



**Mackenzie Valley Land and Water Board**  
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August 30, 2018

File: MV2009L3-0025

Mr. Alan Harris  
Manager, Municipal Operations  
Hamlet of Fort Liard  
General Delivery  
FORT LIARD NT X0G 0A0

Email: [mws@fortliard.com](mailto:mws@fortliard.com)

Dear Mr. Harris:

**2017 Annual Water Licence Report – Acceptance**  
**Hamlet of Fort Liard – Municipal Water Licence MV2009L3-0025**

The Mackenzie Valley Land and Water Board (the Board) met on August 30, 2018 to review the 2017 Annual Water Licence Report (Annual Report) submitted by the Hamlet of Fort Liard (Hamlet) on March 23, 2018, to fulfill Part B, condition 1 and Schedule 1, item 1 and Surveillance Network Program (SNP) Part 4 of Water Licence (Licence) MV2009L3-0025. The Board hereby accepts the Annual Report as submitted.

The Board reminds the Hamlet:

- To use the most recent annual reporting template provided by Board staff. A revised Annual Water Licence Report Template is attached.;
- That it is only required to sample at the parameters listed at each station required in the SNP Annex, Part 2 of the Licence;
- That the Licence SNP requires identification of station 1478-8. The Board anticipates a proposal from the Hamlet to identify this station in the near future; and
- Any updates or details on timing and duration of decant procedures should be included in Section 13 (Other Information) of the annual reporting template each year.

The Board encourages the Hamlet to discuss GNWT-ENR's request to provide water quality data in an accessible file type and to complete their metadata template for posting to the Board's public registry, with GNWT-ENR representatives.

The Board notes and appreciates the Hamlet's efforts to report in accordance with Licence requirements. The Hamlet shall adhere to the commitments made in their responses to reviewer comments dated May 30, 2018.

If you have any questions or concerns, please contact Erica Janes at (867) 766-7466 or email [ejanes@mvlwb.com](mailto:ejanes@mvlwb.com).

If you have any questions or concerns, please contact Erica Janes at (867) 766-7466 or email [ejanes@mvlwb.com](mailto:ejanes@mvlwb.com).

Yours sincerely,



Mavis Cli-Michaud  
MVLWB, Chair

Copied to: Distribution List  
Sonja Martin-Elson, Water Resources Officer, GNWT-ENR, Dehcho Region

Attached: Review Summary and Attachments  
Annual Water Licence Report Template – revised August 30, 2018

### Review Comment Table

<b>Board:</b>	MVLWB
<b>Review Item:</b>	Hamlet of Fort Liard - 2017 Annual Water Licence Report (MV2009L3-0025)
<b>File(s):</b>	<a href="#">MV2009L3-0025</a>
<b>Proponent:</b>	Hamlet of Fort Liard
<b>Document(s):</b>	<a href="#">MV2009L3-0025 - Fort Liard - 2017 Annual WL Report - Mar23-18</a> (3.4 MB)
<b>Item For Review Distributed On:</b>	Apr 17 at 11:19 <a href="#">Distribution List</a>
<b>Reviewer Comments Due By:</b>	May 16, 2018
<b>Proponent Responses Due By:</b>	May 30, 2018
<b>Item Description:</b>	<p>The Hamlet of Fort Liard has submitted their 2017 Annual Water Licence Report, in accordance with Part B, Condition 1 of municipal Water Licence MV2009L3-0025. Although formal approval of Annual Reports is not required under the Licence, the Board must be satisfied that the Hamlet has reported in accordance with the requirements of their Licence.</p> <p>Reviewers are invited to submit questions, comments and recommendations on the 2017 Annual Water Licence Report by <b>May 16, 2018</b>.</p> <p>If you have questions or comments regarding this review or the Online Review System, please contact Erica Janes at (867)766-7466 or <a href="mailto:ejanes@mvlwb.com">ejanes@mvlwb.com</a>.</p> <p>In addition to the email distribution list, the following organizations have received review materials by fax:</p> <ul style="list-style-type: none"> <li>• Fort Simpson Métis Local #52 - Marie Lafferty, President (867)695-2040;</li> <li>• Hay River Metis Council - Trevor Beck, President (867)874-4472;</li> <li>• Northwest Territory Métis Nation - Tim Heron, NWTMN IMA Coordinator (867)872-3586; and</li> <li>• Liard First Nation – Kaska Dena Council - George Morgan, Chief (867) 536-7910.</li> </ul>
<b>General Reviewer Information:</b>	
<b>Contact Information:</b>	<p>Erica Janes 867-766-7466  Heather Scott 867-766-7463  Jen Potten 867-766-7468</p>

