



Sahtu Land and Water Board

Staff Report

Division: Land Program	Report No.: 1
Date Prepared: January 22, 2018	File No.: S17X-006

Meeting Date: January 29, 2018

Subject:

New Type A Land Use Permit for installation of monitoring wells in various communities in the Sahtu Region submitted by Government of Northwest Territories, Department of Municipal and Community Affairs.

1. Purpose/Report Summary

The purpose of this Report is to present to the Sahtu Land and Water Board for consideration:

- a) the new Land Use Permit (LUP or Permit) Application S17X-006 for installation of groundwater monitoring wells in vicinity of active, decommissioned and/or closed municipal disposal facilities of various communities in the Sahtu;
- b) the draft Preliminary Screening Report;
- c) the Engagement Plan and Record;
- d) the Spill Contingency Plan;
- e) the Waste Management Plan; and
- f) the draft terms and conditions for the new LUP.

2. Background

- **December 13, 2017** – the Sahtu Land & Water Board (SLWB or Board) received [a new application for a Type A Land Use Permit](#) submitted on behalf of the Government of Northwest Territories, Department of Municipal and Community Affairs (GNWT-MACA or MACA) by Dillon Consulting Limited.
- **December 14, 2017** – the Applicant was advised that minor corrections were required;
- **December 15, 2017** – the Board received a [revised application](#) with corrections;
- **December 18, 2017** – the Application was [Deemed Complete](#);
- **December 19, 2017** - Review packages were sent out electronically to members of the Tulita District and K'asho Got'ine District Distribution Lists using the [Online Review System](#);
- **January 9, 2018** - The draft Permit was circulated for consideration during the public review;
- **January 16, 2018** – Reviewer comments due and received;
- **January 18, 2018** – Applicant responses received;
- **January 22, 2018** – late comment submitted by SLWB Staff, Applicant response received same day;
- **January 23, 2018** - Applicant response deadline; and
- **January 29, 2018** - Presentation of Application to the Board for decision and end of 42-day timeline.

3. Discussion

3.1 Project Overview

On December 13, 2017, GNWT-MACA applied for Type A Land Use Permit S17X-006 to install monitoring wells in the vicinity of active, decommissioned and/or closed landfill and sewage lagoon facilities in various communities in the Sahtu. Communities included in the project scope are:

- Norman Wells – Active Landfill (5 wells);
- Colville Lake – Active Lagoon, Active Landfill and Closed Landfill (13 wells);
- Fort Good Hope – Active Lagoon, Active Landfill and Closed Landfill (13 wells); and
- Tulita – Active Lagoon and Active Landfill (8 wells).

The proposed well locations are included in [Appendix B \(Proposed Project Location Maps\)](#) and [section 19 of the Application \(Additional Information\)](#) states that the number of wells may be slightly modified during the installation program depending on site conditions.

The purpose of the project is to characterize the sites' physical, surface, and subsurface characteristics and site water management which will include monitoring groundwater within the vicinity of waste disposal sites for environmental contaminants. The project activities will include:

- Minor brushing clearing (where required);
- Borehole drilling;
- Installation of monitoring wells (approximately 5 wells for each landfill and 3 for each lagoon);
- Vehicle gate installation (where required);
- Monitoring well development and surveying; and
- Groundwater sampling.

A 2" PVC (polyvinyl chloride) well will be installed at each sampling location, drilled to permafrost or refusal. Each well will be protected with a lockable 6" steel casing. The wells are sealed against surface water intrusion and stick up 2-3 feet above the ground surface. Depending on site conditions, surface water samples may also be collected if deemed appropriate for the site. Where required, lockable vehicle gates will also be installed at the facilities so that communities have the option to limit public access to the sites. Following well installation, a post-installation report and sampling results report will be provided to the GNWT and a long-term sampling plan and sampling procedures manual will be developed specific to each site.

