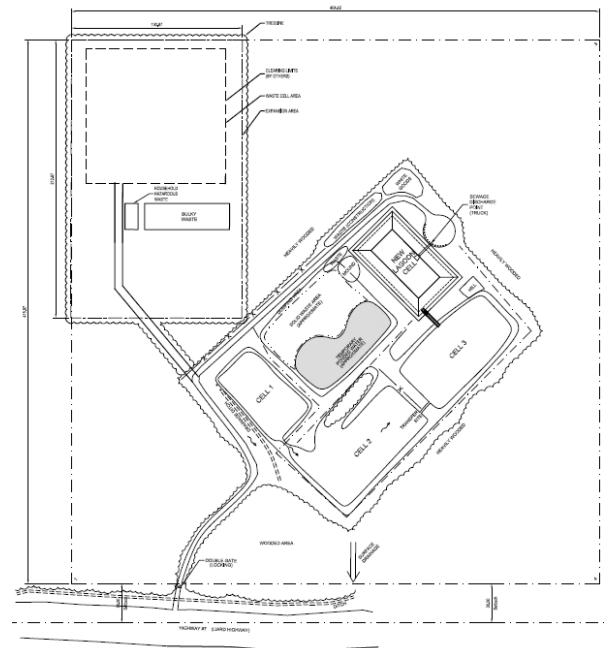


Trucked services for water and sewer are provided throughout the community, with two trucks available for each purpose (water and sewage). Vehicles operate throughout the week (5 days/week), however sewage trucks are limited in their capacity due to the need to drive up a steep grade out of town.

The Water Treatment Plant (WTP) was constructed in 1989 and refurbished in 2011. Groundwater is sourced from the location along Mission Drive, with two groundwater wells, and an average annual quantity withdrawn totalling 20,222.15 m<sup>3</sup>/year (2017). Groundwater is then processed through a primary sand filter (with an additional standby unit used on alternating days), ion exchange (softening), UV treatment and chlorination completed within delivery trucks. Water can be stored on the site, within underground (buried) tanks with a capacity of 130.25 m<sup>3</sup>, before pumping for delivery. Capacity based upon the existing duplication of infrastructure, is noted as being almost twice the current population.

The Sewage Disposal Facility (SDF) is co-located with the Solid Waste Disposal Facility (SWDF) 18 km southeast of the community along Highway 7. The SDF recently received a variety of upgrades over the past year (2018), with the closure of historical cells (cell 1), and rehabilitation of the system. The re-engineered system now involves dumping within the New Lagoon Cell, with a flow pathway to the former Cell 3 and then Cell 2. Annual volume of wastewater reported as 21,845.79 m<sup>3</sup>/year (2017).

With the completion of current work and with continued maintenance the system is reported to provide capacity for community needs for a further 20 years.





## 5.4 Fire and Emergency



The Fire Hall and equipment is maintained by Hamlet staff, and includes one pump truck, one water truck, and an emergency services vehicle. As of early May 2018, Hamlet council determined there was insufficient volunteer numbers (4) to run the fire and emergency services. The Hamlet will not provide fire response, as risks to volunteer fire service is too great. Additional calls for more volunteers with the First Nation Band and broader community have not resulted in additional volunteers coming forward. To date the fire service is suspended.

Hamlet staff continue to maintain the facility and vehicles, with weekly checks of equipment and vehicles. Regular meetings continue to be held by existing volunteers awaiting additional volunteers. No additional facilities or equipment were noted for the fire service should it be revived in the near future.

The RCMP Detachment in the community was reconstructed in 2003, and occurs on a property with sufficient space to accommodate the detachments needs, with parking and office space for 3 to 4 officers. Of note for both emergency response facilities, they are located within the floodway of the potential Liard River hazard. Future redevelopment of these facilities should have regard for these hazards and redesign or relocate these response facilities out of the hazard.



## 5.5 Hamlet Administration Services



The Hamlet Administration office was renovated and expanded in the past five years, serving the needs of staff and additional outside agencies including social assistance and federal staff. Additionally, the community library was relocated to the building when it was deemed to be unmanageable by the local school. Being located adjacent to the works garage, and near to the recreational centre, this building is a community hub for action and activity. No significant additional work is expected with this building in the 5 year capital plan.

## 5.6

## Community Services



Fort Liard is serviced by a variety of quality public infrastructure which is not typically found in other northern communities. These include: the Community Recreational Centre with indoor pool (June to August), ice rink (November to April), commercial kitchen and public space. A section of this building is also in the process of being renovated to serve as a fitness centre. An after-school program makes use of this space, however did not receive community wellness funding from MACA (in 2018) and some programming may need to be reduced.



A day care facility is also located in this area, and is managed by the Hamlet out of a portable structure, which received renovations recently on its interior space. Outdoor façade upgrades are planned as part of other works in the near future. Approximately 12 pre-school students with three staff make use of the space, with some additional capacity available.

The basketball court and skateboard park are also found in this central location, with updates to each in recent years. Additional parks are located throughout the community and include swings, slides and a baseball field. Other recreational facilities include Hay Lake Campground and Park, where the Hamlet has invested in seasonal camping and hiking. This space has considerable potential for tourism, however has not experienced significant use to date. Near to this space is a cleared hill with a cabin that serves as a tobogganing and ski hill for residents. No additional infrastructure is planned for these facilities.

A community garden was undertaken through the efforts of a Hamlet councillor, and includes a number of raised beds, a water collection system, fencing and the construction of a greenhouse in 2018 the fall of 2018.

It was noted that with proper maintenance that all facilities will continue to function for a further ten years at a minimum.



## 5.7

**Education**

The Dehcho Divisional Education Council is responsible for the administration of Echo Dene School, which recently had renovations and includes a community gym, paid for partially by the Hamlet which is open to residents outside of school hours.

While additional space and resources would be welcome, staff noted that the existing facility currently serves the Hamlet's needs. The facility is located above the potential flood hazard.

## 5.8

**Health Infrastructure**

The Dehcho Health and Social Services Authority administers the community health centre, and in-home services. The Hamlet is serviced by a clinic, which was constructed in 1982. Housed within this space are four (4) resident nurses and space for diagnostics, delivery and minor surgery when doctors travel through the community.

Doctors complete eye exams, dental procedures and other checks as needed and when available. The facility is cramped by its current uses and needs, with recent water damage from leaking pipes; however, there are no

reported plans for reconstruction or renovation. The resident nurses are housed in upstairs apartments or a structure adjacent to the facility.

The facility is located within the mapped floodway of a potential flood event from the Liard River; however, its location should be maintained within the central community core area in servicing the needs of residents.

## 5.9

**Commercial**

The Acho Dene Native Crafts and Visitor Centre is a popular draw to the area, with well-known and well stocked birch bark boxes and wood carving. This location is centrally located in the community and sells the works of over 30 local artists. Supported by the Business Development and Investment Corporation (BDIC), the structure was constructed in 1994 and has no plans for redevelopment.

The Northern Store is located adjacent to the Craft Store and provides a variety of food and consumer goods, with recent façade updates to improve accessibility. Canada Post services are also provided through this store.

The Liard Valley General Store also sells food and consumer goods, and serves as part of the Motel business which services the Hamlet.

The Acho Dene Koe Band Council has a number of businesses in the community primarily run through the Beaver Enterprise office, including large equipment transportation, construction, barge transport and past helicopter services.

Some residents have also initiated businesses which support guiding and tripping along the Liard River system, or service connections to neighbouring commercial centres in northern British Columbia.

## 5.10

**Communication Infrastructure**

The Hamlet, due to its presence on the Territorial Highway System, has strong communication infrastructure connections to the rest of the Territory and southern provinces. Internet availability and speeds are reported to be strong in the Hamlet, and cellular phone coverage is strong within the valley. Coverage away from the community becomes poor, and no reception occurs at the Hamlet Solid Waste, and Sewage Lagoon Facility 18km south, which limits the option of stationing employees in this facility to monitor activities, due to safety concerns.

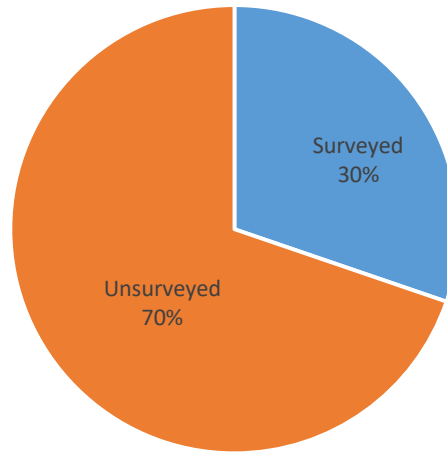
## 6.0 Development Activity

Limited development activity is noted within the community in recent years, likely due to a decline in the oil and gas sector both within the Territory and nearby provincial region. The community's restaurant recently closed, and activities at the airport and with Beaver Enterprise are limited. Beaver Enterprise noted that with the resolution of land claim agreements, a variety of opportunities and activities are likely to occur which may drive the Hamlet's economy forward. The Hamlet recently hired an economic development officer who would primarily work in Fort Liard, while also serving the nearby communities of Nahanni Butte and Sambaa K'e.

Few development permits have been received by the Hamlet Office in the past few years, and those received relate to residential work, and interest in additional uses including guiding services and B&B type businesses. No record of activities is maintained by the Hamlet SAO.

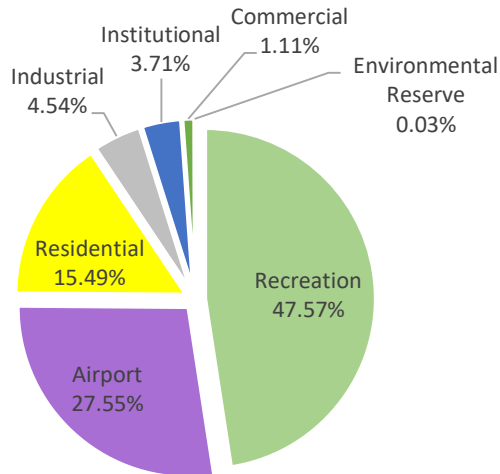
## 7.0 Land Use Supply and Demand

The total area within the Hamlet boundary is approximately **1225 hectares**. This is primarily comprised of unsurveyed ‘hinterlands’ which include a steep valley embankment and heavily forested lands. The chart below shows the percentage of unsurveyed to surveyed land within the community boundary.



**Figure 12: Distribution of Surveyed and Un-Surveyed Land within the Community Boundary**

Of the 1225 hectares within the community boundary, 306.8 hectares are surveyed, with a further 64.6 hectares serving as roads, transmission lines, and easements. The chart below shows how land use is currently designated through the tax roll within the community boundary:



**Figure 13: Distribution of Land Uses within Fort Liard**

A land inventory from MACA's ATLAS system provides legal descriptions, tenure information and areas for all parcels of lands within the municipal boundary that are legally surveyed. The Hamlet's property tax assessment data can be used to identify how land is currently being used, and whether lots are occupied or vacant. The combined information from these two sources allows for a comprehensive analysis of the current land supply. A review of each category of land use is analyzed in the following sections to compare land supply and demand. The analysis will help the Hamlet to identify and determine the need to develop new serviced lands, or new residential subdivisions.

## 7.1 Residential

Residential land use represents approximately 15.5% of the surveyed useable land in Fort Liard, being a total of 47.5 ha. To understand residential land supply and demand, both the area and number of lots need to be considered. Of particular note for Fort Liard in regard to residential and some institutional uses, flooding concerns have also been considered, to reduce risks for existing residents and future development.

### 7.1.1 Residential Land Supply

Property tax assessment from 2016 provided the following information about the number of surveyed lots classified as residential – indicating they are being used for residential purposes.

**Table 2: Fort Liard Residential Lots**

Classification	# of lots	% of total
Residential Developed	187	60%
Residential Vacant	125	40%

The above information incorrectly suggests a great number of residential lots are available for development within the urban boundary of Fort Liard, particularly due to the limited demand for development parcels at this time. However, in consideration of the risk for flooding within the Hamlet the following table summarizes residential lots which are subject to mapped flood hazards:

**Table 3: Residential Lots within Flood Hazard**

Classification	Lots in flood hazard	% of total in	Out of flood hazard
Residential Developed	107	57%	80
Residential Vacant	76	61%	46

Flooding hazards are identified and events have been recorded over the past few decades, which represent a clear risk to human life and property. Development should therefore be directed away from high risk areas, for new development and the replacement of existing structures. While the number of residential lots outside of the flood hazards remains relatively high, a shift of existing development within the flood hazard to parcels outside of this flooding, would require a significant number of additional residential lots.

An assessment by Municipal and Community Affairs (MACA) in January 2016, reports 20 ‘buildable lots’, and 7 ‘partially developed’ lots suitable for residential development. How these parcels were determined is not defined; however, these properties do overlap with this background report assessment.

### 7.1.2 Residential Land Demand

There are a number of vacant and derelict residential structures within the Hamlet, with unconfirmed ownership and use.

The table below shows that a land area between 4.8 and 9.1 hectares would provide adequate land for a variety of housing choices, for a population up to 750 people.

**Table 4: Land Requirements for Residential Density Mix**

	Population		
	550	650	750
<i>Residential Density Mix</i>	Land Needs (ha)*		
<i>90% single, 10% multi-unit</i>	6.7	7.9	9.1
<i>80% single, 20% multi-unit</i>	6.2	7.3	8.5
<i>60% single, 40% multi-unit</i>	5.3	6.3	7.2
<i>50% single, 50% multi-unit</i>	4.8	5.7	6.6

\*single detached houses calculated at 350m<sup>2</sup>/lot, and multi-unit calculated at 125 m<sup>2</sup>/lot  
Fewer people per household or larger lots sizes would increase the amount of land required.

The current supply of residential land designated in the tax roll is 47.5 ha, with approximately 20.6 ha vacant which can accommodate the changing needs of the community for the next 10 to 20 years. However, of these residential lands 16.3 ha which are already developed, and a vacant 11.2 ha occur within flood hazards, which development should be directed away from. Transferring even part the existing development to the remaining 9.4 ha of vacant and flood free residential land will consume much of this available area, resulting in a limited amount of land being available for new development. If new development and redevelopment of existing residential are directed to flood free areas, there will need to be additional lands made available for residential needs, through rezoning and land subdivision.

Land ownership remains high within the Hamlet (approx. 66%), with private landowners responsible for maintenance and repair of their own structures. The Northwest Territories Housing Corporation (NWTHC) – through the Fort Liard Housing Authority does maintain a considerable number of properties, with a number currently occupied by unauthorized occupants (approx. 42). Redevelopment of these parcels is in the interest of all parties involved, and will likely form the primary initiative of a new NWTHC program which is being piloted in Fort Liard and seeks local input on assessing and providing for housing needs.

With economic declines in the region in the past decade residents have informed this background work on changes to the Hamlet's population and housing needs. Affordability in the Hamlet has not been an issue as elsewhere across the region and territory; however, cramped (suitable) and unmaintained (adequate) concerns are higher than in other areas of the territory. Based upon resident feedback these conditions may be intensifying due to economic circumstances.

### 7.1.3 Residential Land Use Issues to Be Addressed

As elsewhere across the Territory, redevelopment and not population growth will likely be the most important driver behind residential development in the next 20 years. While a number of vacant parcels are currently available, flooding hazards are noted throughout much of the historical community. Shifting those existing residential parcels to flood free locations, or redeveloping existing lots with raised structures based upon new and climate change considerate data will be needed. The Territorial government is currently considering the reassessment of flood hazards in the area, and greater information would be invaluable toward understanding how best to reduce risks for residents and businesses.

While simply developing a residential development in a higher location (near to Highway 7) may address the flood risks, the infrastructure capacity of the Hamlet must also be considered within such decisions. Additional accessibility and density considerations will need to be considered in subdivision design; allowing for the growing senior population, who may not be able to drive, and other parts of the population to continue to access needed services across the community.

## 7.2 Commercial

Commercial land uses represent 1.1% of the useable land in Fort Liard, totalling 3.4 hectares. Parcels are concentrated along Valley Main Street, with current interest in development along Highway 7 to service highway traffic.

### 7.2.1 Commercial Land Supply

Within the 2018 tax roll there was only one category classified as commercial, however some locations including the Beaver Enterprise Office and Gas station are incorrectly designated as residential and industrial properties. The table below outlines the total number of commercial lots.

Classification	# of lots	# of lots within floodway
Commercial Developed	7	4
Commercial Vacant	0	

As with residential land, consideration must be provided for flood risks, in order to direct future commercial development to areas above or away from such natural hazards.

### 7.2.2 Commercial Land Demand

Fort Liard's commercial properties as defined by the 2018 tax roll are concentrated along Valley Main Street and include food and consumer good stores, gas sales, and a territorial craft sales and information centre location.

	Population		
	550	650	750
	Land Needs (ha)*		
<i>Commercial Use</i>	1.9	2.3	2.6

\* Commercial land estimates are based on 3.5 ha/1000 population

The table above shows that a land area of 2.6 hectares would provide adequate land for the commercial uses necessary for a population up to 750 people.

### 7.2.3 Commercial Land Use Issues to Be Addressed

The Hamlet of Fort Liard already includes a higher amount of commercial property than comparable communities across the Territory; however, due to the Hamlet's location on a Territorial Highway, opportunities for resource extraction and isolation from other commercial centres the number and variety of commercial properties is reasonable. Additional commercial properties may be necessary as part of an expanded tourism industry and in servicing the territorial highway system.

## 7.3 Community

In Fort Liard, land designated as community use in the 2018 tax roll accounts for a variety of parcels, which are classified as Institutional, Industrial, Commercial, Environmental Reserve, Recreation, and Other. These lands comprise 3.7% of the land within the Hamlet (11.4 ha), excluding the Hay Lake recreational lands where an additional 146 ha are designated for public use, and which account for 47.6% of the surveyed lands within the Hamlet.

### 7.3.1 Community Land Supply

The table below shows the number of lots and area in hectares designated as community use in the 2018 tax roll:

Classification	# of lots	# of lots within floodway
Community Use	16	14

### 7.3.2 Community Land Demand

Demand for public lands while calculated on a proportional basis is unique to the geography and history of each community. Fort Liard is not unlike other communities in the Northwest Territories with an extensive waterfront area, which is open for public use, with boat launches and ice access. The Hamlet had the historical forethought to invest in a large public park surrounding Hay Lake, with expanding capabilities for camping and picnicking, and winter tobogganing and skiing. Playgrounds have also been established within distinct subdivisions, a baseball diamond, and shelter constructed along the Petitot River. Extensive trails while not maintained by the Hamlet form part of the public lands system, serving as recreational areas and transportation corridors.

Other more specific public lands include the recreational centre with arena, pool and public space, the daycare, skate board park, and basketball courts, gathering place youth centre, and Echo Dene School. Public works garage, fire hall, and municipal office, along with Acho Dene Koe Band Office also serve the people of the Hamlet and each form part of community land use.

Additionally, the Hamlet operates a cemetery which it is seeking to expand and forms part of the public lands, with the need for provision of appropriate space.

	Population		
	550	650	750
	Land Needs (ha)*		
<i>Community Use</i>	1.9	2.3	2.6

\* Land demand for public use were estimated based on 3.5 ha/1000 population

### 7.3.3 Community Land Use Issues to Be Addressed

There does appear to be a relatively high number of existing community land uses within the Hamlet, with the variety and quality of services exceeding many other Northwest Territory communities. Future additional public lands should continue to be developed in close proximity to residents, or provide accessibility elements in their preparation, allowing for all residents to participate in these public lands.

## 7.4 Industrial

Industrial land uses make up 4.5% of the total surveyed usable land in Fort Liard, representing 13 properties, with a total surveyed land area of 13.9 hectares. Additional lands including the barge landing, cellular tower and Beaver Enterprises camp site occur on lands which are unsurveyed. Additionally, industrial storage lands occur at Highway 7 opposite the community boundary, the solid waste facility and sewage lagoon and former oil and gas exploration wells and processing facilities occur outside of the community boundary on the opposite side of the Liard River. These lands are not considered within this analysis, however would serve this area.

### 7.4.1 Industrial Land Supply

Classification	# of lots	# of lots within floodway
Industrial Developed	7	5
Industrial Vacant	6	5

### 7.4.2 Industrial Land Demand

Existing surveyed industrial lands within the Hamlet already exceed the land demand estimates, and are a function of now historical oil and gas exploration which required extensive equipment storage and camp facilities. Additionally, the Territorial Department of Environment and Natural Resources occupies a sizeable property along the Liard River where fire response crews are based and equipment storage and maintenance is required. Through these activities, the Hamlet and First Nation Council through their business holdings have set aside a considerable amount of land which may serve future industrial needs of the community.

	Population		
	550	650	750
	Land Needs (ha)*		
<i>Industrial Use (12 ha)</i>	6.6	7.8	9

\* Land demand for industrial use estimated to range between 10.5 and 12ha/1000 population, higher estimate used for Fort Liard based upon existing businesses and industrial activity

### 7.4.3 Industrial Land Use Issues to Be Addressed

Of the 13.9 ha of surveyed industrial lands available, 7.3 ha consisting of two parcels including one vacant (4.5 ha) and one used by Beaver Enterprises (2.8 ha) occur outside of flood hazards. Some parcels by their vary activity must continue to occur within their current locations (barge landing, gravel pit); however, others may be directed other locations outside of flood risks.

## 7.5 Airport

Airport lands represent 27.6% of the total surveyed lands within the Hamlet, an area of 84.5 ha. This parcel occurs along the southern boundary of the settlement area, in the centre of the municipal boundary. The Airport parcel includes a terminal structure, equipment storage and outside business buildings.

### 7.5.1 Airport Land Supply

Located within the centre of the Hamlet, this site is currently underused, however appropriately classified and established to provide a transportation option for the Hamlet.

**7.5.2 Airport Land Demand**

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As an underused site no additional lands are required for the current needs of this transportation site. Historically, regular air service occurred to the area, along with helicopter services for the oil and gas and exploration industries. These services may return in the future with finalized land claim agreements; however, the existing facility should once again serve the needs of these uses.

**7.5.3 Airport Land Use Issues to Be Addressed**

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As an underutilized site, the Hamlet and First Nation have made use of the facility through the construction of a community garden and through wood storage which serves the current communities needs without impacting the future use of the facility.

## 8.0 Land Administration

The final section of the background report reviews the systems and procedures that the Hamlet uses to administer lands in the municipality.

### 8.1 Land Inventory

The Hamlet does not currently maintain an inventory of land to identify parcels. Documents can be created to help the Hamlet manage a land inventory. The analysis of land areas in this Background Report made use of GIS mapping, and the Hamlet of Fort Liard's Tax Roll Assessment data (2018) to develop a Community Plan.

### 8.2 Acho Dene Koe First Nation (ADKFN) Lands and the Municipal Boundary

The Hamlet of Fort Liard is surrounded by the Acho Dene Koe First Nation Land Claim (and jointly the Fort Liard Metis Nation), including the lands of the Hamlet's Solid Waste Disposal Facility (SWDF) and Sewage Disposal Facility (SDF). The Hamlet's land area is approximately 1225 hectares, which is sufficient in meeting the current and projected needs for the community. However, uncertainty over the surrounding lands and in relocating development toward less flood prone areas may require a boundary expansion or realignment, particularly to ensure continued access to the Hamlet's SWDF and SDF 18 km to the south.

The Hamlet and the ADKFN represent many of the same residents of the community, and even share councillors on their respective boards. Agreement and open communication should be principles of each authority; however, this has not always occurred. With a negotiation process currently occurring, even more confidentiality is noted between each party.

No expansion of the municipal boundary will be supported by the Territory given the current negotiation process; however, should the process ever move forward it would need to follow the Territorial *Community Boundaries Policy 21.10*:

- a) General Criteria
  - i. Territorial Boundary - A community boundary must be within the boundary of the Northwest Territories.
  - ii. Continuous Area - A community boundary shall be defined by one continuous, unbroken line. Exceptions will be considered where it can be demonstrated that there are clear and tangible benefits to the community or that the community government's jurisdiction or authority over an area outside a continuous area is necessary.

- iii. Access - Land within a community boundary should be relatively accessible both to the general public and to the community government in the usual conduct of its responsibilities.

b) Specific Criteria

Boundaries should include sufficient land:

- i. To encompass the projected expansion requirements of the community for a minimum of 20 years and maximum of 30 years;
- ii. To encompass the community water supply;
- iii. To encompass the waste disposal areas;
- iv. To encompass, if possible, resource areas sufficient to provide a 20 year supply of granular material for the community;
- v. To encompass existing or proposed highways providing access to the community;
- vi. To encompass community airstrips and docking areas;
- vii. To encompass areas contiguous to the community that are actively utilized by the community on a continuous seasonal basis for recreational or other purposes and which have property development implications; and
- viii. To encompass area unique to a community on a case by case basis and which may be required by a community in the conduct of its responsibilities.

Applications

- a) Requests for the establishment of a new boundary or the revision of an existing boundary are to be submitted to the Minister.
- b) In accordance with the *Charter Communities Act*, the *Cities, Towns and Villages Act*, the *Hamlets Act*, or the *Settlements Act*, as applicable, requests for the establishment of a new boundary should be in writing accompanied by a request for incorporation. Requests for the revision of a boundary should be in writing, indicating the approval of the community government and accompanied by a map showing the proposed revision.

### 8.3 Permits and Public Information

The Hamlet does not maintain a record of any development projects in the community. It is recommended that a spreadsheet be developed that includes the following items:

- Date
- Location
- Types of development
- Size of development
- Who is the developer

A ***Development Application Form*** has been included as part of the Community Plan. This form will allow the Hamlet to track development projects and provide all of the information that is identified above. It

will also make it easy for Hamlet staff to prepare an annual report for Council and support any future Community Plan Updates.

It is also recommended that the final Community Plan be distributed and shared with the public and key agencies that are likely to act as developers in the community, particularly the NWT Housing Corporation, NWT Power Corporation, and Acho Dene Koe First Nation. Through being informed of the Hamlet's plans and policies these agencies will then be better able to work with the Hamlet to comply with the community vision and aspirations.

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## **Appendix A**

### ***Community Consultation Record***

## 9.0 Community Consultation Record

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This is a record of the community and stakeholder consultation that informed the creation of the Fort Liard Community Plan and Zoning By-law Review. Engagement included three (3) visits to the community and interviews with individuals and key informants from Yellowknife. Methods of consultation included:

- Community Tour
- Open-house/Pop-up Events
- School Visit
- Joint Council Meeting (Hamlet and ADKFN)

Engagement Feedback Results

### 10.0 Visit One (1)

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The first Hamlet visit occurred September 10<sup>th</sup> through 14<sup>th</sup>, 2018.

#### 10.1 Day One

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Started on September 11<sup>th</sup> at 8:30am, meeting with the SAO, Mike Rudkin. Discussed Dillon's intentions for visiting the community at this time, and our intended schedule for the next three days. Noted past work and projects related to the landfill and sewage lagoons and the need to move forward with a fitness centre facility.

Introduced to Alan Harris, Manager of Municipal Operations, who would be providing a tour of community facilities over the first day. Toured out to the Sewage Lagoon where work was underway to drain settling cells as part of capacity needs and water licence requirements. Noted continued work was required to complete cell lagoon grading for the additional storage and settling needs of the system.

Visit to the Solid Waste Facility (Landfill) occurred at the same time, as these are jointly located, unmonitored sites. Municipality has twice weekly waste pick-up, and the site was formally commissioned in 2011. Currently making use of trench 3, with plans to expand three additional cells in the near future with a further 20 years of storage capacity designed and planned for. No contractor materials stored on site, and hazard materials regularly picked up by outside contractor staff for processing and shipment to southern facilities.

Tour continued to the Hamlet's water facility, constructed in 1991, and refurbished in 2011. The current infrastructure and groundwater availability can serve the needs of the community now and well into the future. Dual treatment system that has built in back-ups for all necessary pumps and treatment chambers. In effect the Hamlet has double the capacity of what they are currently using. Back-up generator tested weekly, and the Water Treatment Plant site, while occurring close to the riverfront banks occurs on stable ground is above the potential flood risk for the area.



Drive out past the community garden (initiated by a Hamlet Councillor) with plans for a greenhouse to be installed in the fall. The site occurs on Commissioner's Land (the Airport Lands) within the center of the community.

Short visit to the gravel pit, escarpment face. Territorial Lands that are disputed by the Acho Dene Koe First Nation regarding ownership, this site is historically the location for disposal of vehicles, and the Territorial Government has not removed these. No gravel material is being removed from the site as the quality is not sufficient for road works.

Hamlet constructed a Cold Storage (unheated additional storage space) in 2013, on a previously vacant industrial lot south of the airport property. Four other sites remain in this area appropriately zoned, with the potential for additional lots to be surveyed. Power previously run along road, however not currently in service. Sites occur within the mapped potential floodway.

Firehall and equipment maintained by Hamlet staff, and includes one pump truck, one water truck, and an emergency services vehicle. As of early May 2018, Hamlet council decided that there was insufficient volunteer numbers (4) to run the fire and emergency services. Hamlet will not provide fire response, as risks to volunteer fire service is too great. Additional calls for more volunteers with the First Nation Council and broader community have not resulted in additional volunteers coming forward. To date the fire service is suspended.

Works Facility, six large vehicle bays with an expansion in 2011. Indoor storage of sewage, garbage (both on west side), water and gravel trucks (east) with central office for Bernie Bonnetrouge (Supervisor of Facility Operations and Maintenance). Heat transfer/exchange system was installed which uses excess heat from the neighbouring power plant to heat the works facility recently. Cost benefit analysis being undertaken by Hamlet staff as costs of delivery of this service may exceed the heating costs with conventional oil. Trucks replaced on a 7 year cycle (water) with garbage and sewage replaced more frequently due to the additional wear and tear (mileage) of hauling to the sewage and waste facility 18km out of town.

Walked through the Community Recreational Centre, indoor, solar heated, uninsulated pool closed at the August. Seasonal lifeguards each summer. Community centre with industrial kitchen, storage space currently being converted into a fitness centre. After school program makes use of this space, however did not receive community wellness funding from MACA (ADKFN was the 2018 recipient in March), and after school programming has been reduced to two days of the week. Additional concern that without this funding there will not be supervision of the ice rink and this may not be opened this season.



Day care facility managed by the Hamlet out of a portable structure. Approximately 12 pre-school students with three staff. Interior renovations have been undertaken recently and the space is sufficient. Exterior work may be undertaken in the next few years as part of other Hamlet building exterior works.

Basketball Court and Skateboard Park. Updated in recent years, to convert the formerly underused court surface into a skateboard and bike park. Well maintained, it appears to be used, however did not note youth making use of the space over the three days in community.

Hamlet Office, community Library final tour stop. Social Assistance and Federal staff also based out of the building. Fort Liard Housing Authority has moved to the ADKFN Office. Five Hamlet staff currently

work out of the space, with two replacement positions (Recreational Program Manager and Economic Development Officer) expected in the near future.

It was noted that with proper maintenance that all facilities will continue to function for a further ten years at a minimum.

Discussion with SAO Mike Rudkin regarding change in the community, boundary expansion, strategic plan, and financial outlook.

9-1-1 Service discussion, and when this service may come into effect. RCMP staff turnover approximately every three years, and no current addressing system in place to assist emergency service personnel.

Community walk at night, reviewing the airport, community garden, ball diamond and playground, and both river fronts.

## 10.2 Day Two

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Following the consultation schedule, the morning included a walk of the community meeting with:

- Principal of Echo Dene School
- Councillor of ADKFN, wellness and administrative staff
- Beaver Enterprise President
- Northwest Territories Power
- Dehcho Health and Social Services Centre
- Acho Dene Crafts and Visitor Information Centre
- Territorial Environment and Natural Resources (ENR) Office



Some notes on discussions:

- School has experienced a number of staffing changes this year, including the principal. Still learning about the community and the resources that they have. School has the resources it needs, and does make use of some community services (skating rink, library), although is reconsidering the opening of its own library once more.
- ADKFN Chief was not available. Directed to speak with Operations Manager (Boyd Clark), with some additional thought that the ADKFN ('Band') will be assuming operation of the Hamlet and the process that is currently being undertaken is unnecessary.
- Beaver Enterprises noted that there will be a number of business activities and changes in the near future, however that all communication should proceed through the Band Operations Manager.
- Power Corporation local staff member directed consultation to Daniel Bruno the regional manager in Fort Simpson. Noted that a review of infrastructure was completed in recent months. Current energy needs of the community are substantially lower than in the past. When oil and gas camps were running, much greater need was still being met. Energy Retrofit installed a number of solar panels and batteries that reduced diesel demand substantially. Currently only running energy generator 20% of the time.

- Tour of Health and Social Services Clinic by one of the resident 4 nurses. Constructed in 1982, the facility is cramped by its current uses and needs, with recent water damage from leaking pipes. Storage space limited and limited available space for additional consultation or minor surgery review. Doctors circulated to the clinic to undertake eye exams, dental procedures and other checks as needed (monthly, seasonally). No plans to update or replace the structure.
- Craft and Visitor Centre well stocked and centrally located. Renowned for its quality of wood products. Run by Deputy Mayor Cathy Kotchea, it sells the collective work of over 30 local artists. Supported by the Business Development and Investment Corporation (BDIC). Structure was constructed in 1994 and has no plans for redevelopment.
- Spoke with ENR Renewable Resource Officer – Jim Deneron, the only remaining permanent staff member at the Fort Liard Office. He coordinates and offers on the ground support for fire suppression activities, wildlife monitoring, hunting and fishing licencing with further support from the Dehcho Regional Office in Fort Simpson.

After completing work on the expansion plans for the cemetery, drove along the Valley Main Street to review Beaver Enterprise Camp, 2-Mile Subdivision, Hay Lake Hamlet Campground, park and trail, and road intersection with Highway 7 (Liard Highway) including development within this area.

Further in the afternoon spoke with employees of the Northern Store and General Store and Motel, however no management was available at either location.

Walked to the Gathering Place Wellness Centre during a youth drop in event and spoke with the contract youth employee that manages the space. Did not have much information on available programming, additional needs or an expansion of the space.

Discussion with the Operations Manager of the Acho Dene Koe First Nation (ADKFN) Boyd Clark over the phone at 4:45pm. He is based out of Tumbler Ridge, BC. Concluded at 5:30pm.

### 10.3 Day Three

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Morning in the Hamlet Office, emails to RCMP, ENR, General Store and Motel.

Meeting scheduled with Fort Liard Housing Authority, however no person in office.

Dropped in at Correctional Services and spoke briefly with the Mayor, Genevieve McLeod. She noted that she was interested in hearing of what the process would provide. Spoke highly of existing community housing options from her past experiences and is supportive of the work that Hamlet staff have completed.

Social Services Staff had left for lunch and did not speak with them directly.

Presentation: 'Community Plan and Zoning Bylaw Update' to Hamlet Council at 6pm, taking approximately 30 minutes.

#### **Meeting Minutes:**

Hamlet of Fort Liard By-Law Update

#### **What are the constraints to development?**

No comments

**Q1: At the end of the day – the minister is the one to approve it (the community plan)?**

Hamlet of Fort Liard Community Plan and Zoning  
By-law Review  
Community Consultation Record

- Confirmed – the process must be approved by the minister. The process provides the necessary checks and balances. The Minister will want to make sure that the proper process was followed. Zoning By-law will not go through this process.
- Chief and council were invited to meet with Dillon; not able to attend.

**Q2: Concern is that if the minister does not agree – is there a plan in place?**

- All efforts will be made to reach out to include all groups to make sure all voices are heard, and proper process are followed.

**What are the opportunities?**

Comment: Opportunities for fire protection? Only one exit to Town. Community subdivision at the top of hill? By-law stating that underbrushes should be cut? Suggest reward based enforcement – work with ENR Fire Safe program.

Municipal boundary constraint – extend boundary for future growth. Process will help to identify where the Hamlet recommends the new boundary.

Problem is – depends on intent at the end of the day. Exclusive or inclusive government.

Plan must be done regardless. Band does not have veto right. Duty to consult.

Finished at 7:30pm as council needed to go 'In-camera' for finance deliberations. Dillon staff were excused.

Departure from Fort Liard Sept. 14<sup>th</sup> at 7:05am



## 11.0 Visit Two (2)

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The second visit occurred November 27<sup>th</sup> through 30<sup>th</sup>, 2018

### 11.1 Day One

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End of the day, November 27<sup>th</sup> arrived at the Hamlet office at 4:30pm, briefly meeting with the SAO, Mike Rudkin to review the visit schedule.

### 11.2 Day Two

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November 28<sup>th</sup>. Started at the Hamlet Office at 9am with the Hamlet SAO and were introduced to the newly hired Recreation Coordinator (James) and southern Dehcho Region Economic Development Officer (Brenda). Orientation within the office, and review/preparation of schedule for the day.

Sharing and learning period at the **Echo Dene School** with Grade 10 through 12 students (approximately 15) from 10 to 11:00 am. Students were taught the basic ideas of Community Planning, and why the Hamlet is proceeding through this process now. Other questions included:

- Where do you live?
- How do you get to school, and could you get around without a car?
- Where do you go for fun?

Many children walk to school, however for some a ride is needed from the edge of the community. If the school was moved, this would greatly impact upon their ability to get to and from this location.

Other points brought up:

- Sewer and water should be located in the front of new homes, to protect parking and yards
- Piped services could be considered, or planned for to allow future infrastructure
- Sidewalk should be completed throughout the community, and improve upon the existing dirty/gravel pathway (boardwalk in Wahti and concrete noted)
- Climate Change may impact the Hamlet through forest fires and more frequent flooding
- “Are you trying to move homes?” No, long-term policy example of Tuktoyaktuk, where future development is directed away from flood risks
- “Move the Airport up to the highway junction”, allowing for more flood free residential space in the community



Afternoon; work in Council Chambers, meeting with the Economic Development Officer (EDO) Brenda, noting our interests and options being considered. The Hamlet is primarily considering Tourism growth, acknowledging that significant volumes of traffic (approx. 250,000 vehicles) move past the Liard Highway junction with the Alaska Highway at Fort Nelson BC., each year. Connecting with that tourism movement would have a significant impact upon the Hamlet's economy.

Further opportunities are being explored including the expansion of the Hay Lake Campground, re-connection to historical sites within the community (Northwest Company building), additional tourism 'hosting' or event space, and an encouraged refocus upon the visitor and information sharing role of the Acho Dene Crafts space.

**Council meeting** at 6:00 pm to inform Hamlet council of the current work and options being considered through this community plan and zoning by-law review. Key responses:

- Maintain Community Vision and mandate from the 2018 Strategic Plan.
- Development goals should include:
  - Allowance for residential and commercial uses with the central area of the Hamlet and will need to provide additional thought for those lands outside of this area (including the highway junction)
  - Include climate change discussion, where additional grading of properties (ditching) and raising of structures (above potential floods) are encouraged.
- Other items discussed included:
  - "Can I have a restaurant with my house?" In theory yes, but this is where zoning coverage policies may define property uses
  - Solar panels, or other energy generation opportunities
  - Agricultural opportunities
  - Family wording referring to dwellings
  - **Modular Homes** may be permitted in other areas of the Hamlet outside of the two-mile subdivision, however the single-wide trailers (1970's style) are the structures that are intended for the mobile home residential designation in the two-mile subdivision.
  - Support for the implementation of an addressing bylaw, predominantly the west to east sequential numbering approach, and additional street signs being installed with road names added where not already present.
  - Meeting ended at 7:15 pm

**Public Open House** at the Recreation Complex at 7:00 pm, five (5) residents in attendance. Informal discussion with Margaret Kralt facilitating. Educating those attending on the process underway and the connection between this planning work and the future Hamlet. Participants were presented with information posters and walked through the work Dillon has completed, similar to council. Responses were noted as:

- Purpose of a Community Plan, Zoning By-law and existing adopted reports.
- Infographic on Fort Liard population projects, labour circumstances, land uses, and existing reports

- Hamlet’s Community Plan changes over time (1989 through 2013 versions) – *concerns over current options which may allow for commercial uses at the highway junction, limiting traffic routing into town, and impacting existing businesses*
- “What We Have Heard”, and “Engagement to Date” poster – *noted as being good and realistic issues of the community.*
- Municipal Addressing Bylaw – *Option for municipal addressing which makes use of the existing lot numbers preferred due to existing knowledge of these numbers, and their use in mail and on identification.*



### 11.3 Day Three

November 29<sup>th</sup>. Once more starting at the Hamlet office at 9:00 am. Brief discussions with the SAO regarding the previous evening and planning for the joint council meeting for the evening.

Tour of the community features including playgrounds, warehouse as part of fencing work, and walk within the Highway Corridor area, to understand topography and the potential for development. Determined that there are limited lots available along the highway, and ravines and drainage in the area are likely to further limit potential development.

Public Engagement Open House, available throughout the afternoon in the Hamlet Council Chamber, three (3) residents attending, including two participants from the previous evening’s open house and a member of Hamlet council who had been unable to attend the previous night’s council meeting. Worked through the NWT ATLAS program with residents, and provided a brief overview of materials discusses to the councillor.

Joint Council Meeting, Hamlet of Fort Liard and Acho Dene Koe First Nation - ADKFN (which also serves the interests of the Fort Liard Metis Nation). Those in attendance included:

Hamlet

Mayor Genevieve McLeod  
Cathy Kotchea  
Irene McLeod  
Mike Gonet  
Herbert Berreault  
SAO Mike Rudkin

ADKFN

Chief Gene Hope  
Dennis Nelson  
Morris McLeod  
  
ADKFN Planning Consultant Andrew Baigent  
(via phone)

Also in attendance where staff from Housing Corp., Tom Williams (President), John Dewar (Nahendeh District Director), Erin Shea (Manager, Community Planning and Homelessness), and Janelle Derksen (Community Housing Planner).

Both Council’s participated in a presentation which had been provided the previous evening to Hamlet Council alone. Few additional questions arose, however comments related to:

- Unrelated to the Community Plan process - Existing landowner cannot obtain power as their home occurs partially on airport lands (*illegal non-conforming use*), which is complicated further by reported inconsistency with the building code.

- “Don’t want trailers in town, must be directed to Two-Mile Subdivision”. *Concern remains amongst residents regarding trailers, however module or pre-fabricated structures may be installed in all areas of the Hamlet.*
- NWT Housing Corp. responded to questions on housing trends and intentions for rebuilding. Trend to Multi-plex Dwelling Units (2-, 4-, 6-plexes with a central mechanical and other shared services. Noted as being cheaper to operate.
  - Will not be constructing single-dwellings for social housing, only for lease to own, or other ownership programs
  - New home project may also include 4 bedroom multi-generation

#### NWT Housing Corp. Presentation

- Housing Corp. has vacant land within Fort Liard
- Through the 2016 Strategic Renewal review determined to consider housing as more of a social issue and not an economic business
  - Oriented by each community
  - Community housing support program
    - Seniors cannot afford co-payments; with income less than \$60,000 they cannot hire trades people to get house repairs completed
  - 2400 units in the territory, however there are declining budgets for operations and maintenance, which by 2038 are forecast to be zero.
- Working with communities to use their own land and labour to construct the housing the community needs. Recognizing local (community specific) needs and priorities. Creating plans for when funding or initiatives arise, allowing for action to then be taken. Housing will then meet the needs and interest of the community. About establishing a government to government relationship.
- 50 homes a year being demolished, which then allows for new homes to be replaced. Seven vacant lots, owned by Housing Corp. noted in Fort Liard.
- Noted by Council:
  - 37 homes with 6 or more people
  - 85 common-law homes
  - 55 single parent homesThese are important statistics to consider when designing and providing housing.



Presentation regarding community led Housing Plans, creating background for what is currently present and what is needed in the community. These living documents will function similar to a Community Plan and are about engaging with stakeholders in community to acknowledge circumstances and needs. This pilot program will be rolled out over the next few months. Hamlet Council and ADKFN council members were interested in working through this program.

The ADKFN in particular have existing plans for the construction of an apartment which may be supported by this process.

Departed Community at 7:00am November 30<sup>th</sup>, 2018

## 12.0 Visit Three (3)

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The third visit occurred from January 30<sup>th</sup> to 31<sup>st</sup>, 2019, with a presentation of current draft documents and findings to a joint council of Hamlet and Acho Dene Koe First Nation. In attendance were:

Hamlet

Mayor Genevieve McLeod

Cathy Kotchea

Mike Gonet

Herbert Berreault

SAO Mike Rudkin

ADKFN

Irene McLeod

Council held a special session to consider the Draft Community Plan, Zoning Bylaw and supporting Background Report, starting at 6pm and concluding at 7:30pm. Dillon presented current reports and recorded council feedback on the documents. Council concluded that with minor edits acknowledged they would proceed with the Community Plan Bylaw first reading on Monday February 4<sup>th</sup>.

Edits to the Zoning Bylaw required consideration of a fee policy which is based around an area charge instead of a construction cost value.

Departed Community at 7:15am February 1<sup>st</sup>, 2019

## 13.0 Stakeholder Consultation

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General discussions held with key stakeholders outside of the community through the Community Plan process.

### 13.1 Phone Conversation with ADKFN

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Discussion with the Operations Manager of the Acho Dene Koe First Nation (ADKFN), Boyd Clark over the phone at 4:45pm on Sept. 12<sup>th</sup>, 2018, concluded at 5:30pm, and offered the following:

- He is based out of Tumbler Ridge, BC
- Offered to serve as the primary contact between Dillon and the ADKFN
- Currently negotiating a land claim agreement which is nearing a resolution
- A great deal of work has already been completed by a planning consultant (Andrew Baigent – Urban Systems of Vancouver) in preparing community plans and assessing the existing community assets.
  - ADKFN has concerns regarding the existing taxation system (limited to no taxes are currently collected in the community by the GNWT)
  - Additionally, are not aware of what assets the Hamlet has and their operational requirements.
- Negotiation for the land claim will result in self-government and with the ADKFN taking over the Hamlet's role in the community.
- Offered to pay for Dillon and the Hamlet's SAO to meet with himself and his project team in Vancouver or Yellowknife.
  - *Hamlet Council has expressed concern with meeting outside of the community and has provided direction to the SAO that all meetings should occur within the community.*
- Informed of future timelines and plan to visit the community in November, requesting that he or his council be available at that time.

### 13.2 Phone Conversation with NWT Housing

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John Dewar

District Director NWT Housing Corp, Nahendeh District Office

Logan Juffermans

Dillon Consulting

November 13<sup>th</sup>, 2018

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Brief discussion regarding Dillon's work on behalf of the Hamlet in preparing a new Community Plan, Zoning Bylaw and Emergency Addressing System. Confusion between this process and the work being undertaken by Housing Corp., which was later cleared up. John will be attending the late November community meeting and will work to share additional housing stock details with the project team.

### 13.3 Meeting with NWT Lands

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Laurie Nadia	Superintendent of Lands GNWT – Dehcho Region
Margaret Kralt	Dillon Consulting
Logan Juffermans	Dillon Consulting

Yellowknife Nov. 14<sup>th</sup>, 2018 at Dillon Consulting - #303 4920 47<sup>th</sup> Street

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Discussion regarding Dillon's work in completing a community plan, updated zoning bylaw, and community addressing system for emergency response role out in 2019.

Identified:

- 42 unauthorized occupied homes
- Many vacant and derelict homes

New mapping was flown through the Fort Liard area in 2018 and should be available shortly, contact Bill Peck, Geomatics Specialist Department of Lands.

Equity lease review currently occurring, where depending upon IGO support may result in many parcels with fee simple tenure, or standard leases depending upon occupant interest.

Department of Lands (GNWT) is **seeking clarity and direction from the Hamlet and community on where development can occur**, generally residential interests with some commercial leases and future agricultural leases as new policies are developed by the GNWT.

**Fort Liard SWF**

Solid Waste Facility



ACCESS ROAD

LANDFILL  
CELL

BULK SOLID WASTE  
DISPOSAL AREA

LIARD HIGHWAY

Google Earth

Image © 2013 DigitalGlobe

100 m



# Fort Liard SDF

Sewage Disposal Facility

TRUCK TURN-  
AROUND AREA  
AND CELL  
ACCESS CULVERT

GEOTUBES  
FOR REMOVED  
SLUDGE

CELL #1

CELL #2

CELL #3

ACCESS ROAD

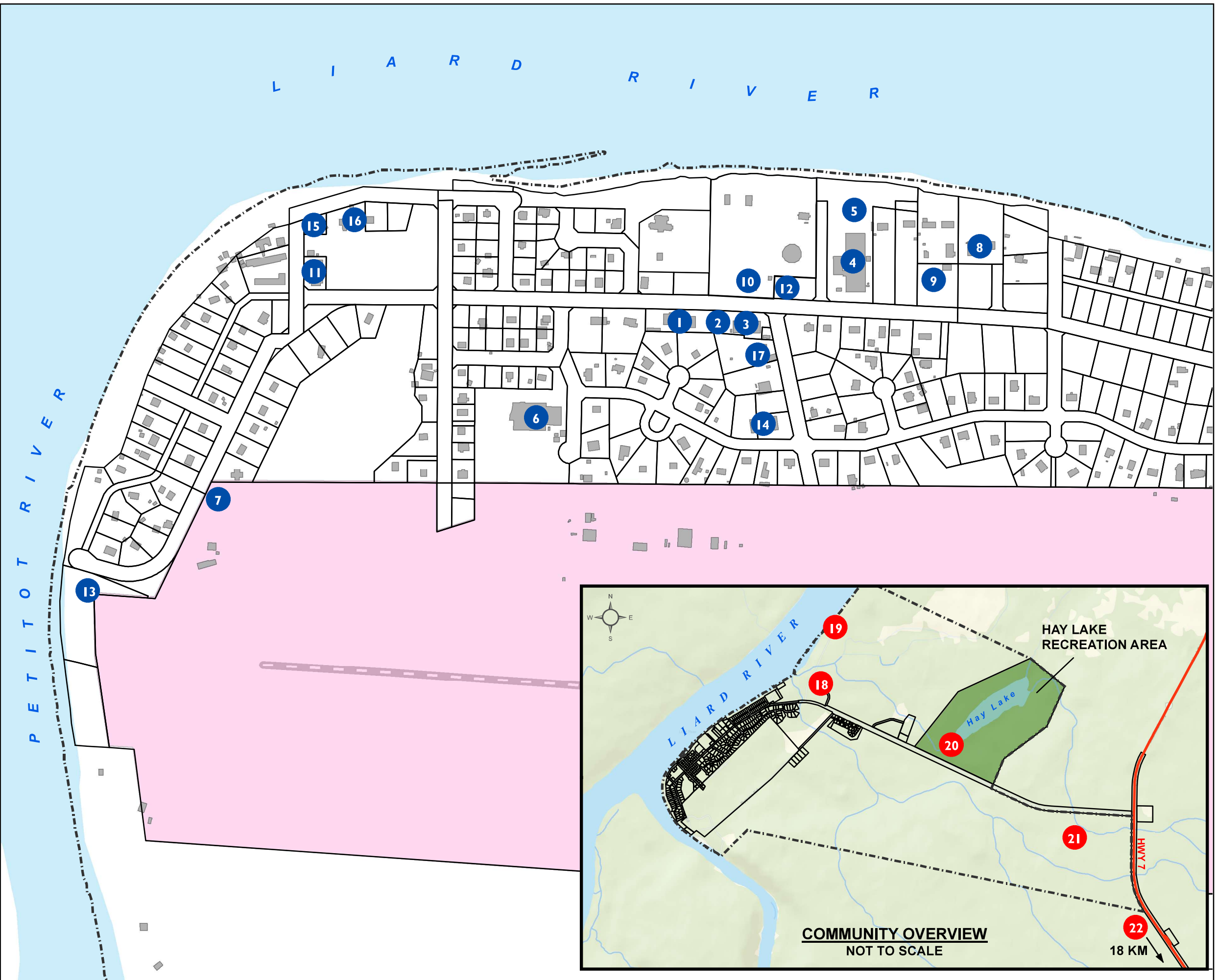
LIARD HIGHWAY

Google Earth

Image © 2019 DigitalGlobe

100 m



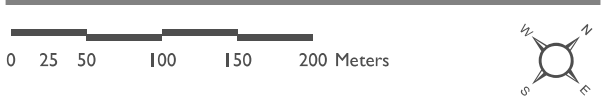


**HAMLET OF FORT LIARD**  
**FORT LIARD COMMUNITY PLAN**

**FACILITY CONCEPT MAP - 2019**  
**FIGURE C**

**LEGEND**

- |                                   |                                  |
|-----------------------------------|----------------------------------|
| 1 Hamlet Office                   | 16 Former Catholic Mission       |
| 2 Fire Hall                       | 17 Power Plant                   |
| 3 Community Garage                | 18 Cemetery                      |
| 4 Community Arena and Pool        | 19 Barge Landing                 |
| 5 Day Care                        | 20 Hay Lake Campground           |
| 6 Echo Dene School                | 21 Cell Tower                    |
| 7 Community Garden                | 22 Sewage Lagoon and Solid Waste |
| 8 Health Centre                   | Airport                          |
| 9 RCMP                            | Community Boundary               |
| 10 Northern Store                 |                                  |
| 11 General Store / Motel          |                                  |
| 12 Dene Craft and Visitor Centre  |                                  |
| 13 Baseball Diamond and Pavillion |                                  |
| 14 Acho Dene Koe Band Office      |                                  |
| 15 Water Treatment Plant          |                                  |



SCALE 1:5,000

MAP DRAWING INFORMATION:  
 DATA PROVIDED BY DILLON CONSULTING LIMITED, GNWT  
 ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS,  
 CNES/AIRBUS DS, USDA, USGS, AEROGRIID, IGN,  
 AND THE GIS USER COMMUNITY

MAP CREATED BY: RBB  
 MAP CHECKED BY: LJ, MK  
 MAP PROJECTION: NAD 1983 UTM Zone 10N



PROJECT: 18-8244  
 STATUS: DRAFT  
 DATE: 2019-01-03