### Comment Summary

Hamlet of Fort Liard (Proponent)				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
1	General File	<b>Comment</b> ( <a href="#">doc</a> ) Per MVLWB Reviewer Erica Janes - Comment #3. Tabular summary of SNP results for station 1478-7 attached. <b>Recommendation</b>	N/A	Noted.
Acho Dene Koe First Nation: Julie Swinscoe				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
1	General Comment	<b>Comment</b> ( <a href="#">doc</a> ) ( <b>Submitted after Due Date</b> ) ADKFN acknowledges the submission of the Annual Water License Report to the MVLWB for review under water licence MV2009L3-0025, and is submitting this referral response to inform the board that ADKFN will communicate directly with the Hamlet regarding the report. <b>Recommendation</b> See attached.	<b>May 30:</b> No comment.	Noted.
Environment and Climate Change Canada: Melissa Pinto				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
1	General File	<b>Comment</b> ( <a href="#">doc</a> ) ECCC Cover Letter <b>Recommendation</b>	--	Noted.
2	Sewage effluent quality	<b>Comment</b> Post-decant concentrations measured in July were much higher for Carbonaceous Biochemical Oxygen Demand (CBOD) (90 mg/L) and Total Suspended Solids (TSS) (356 mg/L) than the pre-decant concentrations (27 mg/L CBOD; 44 mg/L TSS) measured in June. A decline in effluent quality could be	<b>May 30:</b> Noted. The Hamlet will develop and implement such procedures if required by the Board.	Board staff note that the Hamlet conducted desludging of the lagoon in September and October of 2017. Desludging is anticipated to improve the functioning of the

		<p>caused by disturbing sludge during decant operations and/or by decanting too low. Procedures should be put in place to prevent this from occurring.</p> <p><b>Recommendation</b> ECCC recommends that the Hamlet of Fort Liard (the Proponent) develop and implement procedures to ensure that settled sludge will not be re-suspended during decant, and/or discharged during decant operations.</p>		<p>lagoon system; should function and sampling results not improve in 2018, changes to decant procedures can be considered in future.</p>
3	SNP summary tables	<p><b>Comment</b> ECCC notes that the summary tables provided in Appendix A are missing concentration units for many parameters. As well, the following parameters were not included in the summary tables: field pH, field temperature, oil and grease.</p> <p><b>Recommendation</b> ECCC recommends that future annual report summary tables provide parameter concentration units, and include data for field pH, field temperature, and oil and grease.</p>	<p><b>May 30:</b> Noted. Concentration units were noted as missing in Appendix A of the current submission for Station Number 1478-6 and 1478-9 summary tables. The Hamlet will include parameter concentration units in its future report summary tables. Data for Oil and Grease will be submitted for future sampling events. Field pH, field temperature data will be collected at future sampling events if required by the Board.</p>	<p>Board staff can provide updated summary tables, including concentration units, in a revised annual reporting template, for the Hamlet's use.</p> <p>Board staff note that the Licence SNP does not require the Hamlet to record field pH, field temperature or oil and grease when sampling any of the SNP stations.</p>
4	SNP summary tables	<p><b>Comment</b> ECCC notes that the summary tables do not include the data measured at lagoon #3 during the fall decant.</p> <p><b>Recommendation</b> ECCC recommends that pre- and post-decant data from September 2017 be included in the summary tables.</p>	<p><b>May 30:</b> Pre-decant data from September 2017 (labelled as August 29th, 2017) can be found in column 3 of the summary tables on page 41 of the Annual Report Submission (Lab Certs on pages 63-64). Post-decant data was not collected as the decant was done in preparation for de-sludging of the cell. For future reporting requirements, please refer to the letter from</p>	<p>Noted.</p>