The activities are planned to commence January 31, 2018, immediately after issuance. [Appendix H](#) of the Application (teleconference meeting minutes) indicates that the drilling activities are scheduled during the winter (Feb-Mar) with sampling in July/August 2018. The period of operation in the application is January 31, 2018 to October 31, 2018.

[Appendix H](#) of the Application (teleconference meeting minutes) indicates training will take place at each of the communities while Dillon Consulting is on site during the sampling phase of the project. MACA has committed to provide each community a copy of the sampling results, a site- specific Sampling Procedures Manual, and long-term sampling plans for their sites upon completion of the project.

Management Plans

A [Waste Management Plan](#) (Version 1.0), [Spill Contingency Plan](#) (Version 1.0), and [Engagement Plan](#) (Version 1.0) and Records ([Appendix F](#) - pre-submission log, [Appendix G](#) – engagement record, [Appendix H](#) – teleconference meeting minutes (September 28, 2017)) were included with the [Application](#).

As described in the Application and Table 2 of the Waste Management Plan (WMP), the proposed location for all waste management activities is on-site where monitoring well installation occurs. At each location waste generated

will be collected by the drilling company onsite. Where possible, waste generated on-site will be disposed at the active community landfills present in the vicinity of the work. Although access to the sites already exists, some minor brush clearing may be required; which will be disposed of along with the non-hazardous garbage at the local community landfill.

The WMP details that waste from drilling activities will be collected by the drilling contractor, placed in barrels, and shipped to the appropriate waste disposal facility. Domestic wastes will be placed into a waste receptacle and disposed of at local landfill sites. Water that is suspected to be impacted will be collected, stored in barrels, and shipped to an appropriated facility off-site for treatment.

MACA will obtain approval from each community prior to disposing of waste in community landfills. If disposal is not possible in local community landfills (i.e. hazardous or potentially hazardous waste), then material will be collected and shipped to an appropriate off-site waste disposal facility.

As described in section 11 of the Application and the Spill Contingency Plan, minimal fuel storage is planned (a 1000L container of diesel mounted on a support truck to be used to re-fuel the drill rig and 2 x 25L Jerry Cans of gasoline on a support truck to be used to re-fuel equipment). A drum-style spill kit will be supplied at each work site and Section 4 of the SCP provides details on kit contents while Section 1.10 provides details of preventative measures to be implemented. Section 3 of the SCP provides details of spill response (action) plans with all spill related wastes to be placed in barrels for future disposal at an approved facility.

Equipment and Infrastructure

The following equipment is identified as required for the installation of groundwater monitoring wells in the LUP Application:

- Marl-M 4CT – 140 HP – auger drill
- Canycom Rubber Track Undercarriage – 15’9” long, 7’9” wide, 15-116000lbs including drill
- F550 Flatbed

There is no camp associated with this operation.

Eligibility

GNWT-MACA is eligible per subsection 18(b) of the MVLUR: “...has the right to occupy the land and either contracts to have the land-use operation carried out or is the person who is to carry out the operation.”

Fees

No application fee was required as the Applicant is the Territorial Government.

Term

GNWT-MACA has applied for a term of two years, January 1, 2018 to January 1, 2020.

3.2 Process Requirements

Application Received: December 13 to 15, 2017

Application Deemed Complete: December 18, 2017

Application Forwarded for Review: December 19, 2017

Draft LUP Forwarded for Review: January 9, 2018

Number of Review Agencies: 36¹

Review Period End Date: January 16, 2018

¹ See Online Review System (http://lwboris.yk.com/LWB_IMS/ReviewComment.aspx?appid=12367): [Distribution List](#)

Proponent Response Date: January 23, 2018

End of 42-day timeline: January 29, 2018

The activities as described trigger a Type A Permit in accordance with paragraph 4(b)(i) of the MVLUR:

- 4 No person shall, without a Type A permit, carry on any activity that involves
 - (b) on land within or outside the boundaries of a local government,
 - (i) the use of motorized earth-drilling machinery the operating weight of which, excluding the weight of drill rods, stems, bits, pumps and other ancillary equipment, equals or exceeds 2.5t, for a purpose other than the drilling of holes for building piles or utility poles or the setting of explosives within the boundaries of the local government.

Of the 36 organizations to which the application was distributed, 21 are represented within the Sahtu Settlement Area. Review comments were received from:

- Environment and Climate Change Canada (ECCC);
- GNWT – Department of Environment and Natural Resources (ENR);
- GNWT – Department of Lands; and
- SLWB staff.

The Review Comment Summary Table and submitted letters from ECCC and ENR are attached to this report (Attachment 2).

4. Comments

4.1 Permission of Land Owner, Community Consultations and Traditional Knowledge

Most sites are on Commissioner’s Land, therefore official permission to access the sites comes from the Lands Department. The Department of Lands has given permission in the form of a reserves around the sewage and solid waste sites for all communities except Norman Wells where an existing application for the proposed Mackenzie Gas Project is in place. Included in [Appendix A](#) of the Application is a letter from the Department of Lands identifying all issued reserves and support of the proposed project in Norman Wells, which is adequate for the Permitting process.

The Application included an Engagement Plan ([Appendix E](#)) as well as pre-submission engagement details ([Appendix F – Engagement Log](#), [Appendix G – Engagement Record](#) and [Appendix H – Teleconference Meeting Minutes](#)). MACA provided written notification to potentially affected stakeholders of the planned submission of the LUP application on September 11, 2017.² MACA held a teleconference meeting on September 28, 2017 which was attended by the Hamlet of Tulita Senior Administrative Officer.³ A summary of all pre-submission engagement efforts is provided in Appendix F and Appendix G includes copies of information provided. The Mayor of the Town of Norman Wells provided a signed copy of the requested Acknowledgement of Engagement Letter on September 26, 2017 indicating that there were no concerns or questions. The Mayor of Tulita also provided a signed copy of the Acknowledgement of Engagement Letter on September 26, 2017. Copies of these letters are included in the Engagement Record (Appendix G, pg 18 and 25). Triggers for life of project engagement have been included in the Engagement Plan. In Board staff’s opinion, the applicable guidelines have been met.

No reviewer comments were related to engagement.

No traditional knowledge was submitted with the Applications.

² SLWB Online Registry: [S17X-006 – GNWT-MACA – Appendix F – Dec 13 17](#)

³ SLWB Online Registry: [S17X-006 – GNWT-MACA – Appendix H – Dec 13 17](#)

4.2 Management Plans

Version 1.0 of GNWT-MACA's Waste Management Plan does not include letters from municipalities confirming acceptance of wastes from the activities however MACA commits to obtaining the appropriate approvals prior to disposing of waste in community landfills in section 2.1 (Infrastructure Required for Waste Management). The draft Permit also includes requirement of written notification to the Board and Inspector 10 days prior to the initial deposit of waste (condition 24). During the review process Board staff had requested clarification regarding the disposal of spill-related wastes and the Proponent confirmed that the materials would not be disposed of at municipal facilities (SLWB Staff ID#1). In Board staff's opinion this Plan satisfies the Boards' Guidelines for Developing a Waste Management Plan.

During the review process, it was noted that Version 1.0 of GNWT-MACA Spill Contingency Plan (SCP) required correction for the contact information of Environment and Climate Change Canada (ECCC) Enforcement (ECCC ID#3). GNWT-MACA stated that the contact information would be revised to reflect this. Overall, the Board believes this Plan satisfies the Aboriginal Affairs and Northern Development Canada's Guidelines for Spill Contingency Planning, 2007. The updates required are minor and given the commitments made during the review period will not influence operations.

4.3 Preliminary Environmental Screening

Section 124(1) of the Mackenzie Valley Resource Management Act requires the Board to undertake a Preliminary Screening of any proposed development prior to the issuance of a Licence, Permit or Authorization.

Based on information provided in the application and by referral agencies (see below) a Preliminary Environmental Screening (PES) was performed. The draft PES is attached (3). The report concludes that the environmental impact of the proposed project can be mitigated with known technologies and that no significant public concerns have been raised. The draft Preliminary Environmental Screen was forwarded to MVEIRB on January 24, 2017 and the final version will be forwarded to the MVEIRB once it has received approval from the Board.

4.4 Conformity with the Land Use Plan

Pursuant to subsection 61(1) of the MVRMA, the Board may not issue a licence or permit except in accordance with any applicable land use plan. The Sahtu Land Use Plan (SLUP or Plan) received approval and came into effect on August 8, 2013. The Plan applies throughout the Sahtu Settlement Area except for "lands in a settlement area that comprise a park to which the *Canada National Park Act* applies, that have been acquired pursuant to the *Historical Sites and Monuments Act* or that are situated within the boundaries of a local government."⁴

All activities are contained within the boundary of the Charter Communities of Fort Good Hope (K'asho Got'ine), Colville Lake and Tulita as well as the Town of Norman Wells thus the SLUP does not apply.

4.5 Security Deposit

In accordance with section 94 of the MVRMA, the territorial government is not required to post security pursuant to section 71 of the MVRMA.

⁴ Mackenzie Valley Resource Management Act (MVRMA), Section 34.

4.6 Draft Land Use Permit

The draft Permit (Attachment 4) was developed in consideration of the Application, the *Standard Land Use Permit Conditions Template* (February 2016), other recently issued land use permits to MACA by Land and Water Boards of the Mackenzie Valley for similar activities ([MV2016X003](#), [MV2016X0035](#), and [W2016X0001](#)) and reflects reviewer concerns and Board staff recommendations.

Board staff have included a non-standard condition requiring submission of an Annual Report which aligns with MACA's commitment to share results and long-term monitoring plans with communities as well as requests by the Mackenzie Valley Land and Water Board and Wek'eezhii Land and Water Board at issuance of the above mentioned authorizations to MACA, encouraging submission of monitoring data to the Board on an annual basis. GNWT-Lands commented that review of the draft conditions was complete and found to be satisfactory (GNWT-Lands ID #1).

5. Other Agency Comments

The application was distributed to members of the Tulita District and K'asho Got'ine District Distribution Lists; which includes thirty-six (36) review organizations, requesting a reply by January 16, 2018. Three (3) organizations responded, offering comments on the application and recommendations as describe above. Additional recommendations provided by the Reviewers include:

1. Environment and Climate Change Canada

Comment ID 2: Reference Wells and Study Design Appendix B. Proposed Project Location Maps - recommends that groundwater samples in un-impacted areas near the municipal facilities be monitored to provide an understanding of baseline groundwater quality. ECCC also recommends that the monitoring study design be fully developed prior to finalizing the installation of the monitoring wells.

The Proponent responded that a minimum of one background location has been identified in each community. Where feasible, a background well site was selected for each facility. In cases where the facilities were adjacent to each other, or in cases where topography limited the potential for a successful installation, only one background well site was selected. The monitoring plan is being developed as part of this project.

Board staff opinion is that the Proponent response adequately addresses the stakeholder recommendation.

Comment ID 3: Additional Parameters Appendix H. Teleconference Meeting Minutes - recommends that additional parameters should be analyzed for groundwater samples, including phenols, ammonia, the full suite of major ions, BOD5 and COD.

The Proponent responded that the final list developed as part of the project will include additional parameters. Ammonia, major ions and BOD are already included, as well as additional parameters such as PAH and VOC's. Phenols will be considered for inclusion.

The preliminary list included in Appendix H, where it is stated parameters may be altered for specific sites, is as follows: Total Dissolved Solids, