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March 7, 2023

AlecSandra Macdonald, Regulatory Specialist
Gwich'in Land and Water Board
P.O. Box 2018
Inuvik, NT X0E 0T0
email: AMacdonald@glwb.com

Re: Hamlet of Fort McPherson Water Licence Application for Water Licence No. G03L3-001 Renewal

Dear AlecSandra:

We are pleased to provide you with an application package in support of the Hamlet of Fort McPherson's Water Licence No. G03L3-001 application for renewal. This application includes the following documents:

1. Application Form
2. Project Description with supplementary information including responses to the 2018 Review Comment Table;
3. Sewage Disposal Facilities Operation and Maintenance Plan (includes Surveillance and Network Monitoring Plan)
4. Solid Waste Site Operation and Maintenance plan (includes closure plan and hazardous waste management plan).
5. Appendixes to the Solid Waste Site Operation and Maintenance Plan.
6. Spill Contingency Plan
7. Water Treatment Plant Operations and Maintenance Plan

We look forward to working with you through the water licence renewal process. Please contact me if you have further questions or require clarification.

Sincerely,

Ms. Susan Blake
Acting Senior Administrative Officer
Hamlet of Fort McPherson

Cc: Ms. Dana Moran
Inuvik Regional Superintendent – Municipal and Community Affairs

Land and Water Boards of the Mackenzie Valley



APPLICATION FOR LICENCE, AMENDMENT OF LICENCE, OR RENEWAL OF LICENCE IN NON-FEDERAL AREAS

Subsection 5(1) and Schedule C of the [Waters Regulations](#)

Use an "X" to indicate which Board the Application is being made to:	Mackenzie Valley Land and Water Board:		Sahtu Land and Water Board:	
	Wek'èezhii Land and Water Board:		Gwich'in Land and Water Board:	X

To complete this form, please refer to the MVLWB [Guide to the Water Licensing Process](#) (Guide) and fill in the grey fields; attach additional pages, as necessary. Indicate N/A in the grey fields for Items or parts of Items that are not applicable. An application package checklist is provided in the Guide. Review the following MVLWB guidance for formatting your Application Package:

- [Document Submission Standards](#)
- [Standard Outline for Management Plans](#)

If applicable, provide the existing or current Water Licence number:	G03L3-001		
Use an "X" to indicate if this Application is accompanied by another Application for a Water Licence in a federal area and/or a Land Use Permit.	Water Licence:		X
	Land Use Permit:		

1. NAME AND CONTACT INFORMATION – APPLICANT

Applicant's Name:	Ms. Sue Blake		
Position:	Acting - Senior Administrative Officer		
Company Name:	Hamlet of Fort McPherson		
Mailing Address:	Box 57		
Community:	Fort McPherson	Telephone:	867-952-2428
Prov/Terr:	NT	Email:	dirfinance@fortmcpherson.ca
Postal Code:	X0E 0J0	Other:	

2. NAME AND CONTACT INFORMATION – APPLICANT’S HEAD OFFICE

Include a Certificate of Corporate Registration from the Government of the Northwest Territories to your Application Package.

Use an "X" to indicate this information is the same as Item 1 above:		X	
Name:			
Position:			
Company Name:			
Mailing Address:			
Community:		Telephone:	
Prov/Terr:		Email:	
Postal Code:		Other:	

3. LOCATION OF PROJECT

Use the grey fields below to provide or reference the following information:

Traditional Place Name: Teet'it Zheh

Maps and Geographic Information System (GIS) Data: Include a map in your Application Package, identifying local geographic features, watercourses and water sources, project structures, and location(s) of any proposed waste deposits. Provide geographic coordinates (latitude and longitude) of project features, and the maximum and minimum project boundary in degrees, minutes, seconds, or decimal degrees. Include GIS data in your Application Package, if applicable. Refer to the MVLWB [Geospatial Data Submission Standards](#) for providing geographic information.