			the MVLWB dated February 22, 2018 regarding approval of changing the sampling frequency of SNP station 1478-9. The Board has removed the requirement for post-decant sampling at this SNP station.	
5	QA/QC field sampling	<p><b>Comment</b> Quality Assurance/Quality Control (QA/QC) field sampling was not described in the annual report. Sampling locations, dates and results for field blanks, travel blanks and duplicate field samples should be included to ensure appropriate QA/QC is being conducted.</p> <p><b>Recommendation</b> ECCC recommends that QA/QC field sampling is summarized in the annual report.</p>	<p><b>May 30:</b> A QA/QC program will be developed and executed at future sampling events if required by the Board.</p>	Board staff note that QA/QC is covered in the Licence SNP, condition 2(f); the Hamlet is not required by the Licence to develop or report on a QA/QC program.

**GNWT - ENR: Central Email GNWT**

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Analysis
5	General File	<p><b>Comment</b> <a href="#">(doc)</a> ENR Letter with Comments, Recommendations and Attachment</p> <p><b>Recommendation</b></p>	--	Noted
6	General File	<p><b>Comment</b> <a href="#">(doc)</a> Attachment; 2018 Appendix A Example of Water Quality Sample Metadata Template (2)</p> <p><b>Recommendation</b></p>		
1	Topic 1: Annual Report Results EQCs and Exceedances	<p><b>Comment</b> In their 2016 Staff Report and Comments (June 2017), the MVLWB Board Staff recommended the Annual Report template to include Effluent Quality Criteria (EQC) for results provided from Fort Liard compliance SNP station SNP 1478-9 for comparison</p>	<p><b>May 30:</b> Noted. The Hamlet will include a column identifying EQC limits in their tabular summary template and will also highlight exceedences to facilitate results comparison in future submissions if required by the Board.</p>	Board staff note that the most recently revised annual reporting template (revised July 7, 2017) provided to the Hamlet does provide a column for EQCs (Part D,

		<p>purposes. From the EQC, Board staff also recommended Fort Liard to identify/highlight exceedances in their Annual Report. It was noted that EQCs, as provided in Part D Item 2 of the Water Licence not provided in the Fort Liard results reporting template, and that exceedances were not identified/highlighted. As such, ENR identified the following exceedances for the year 2017 - out of a total of 3 sampling events: . BOD [EQC of 30 mg/L]: 2 exceedances, of 41.6 mg/L and 100 mg/L; . TSS [EQC of 40 mg/L]: 3 exceedances, of 44 mg/L, 356 mg/L and 74 mg/L; and . FC [EQC of 1,000 CFU/100 ml]: Possibly 1, reported as &gt;200.5 CFU/100 ml. Results at the end of the treatment system (at Final Discharge Point), immediately prior to entering the receiving environment of Petitot River, reported 1 elevated level for TSS of 84 mg/L.</p> <p><b>Recommendation 1)</b> ENR recommends that Fort Liard’s tabular summary template provide a space allowing for EQC limits to be inserted, facilitating results comparison and identification of exceedances.</p>		<p>condition 2) at SNP station 1478-9. Board staff can send the annual reporting template to the Hamlet again for future use.</p>
2	<p>Topic 2: Dillon’s Inter-Cell Transfer and Decanting Protocol - Reporting</p>	<p><b>Comment</b> Section 5.1.1 of the Sewage Lagoon Capacity Study Final Report (submitted to the MVLWB in 2016) suggested a series of transfers between Cell #1 (receiving wastewater discharges), Cell #2 and Cell #3 and following a</p>	<p><b>May 30:</b> Noted. The Hamlet will include updates and details on timing and duration of decant procedures in future annual report submissions if required by the Board.</p>	<p>The Hamlet should include any updates or details on timing and duration of decant procedures under Section 13 (Other Information) of the</p>

		<p>specific timing prior to one final discharge to the environment in the fall. This Inter-Cell Transfer and Decanting Protocol was designed to help the Fort Liard resolve long term recurring issues of exceeding freeboard and requiring emergency decants. ENR commends the Hamlet for conducting sludge removal in the summer of 2017. For subsequent years (i.e. 2018 and onwards), procedures followed under the Inter-Cell Transfer and Decanting Protocol, should be included within Annual Reports, under Section 2 ii) and/or wherever else deemed appropriate.</p> <p><b>Recommendation 1)</b> ENR recommends future Annual Reports provide updates/details on procedures performed to improve recurring issues relating to freeboard and emergency decants, as per the Dillon’s 2015 Sewage Lagoon Capacity Study Final Report, Inter-Cell Transfer and Decanting Protocol.</p>		<p>annual reporting template provided by Board staff.</p>
3	Topic 3: Water Quality Data	<p><b>Comment</b> The Hamlet of Fort Liard provided its 2017 water quality sampling results in Appendix A in a PDF format. However, the utility of this data is limited by third parties in its current format (i.e. pdf).</p> <p><b>Recommendation 1)</b> ENR recommends that the Hamlet of Fort Liard submit all water quality data associated with the Surveillance Network Program stations and the Sewage Lagoon stations to</p>	<p><b>May 30:</b> Noted. The Hamlet will provide its water quality data in the requested format if required by the Board.</p>	<p>Noted. However, as the public registry doesn’t support xls files, the Board could encourage the Community to discuss this request with GNWT-ENR.</p>



		the Board public registry in an accessible file type (e.g., csv or xls).		
4	Topic 4: Metadata Template	<p><b>Comment</b> ENR appreciates that the Hamlet of Fort Liard provided all monitoring sampling results in Appendix A of the 2017 Annual Report. However, to ensure consistency among reporting by proponents, ENR encourages the use of a standard metadata template. Metadata sets the context for the water quality data, providing a description of data that was collected as part of a water quality sampling program and includes field conditions and a description of laboratory analyses conducted. Metadata standards are required to ensure the proper use and interpretation of the data by the users. Also, as with the water quality data itself, ENR encourages that the metadata be available in an accessible file type.</p> <p><b>Recommendation 1)</b> ENR recommends that the Hamlet of Fort Liard complete the attached metadata template and provide it with the associated water quality data to the public registry in an accessible file type (e.g., csv or xls).</p>	<b>May 30:</b> Noted. The Hamlet will adopt the use of the suggested metadata template if required by the Board.	Noted.  The Board could encourage the community to discuss this request with GNWT-ENR.

**MVLWB: Erica Janes**

<b>ID</b>	<b>Topic</b>	<b>Reviewer Comment/Recommendation</b>	<b>Proponent Response</b>	<b>Board Staff Analysis</b>
1	SNP station identification	<b>Comment</b> Board staff note that no location for SNP 1478-8 has been identified, and recognize that with a Water	<b>May 30:</b> Noted. The Hamlet will endeavour to work with the new Dehcho WRO in order to identify a location for	Acceptable response.

		Resources Officer now hired in the Dehcho region, identification of this station should be possible during the 2018 field season. <b>Recommendation</b> None	SNP 1478-8 during the 2018 field season.	The Board may wish to remind the Hamlet of this Licence requirement.
2	SNP results: station 1478-9	<b>Comment</b> Board staff note that tabular results for SNP station 1478-9 do not provide a comparison to the Licence Effluent Quality Criteria (EQC) listed in Part D, condition 2, and that the Board requested in the June 22, 2017 acceptance letter for the 2016 Annual WL Report that EQC exceedances be identified in annual reporting. The annual reporting template for MV2009L3-0025 provided by Board staff contains tables for each SNP station, and where relevant, Licence EQC for comparative purposes. <b>Recommendation</b> Please ensure that future annual reports compare SNP results at station 1478-9 to the EQC listed in the Licence, and that exceedances are clearly identified.	<b>May 30:</b> Noted. Future annual reports will include a column listing EQCs listed in the Licence and will highlight parameter exceedances to those EQCs if required by the Board.	The Hamlet should make use of the annual reporting template provided by Board staff to increase the likelihood of clear and sufficient reporting of SNP results.
3	SNP results: station 1478-7	<b>Comment</b> The tabular SNP summary section states that results from station 1478-7 are attached separately; Board staff could not locate these results. <b>Recommendation</b> Please append a tabular summary of SNP results for station 1478-7.	<b>May 30:</b> Noted. Tabular results for 1478-7 have been provided to the Board via the ORS. (Posted with the current comment response submission).	Noted. Board staff have posted the tabular summary to the registry.

## Municipal Water Licence Annual Report

**Hamlet of Fort Liard**  
**Licence #: MV2009L3-0025**  
**Reporting year: \_\_\_\_\_**  
**Expires: February 29, 2020**

The Licensee shall file an Annual Report with the Board not later than **March 31<sup>st</sup>** of the year following the calendar year reported which shall contain the following information:

**1. Water Usage (B.1.a)**

**Licensed Water Volume Withdrawal: not to exceed 40,000 m<sup>3</sup>**

Total volume withdrawn for reporting year: \_\_\_\_\_ m<sup>3</sup>

**Table 1: Monthly & Annual withdrawal volumes pumped (Surveillance Network Program station 1478-3)**

Month	Volume from main source (m <sup>3</sup> )	Volume from any other source (m <sup>3</sup> )	TOTAL Volume (m <sup>3</sup> )
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
TOTALS			
% Increase/decrease from previous year			

Reasons for increase / decrease:

Reasons for exceeding the annual licensed withdrawal volume (if applicable):

General information:

Information regarding any modifications to the water withdrawal procedure or facilities should be included here. If necessary please attach any relevant reports to the end of this document.

**2. Waste Disposal (B.1.b)**

**i. Solid Waste**

Approximate total yearly volume of solid waste deposited: \_\_\_\_\_ m<sup>3</sup>

*GNWT – MACA has provided a standard formula for estimating the amount of solid waste deposited into a Solid Waste Facility in the absence of a metered Garbage Truck. The following can be used: **Volume per person per day X number of days X population***

*e.g. **0.015 m<sup>3</sup>** X 30 days X 860 people = 387 m<sup>3</sup> of domestic trash deposited into Solid Waste Facility in a 30 day month*

**Table 2: Monthly solid waste disposal volumes**

Month	Volume of solid waste deposited (m <sup>3</sup> )
January	
February	
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	
TOTALS	
% Increase/decrease from previous year	

Reasons for increase / decrease (e.g. an industrial project close to the Hamlet of Fort Liard, or a large influx of people into town):

Information regarding any agreements with outside organizations to be a waste receiving facility should be outlined here along with an estimate of the amount and type of waste to be received.

**ii. Sewage**

*To calculate monthly sewage waste deposited to the Primary Lagoon, please provide the above information if metered information is available. If metered information is not available, please fill in the table using the corresponding TOTAL water volumes from Table 1. This provides estimation only and equals water in/sewage out. WTP = Water Treatment Plant.*

**Table 3: Monthly sewage waste disposal volumes**

Month	Volume of waste deposited (m <sup>3</sup> )				
	Pumper Truck	Piped	WTP sludge	WTP backwash	TOTAL
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
TOTALS					
Is this an estimated volume? (yes/no)					
% Increase/decrease from previous year					

Reasons for increase / decrease (e.g. an industrial project close to the Hamlet of Fort Liard, or a large influx of people into town):

Was there any decanting this reporting year? Please provide dates. What was the decant duration and the approximate volume decanted? As this is a Surveillance Network Program (SNP) site, the resulting testing is to be presented as part of the tabular SNP data to be provided as per the Water Licence [Part B(1)(d)].

**i. Other Waste Sources**

Are there any other types or sources of waste that were deposited at the Hamlet's Waste Disposal Facilities? Please list the type/source, where it is being deposited, and monthly/annual volumes for each waste.

**3. Problems, modifications or repairs completed during the year on Water Supply and Waste Disposal Facilities (B.1.c)**

Include a summary of any work done to infrastructure for all facilities completed during the year in this section. This includes any changes, repairs, maintenance and modifications. If any problems occurred during the year, please note them here. If there are no changes, make note of that. If required please attach any as-built drawings or reports as appendices to this report.

**4. Surveillance Network Program Data (B.1.d)**

Tabular summaries of all data generated under the Surveillance Network Program (SNP) should be included using the tables in Appendix A (attached). All lab results should also be attached as an appendix to this report.

**5. Unauthorized discharges (B.1.e)**

List any unauthorized discharges here including any spills, how and when they were reported, and how they were cleaned up. Please attach copies of spill reports, correspondence with the GNWT Inspector or any other pertinent documentation as appendices to this report.

**6. Spill Training and Communications Exercises (B.1.f)**

List any spill training and communications exercises that have been carried out including courses on spills prevention, waste management, SNP sampling, etc.

**7. Abandonment and restoration (B.1.g)**

Include any abandonment and restoration details here including any work anticipated to be completed during the next year. If required please attach any as-built drawings or reports as an appendix to this report.

**8. Studies requested by the Board (B.1.h)**

If the Board has requested that specific studies be completed, include details in this section with a summary of the outcome(s). Include any attachments as appendices to this report.

**9. Other details (B.1.i)**

If the Board (before November 1 of the year being reported) has requested that additional details be provided on water use or Waste disposal, these should be provided in this section.

**10. Updates or revisions to the approved Spill Contingency Plan (B.1.j)**

Include details on any changes to the approved Spill Contingency Plan, including contact names and phone numbers.

**11. Monthly and annual quantities of Sewage solids removed from the Sewage Disposal Facilities (B.1.k)**

**Table 4: monthly and annual quantities of sludge removed from Sewage Disposal Facilities**

Month	Volume of sludge removed (m3)	
	Sewage Disposal Facility	Total
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		
TOTALS		
Is this an increase in volume	YES	NO
% Increase/decrease from previous year		

What testing was completed on the sludge and where it was disposed of? Please provide documentation for testing and GNWT Inspector approval of placement.

**12. Updates or revisions to approved Operation and Maintenance Plans (B.1.l)**

Summarize any updates or revisions to Management Plans and Operations and Maintenance Plans. Add rows to the table if necessary. Please attach documents as appendices to this report.

**Table 6: Updates to Plans**

<b>Plan</b>	<b>Summary of revisions made</b>	<b>Effective date</b>

**13. Sewage deposited by remote camp and liquid waste haulers (B.1.m)**

Include the annual quantity of all sewage deposited by each remote camp and liquid waste hauler into the Sewage Disposal Facilities.

**14. Other Information**

- Include all correspondence between the Inspector and the Licensee.
- Include any other information here that may be valuable to the MVLWB.
- Include details on upcoming studies that will be completed.
- Please include any non-compliance items identified in GNWT Inspection reports and detail how the Hamlet of Fort Liard is addressing them.
- If there are any contaminated soil piles currently in use (land farming), please list the details of containment, remediation and progress in this section.
- Please identify any on-going compliance issues for the Hamlet of Fort Liard. This can facilitate discussions to resolve the issues.



## Appendix A: Tabular summaries of all data generated under the Surveillance Network Program for the Hamlet of Fort Liard (MV2009L3-0025)

### Surveillance Network Program Lab Results Summary

Surveillance Network Program (SNP) information is to be summarized in a tabular format and shall indicate date of testing, parameters tested for, and any other information requested by the GNWT Inspector or the MVLWB. Summary tables have been provided below for your convenience. Laboratory analysis results should also be appended.

#### 1) SNP Summary – Station number 1478-3 (Raw water supply from new community well)

Month	Volume from new community well (m <sup>3</sup> )	Volume from any other source (m <sup>3</sup> )	TOTAL Volume (m <sup>3</sup> )
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
ANNUAL TOTALS			

*Note that as per SNP Annex Part 2, condition h), this station shall be sampled and analysed to the satisfaction of an Environmental Health Officer and/or Inspector.*

#### 2) SNP Lab Results Summary – Station number 1478-6 (Water from stream flowing to Petitot River upstream of culvert at Highway #7)

This station shall be sampled one week prior to discharge and weekly during discharge, and monitors effluent from the Sewage Disposal Facilities following decant (***exact location to be determined with an Inspector***). Note that if the decant period is less than seven days, this station shall be sampled on the first and last day of decant (add columns if necessary).

Parameter	Sample 1 Date	Sample 2 Date	Sample 3 Date	Sample 4 Date	Sample 5 Date	Sample 6 Date	Sample 7 Date	Sample 8 Date
pH (pH units)								
Faecal Coliforms (CFU/100mL)								
Total Suspended Solids (mg/L)								
Conductivity								
Ammonia-Nitrogen								
BOD <sub>5</sub> (mg/L)								
Total Dissolved Solids (mg/L)								
CBOD (mg/L)								

Note: BOD<sub>5</sub> = Biological Oxygen Demand

Please add additional rows to the table as required, to record any additional parameters measured.

### 3) SNP Lab Results Summary – Station number 1478-7 (Backwash discharge from greensand filter at the water treatment plant)

This station shall be sampled quarterly for Total Metals (ICP-MS(2)), during backwash operations of the greensand filter to determine water quality of backwash discharge into the Liard River.

Parameter	Sample 1 Date	Sample 2 Date	Sample 3 Date	Sample 4 Date
Total Aluminum (µg/L)				
Total Arsenic (µg/L)				
Total Antimony (µg/L)				
Total Barium (µg/L)				
Total Beryllium (µg/L)				
Total Cadmium (µg/L)				
Total Cesium (µg/L)				
Total Chromium (µg/L)				
Total Cobalt (µg/L)				
Total Copper (µg/L)				
Total Iron (µg/L)				
Total Lead (µg/L)				
Total Lithium (µg/L)				
Total Manganese (µg/L)				

Total Molybdenum (µg/L)				
Total Nickel (µg/L)				
Total Rubidium (µg/L)				
Total Selenium (µg/L)				
Total Silver (µg/L)				
Total Strontium (µg/L)				
Total Thallium (µg/L)				
Total Titanium (µg/L)				
Total Uranium (µg/L)				
Total Vanadium (µg/L)				
Total Zinc (µg/L)				

Please add additional rows to the table as required, to record any additional parameters measured.

#### 4) SNP Lab Results Summary – Station number 1478-8 (Runoff from Solid Waste Disposal Facilities)

This station shall be sampled at least twice annually during periods of flow (add columns if necessary).  
(*exact location to be determined with an Inspector*).

Parameter	Sample 1 Date	Sample 2 Date	Sample 3 Date
pH (pH units)			
Total Suspended Solids (mg/L)			
Hydrocarbons (mg/L)			
Total Aluminum (µg/L)			
Total Arsenic (µg/L)			
Total Antimony (µg/L)			
Total Barium (µg/L)			
Total Beryllium (µg/L)			
Total Cadmium (µg/L)			
Total Cesium (µg/L)			
Total Chromium (µg/L)			
Total Cobalt (µg/L)			
Total Copper (µg/L)			
Total Iron (µg/L)			
Total Lead (µg/L)			
Total Lithium (µg/L)			
Total Manganese (µg/L)			
Total Molybdenum (µg/L)			
Total Nickel (µg/L)			
Total Rubidium (µg/L)			
Total Selenium (µg/L)			
Total Silver (µg/L)			

<b>Total Strontium</b> (µg/L)			
<b>Total Thallium</b> (µg/L)			
<b>Total Titanium</b> (µg/L)			
<b>Total Uranium</b> (µg/L)			
<b>Total Vanadium</b> (µg/L)			
<b>Total Zinc</b> (µg/L)			

Please add additional rows to the table as required, to record any additional parameters measured.

**5) SNP Lab Results Summary – Station number 1478-9 (Wastewater from new Cell 3 of the Sewage Disposal Facilities)**

*This station is the site of compliance.* This station shall be sampled one week prior to discharge and weekly during discharge, and monitors the final sewage effluent quality before discharge to the receiving environment. Note that if the decant period is less than seven days, this station shall be sampled on the first and last day of decant (add columns if necessary).

<b>Parameter</b>	<b>EQC (Part D, item 2)</b>	<b>Sample 1 Date</b>	<b>Sample 2 Date</b>	<b>Sample 3 Date</b>	<b>Sample 4 Date</b>	<b>Sample 5 Date</b>	<b>Sample 6 Date</b>	<b>Sample 7 Date</b>
<b>pH</b> (pH units)	<b>6-9</b>							
<b>Faecal Coliforms</b> (CFU/100 mL)	<b>1,000 CFU/100 mL</b>							
<b>Total Suspended Solids</b> (mg/L)	<b>30 mg/L</b>							
<b>Conductivity</b> (µS/cm)								
<b>Ammonia-Nitrogen</b> (mg/L)								
<b>BOD<sub>5</sub></b> (mg/L)	<b>40 mg/L</b>							
<b>Total Dissolved Solids</b> (mg/L)								
<b>CBOD</b> (mg/L)								
<b>Oil and Grease</b>	<b>No visible sheen</b>							

Note: BOD<sub>5</sub> = Biological Oxygen Demand; CBOD = Carbonaceous Biological Oxygen Demand

Please add additional rows to the table as required, to record any additional parameters measured.

**6) Lab Results Summary – Station number 1478-10 (Sedimentation Pond at the new Solid Waste Facility)**

This station monitors water collected prior to discharge, and shall be sampled prior to discharge.

<b>Parameter</b>	<b>Sample 1 Date</b>	<b>Sample 2 Date</b>	<b>Sample 3 Date</b>
<b>pH</b> (pH units)			
<b>Total Suspended Solids</b> (mg/L)			
<b>Hydrocarbons</b> (mg/L)			
<b>Turbidity</b> (NTU)			
<b>Total Aluminum</b> (µg/L)			
<b>Total Arsenic</b> (µg/L)			
<b>Total Antimony</b> (µg/L)			
<b>Total Barium</b> (µg/L)			
<b>Total Beryllium</b> (µg/L)			
<b>Total Cadmium</b> (µg/L)			
<b>Total Cesium</b> (µg/L)			
<b>Total Chromium</b> (µg/L)			
<b>Total Cobalt</b> (µg/L)			
<b>Total Copper</b> (µg/L)			
<b>Total Iron</b> (µg/L)			
<b>Total Lead</b> (µg/L)			
<b>Total Lithium</b> (µg/L)			
<b>Total Manganese</b> (µg/L)			
<b>Total Molybdenum</b> (µg/L)			
<b>Total Nickel</b> (µg/L)			
<b>Total Rubidium</b> (µg/L)			
<b>Total Selenium</b> (µg/L)			
<b>Total Silver</b> (µg/L)			
<b>Total Strontium</b> (µg/L)			
<b>Total Thallium</b> (µg/L)			
<b>Total Titanium</b> (µg/L)			
<b>Total Uranium</b> (µg/L)			
<b>Total Vanadium</b> (µg/L)			
<b>Total Zinc</b> (µg/L)			

*Please add additional rows to the table as required, to record any additional parameters measured.*

**SNP Annex, Condition 3 b) requires the weekly and total volume of effluent discharge during any release of effluent from the Sewage Disposal Facilities to be measured and recorded.**

<b>Date</b>	<b>Volume (m<sup>3</sup>)</b>

*Please add additional rows to the table, as required, to record volumes for release(s).*