SWS Boundaries			
Minimum latitude:	67.44914	Maximum latitude:	67.45656
Minimum longitude:	134.80164	Maximum longitude:	134.82310
Deep Water Lake Pumphouse			
Latitude	67.40675	Longitude	134.42671

NTS Map Sheet No.: Provide the map sheet number:

Land Types: Use an "X" to indicate the type(s) of land on which the activities are proposed:

Free Hold/ Private:	X	Commissioner's/ Territorial Lands:	X	Federal Land:		Municipal Land:	X
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4. DESCRIPTION OF PROJECT

Describe the proposed activities in the grey field provided below and contact Board staff to determine whether additional information will be required. For proposed amendments to authorized activities, specify: the nature of the amendment, the condition(s) to be amended, and the rationale for the amendment.

The Hamlet of Fort McPherson will conduct municipal operations under this water licence. This includes the collection and treatment of fresh water from Deep Water Lake. Water use rates vary year to year but

on average annual use is 35,717 m³ (n=14) with an average daily rate of 98 m³/day. Deep Water Lake that has an estimated total volume of 75,000,000 m³.

Approximately 85% (28,000 m³) of Municipal waste water is deposited in a primary treatment lagoon and approximately 15% (5,000 m³) of wastewater is piped into Sewage Lake.

The Hamlet also operates a Solid Waste Site (SWS) where solid waste will be disposed of.

Solid waste is collected from residents and is disposed of at the community Solid Waste Site (SWS) located 4km northwest of the community.

5. TYPE OF UNDERTAKING

Refer to Schedule B of the [Waters Regulations](#). Use an "X" to indicate which one type of undertaking applies:

1	Industrial	
2	Mining and milling	
3	Municipal	X
4	Power	
5	Agriculture	
6	Conservation	
7	Recreation	
8	Miscellaneous	(describe):

6. WATER LICENSING CRITERIA

Refer to Schedules D to H of the [Waters Regulations](#). Use an "X" to indicate which criteria apply:

	Type B	Type A
To obtain water	X	
To cross a watercourse		
To modify the bed or bank of a watercourse		
Flood control		
To divert water		
To alter the flow of, or store, water		
To deposit waste	X	
Other		(describe):

7. PROPOSED QUANTITY OF WATER INVOLVED

Describe the purpose of each proposed water use, name, and type (e.g., lake, river) of the water source, the location, and the quantity of water that would be used in the grey fields below. Add more rows as needed.

Purpose of Water Use	Name and Type of Water Source	Location	Geographic Coordinates		Proposed Water Use Volume/Rate, including units
			Latitude	Longitude	
Municipal	Deep Water Lake	19km East of Fort McPherson	67.39741	134.43016	98 m ³ /day

For each water source identified in the table above, provide a comparison of total proposed water use to the available capacity. Add more rows as needed.

Water Source	Capacity of Water Source, including units	Other Users of the Water Source	Comparison of Total Proposed Water Use to Available Capacity
Deep Water Lake	75,000,000 m3	None	Annual use is 35,717 m ³ or 0.047% of Deep Water Lake's total volume.

8. PROPOSED WASTE MANAGEMENT METHODS

Use the grey field below to provide or reference the following information:

Waste Management Plan: Include a Waste Management Plan in your Application Package, if applicable, or for small-scale activities, describe proposed waste management activities in the grey field provided below. A template for the Plan is available in the MVLWB [Guidelines for Developing a Waste Management Plan](#).

If waste is proposed to be disposed of off-site within the NWT, written confirmation (e.g., an email, letter, etc.) from the facility/facilities indicating they will accept the waste is required. Include it/these in your Application Package. Please note this information will be required by the Board prior to commencement of activities.

Municipalities: Complete the relevant Operations and Maintenance Plans using the available [Templates](#) and include them in your Application Package. Please refer to Sections 4-8 of Environment and Climate Change Canada's [Solid Waste Management for Northern and Remote Communities: Planning and Technical Guidance Document](#).

EQC and AEMP: For activities that involve the deposit of waste into water, provide proposed effluent quality criteria (EQC) in accordance with the MVLWB [Water and Effluent Quality Management Policy](#) and MVLWB/GNWT [Guidelines for Effluent Mixing Zones](#). Please refer to the MVLWB/GNWT [Guidelines for Effluent Mixing Zones](#) when mixing zones are being considered. Please refer to the MVLWB/GNWT [Guidelines for Aquatic Effects Monitoring Programs](#) for more information regarding the development of AEMP programs.

The project description and Operation and Maintenance plans include further details on the waste management methods used by the Hamlet of Fort McPherson.

9. EXISTING WATER USERS AFFECTED BY THIS PROJECT

Describe pre-Application engagement efforts with any existing water users and associated possible claims for water compensation or compensation agreements. Include the names and locations of existing water users (e.g., persons or organizations) in the grey fields below. An additional table should be added for each water user.

Name:	Gwich'in Tribal Council
Community:	
Province/Territory:	NT
Describe Engagement Completed:	Hamlet of Fort McPherson maintains a lease with the Gwich'in Tribal Council for the access to Deep Water Lake.

10. POTENTIAL ENVIRONMENTAL IMPACTS OF THE PROJECT AND PROPOSED MITIGATIONS

If the proposed project, or parts of the proposed project, may be exempt from preliminary screening, describe the rationale for the exemption in the grey field below. Include the date of the most recent screening, and/or the environmental assessment or impact review number.

Unless the project could be exempt from preliminary screening, using the Impact-Mitigation Table below, or the more detailed Table in Appendix F of the [Guide](#), identify all potential impacts and possible mitigations that are relevant to the proposed project, and indicate whether any of the mitigation measures have been developed as a result of input from affected parties. Applicants for type A water licences must use the detailed Table in the Guide; other applicants may choose either the Table below or the Table in the Guide. Possible potential impacts are listed below; however, these lists are not exhaustive and may not apply to all projects. All information provided should reflect the size, scale, and nature of the proposed project. Cumulative impacts and climate change must be considered. Attach additional pages if needed.

Potential Impacts <i>Use an "X" to indicate which apply</i>	X	Potential Project Impacts and Proposed Mitigations <i>Describe the potential impact(s) and the proposed measure(s) to reduce each of these impacts.</i>
ABIOTIC COMPONENTS		
Land		
Soil contamination	X	Inspections of SWS to ensure Hazardous materials are properly managed while being temporally stored and not spilling to land to reduce offsite migration.
Soil compaction	X	Regular use of roads within solid waste site as well as solid waste compaction. Closure Plans explain mitigation
Destabilization/erosion	X	Activities take place within previously disturbed areas and do not extend. Closure plans will monitor for erosion.
Change in soil structure		
Inability to support vegetation	X	Disturbed areas will take many years for revegetation to assimilate the natural surroundings.
Other		Operations are to take place on existing developed land
Water		

Potential Impacts <i>Use an "X" to indicate which apply</i>	X	Potential Project Impacts and Proposed Mitigations <i>Describe the potential impact(s) and the proposed measure(s) to reduce each of these impacts.</i>
Groundwater		
Water table alteration		
Infiltration changes		
Changes in water quality		
Temperature changes		
Other		
Permafrost		
Loss or change in extent	X	Current solid waste site and future sites are on previously disturbed areas. Excavation into non disturbed areas are not expected.
Changes in seasonal fluctuations		
Change in persistence		
Other		
Surface Water		
Water flow or level changes (permanent, temporary, seasonal)		
Drainage pattern changes	X	Surface Water Drainage is diverted in local areas away from disposal cells. Overall drainage in creeks are not impacted
Temperature changes		
Changes in water quality	X	Water samples are taken to monitor potential impacts and exceedances in accordance with the water licence SNP.
Wetland impairment	X	Increased BOD demand from sewage lake into Birch-in Lake. The impacts are mitigated by primary treatment in the sewage lagoon
Changes to aquatic habitat (see Biotic section below)		
Other		
Air		
Changes in air quality		
Harm to living things		
Increased greenhouse gases	X	Decomposition of organic waste in anaerobic environment in a disposal cell generates methane.
Other		
BIOTIC COMPONENTS		
Vegetation		
Direct loss of vegetation	X	Activities take place on previously disturbed areas. The development of new disposal cells disturb native grasses that are emerging from previously disturbed areas.
Loss of Species at Risk or may-be-at-risk plants		
Change in species composition		

Potential Impacts <i>Use an "X" to indicate which apply</i>	X	Potential Project Impacts and Proposed Mitigations <i>Describe the potential impact(s) and the proposed measure(s) to reduce each of these impacts.</i>
Introduction of non-native (invasive) species		
Effects on plant health (dust, metals, toxins)	X	The disturbance at the solid waste site generates dust however is localized to the immediate area surrounding the solid waste site. Good operations as described in the application outline measures to reduce pollution.
Increased risk of fire	X	SWS can pose a fire risk when managed improperly. Waste will be compacted and covered to reduce the risk of fire.
Compaction of vegetation		
Other		
Terrestrial Wildlife Habitat		
Direct loss or removal of habitat, dens, or nests	X	Plans to remove approximately of 1.5 Ha of tree cover at the solid waste site to remove cover for bears. The area will be inspected for dens or nest prior to removal.
Loss or removal of keystone species and/or Species at Risk habitat		
Fragmentation of wildlife corridor		
Direct injury or mortality		
Disturbances to key lifecycle stages: breeding, feeding, nesting, staging		
Effects on population abundance		
Change in species diversity		
Effects on wildlife health (toxins, metals, etc.)		
Changes to migratory movement patterns		
Changes to predator-prey relationships		
Human-wildlife conflicts	X	SWS's can attract bears when scents are not properly managed. Bears pose a safety risk to the public and staff. Waste will be compacted and covered regularly to reduce scents and other wildlife attractants.
Other		
Aquatic Habitat		
Breeding disturbances		
Change in species diversity		
Effects on health (toxins, metals, sediment, etc.)		
Changes to migratory movement patterns		
Changes to predator-prey relationships		
Effects on population abundance		
Change in species diversity		
Other		

Potential Impacts <i>Use an "X" to indicate which apply</i>	X	Potential Project Impacts and Proposed Mitigations <i>Describe the potential impact(s) and the proposed measure(s) to reduce each of these impacts.</i>
CULTURAL COMPONENTS		
Wildlife Harvesting		
Loss or reduction in game species populations	X	Bears have the potential to become habituated to solid waste sites. Good operations as described in the application outline measures to reduce human wildlife interactions.
Effects on traditional land use, subsistence, and harvesting rights		
Other		
Cultural Integrity and Heritage Resources		
Change to or loss of cultural integrity	X	Excavation activities may
Change to or loss of traditional lifestyle		
Change to or loss of heritage resource		
Other		
Social and Economic Well-being		
Increased human health hazard and risk	X	Untreated drinking water, municipal solid waste and sewage present many human health and environmental risks to the residents of the community. The ability of the Hamlet to provide basic services are vital to all residents in Fort McPherson.
Economic opportunities or losses (employment, training)		
Change in ecological, cultural, social, or economic values identified for protection in approved Land Use Plans		
Impairment of the recreational or traditional uses of the land or water		
Impairment of the aesthetic quality of the land or water		
Changes to the use of the area by other non-Indigenous people (e.g., trappers, outfitters, residents, hunters, forest harvesters, other authorized projects)		
Other		

Spill Contingency Plan: Include a Spill Contingency Plan in your Application Package, if applicable, or for small-scale activities, provide relevant details in the grey field provided below. An example of this Plan can be found in the INAC [Guidelines for Spill Contingency Planning](#).

The Spill Contingency Plan has been included in the application package.

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11. NAME AND CONTACT INFORMATION – CONTRACTORS AND SUB-CONTRACTORS

Include relevant names, responsibilities, and contact information in the grey fields below. An additional table should be added for each contractor and sub-contractor.

Name:	Leslie Blake		
Responsibilities:	Sewage collection and trucking to sewage lagoon		
Company Name:	LJ's Septic Services & Contracting Ltd.		
Mailing Address:	PO Box 151		
Community:	Fort McPherson	Telephone:	867-952-2901
Prov/Terr:	NT	Email:	ljcontracting@hotmail.com
Postal Code:	X0E 0J0	Other:	

	Use an "X" to indicate that contractor and/or subcontractor information is not available at this time.
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12. STUDIES UNDERTAKEN TO DATE

In the grey field below list any relevant studies that support the proposed activities and include them in your Application Package.

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13. PROPOSED PROJECT SCHEDULE AND TERM

Indicate the proposed project start and completion dates, and the time of year the project activities are planned to occur. Describe any anticipated temporary closure(s) or seasonal shutdowns. Indicate the term requested.

Start Date:	April 2023	Completion Date:	Ongoing
Municipal operations will continue as long as the community is in need of them.			
Term of Licence Requested:	10 years		

14. ADDITIONAL SUPPORTING INFORMATION

Use the grey field below to provide or reference the following information:

Engagement: Conduct engagement, prepare an Engagement Record and Engagement Plan in accordance with the MVLWB [Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits](#), and include them in your Application Package. Templates are provided in the Guidelines. Please also refer to [Information for Proponents on MVLWB's Engagement Requirements](#).

Eligibility: Contact Indigenous, federal, and territorial governments, and other parties to ensure all appropriate authorizations have been obtained or are in the process of being obtained. Obtain permission from the landowner(s), if necessary (e.g., obtain and reference licences of occupation, leases, access authorizations, etc.) and attach it/them to the Application.

Land Use Plans: Contact the applicable Land Use Planning Board or the Tłjchq Government to discuss conformity with the relevant Land Use Plan(s). Include a Land Use Plan Conformity Table in your Application Package, demonstrating how the project meets the requirements of the Land Use Plan, if applicable.

Traditional (Environmental) Knowledge (TEK/TK): Provision of TEK/TK is mandatory for Applications to the Sahtu Land and Water Board. Other applicants are strongly encouraged to include TEK/TK.

Facilities: Include the supporting information required under subsection 5(2) of the [Waters Regulations](#) if the project includes the following: dam(s); storage reservoir(s); watercourse crossing(s); camp(s) or lodge(s); use of water for industrial use or mining and milling; deposit of waste; or handling or storage of petroleum products or hazardous materials.

Closure and Reclamation: Include a Closure and Reclamation Plan in your Application Package, or for small-scale activities, describe the proposed closure and reclamation activities in the grey field provided below. Describe any temporary closure(s) and seasonal shutdowns. Please also refer to the MVLWB/AANDC [Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories](#) and Environment and Climate Change Canada's [Solid Waste Management for Northern and Remote Communities: Planning and Technical Guidance Document](#).

Closure Cost Estimate: Prepare a Closure Cost Estimate and include it in your Application Package. Applicants are encouraged to contact Board staff, prior to applying, to determine which closure-cost-estimate template is most suited to the project activities being applied for. Guidance is provided in section 2.2 of the MVLWB/AANDC/GNWT [Guidelines for Closure and Reclamation Cost Estimates for Mines](#). If your Application is submitted concurrently with a Land Use Permit Application, the estimate should include a breakdown of water- and land-related activities and liabilities.

Financial Capacity: Provide information relating to your financial capacity, as outlined in paragraph 26(5)(d) of the Waters Act. Please note this information will be required by the Board prior to issuance.


15. FEES

Refer to the Guide for assistance with determining applicable fees.

Type of Fee	Amount (\$)
Application fee (if applicable):	\$30.00
Water use fee deposit:	\$
Total Fees:	\$

16. SIGNATURE

Ms. Sue Blake	Acting Senior Administrative Officer
Applicant's Name (print) or Company Name	Position (print)

	March 7, 2023
Signature	Date

Review the application package checklist provided in the Guide, and submit completed applications to the Regulatory Manager or Executive Director identified on the "Contact Us" pages of the respective Land and Water Board (www.mvlwb.com, www.wlwb.ca, www.slwb.com, www.glwb.com).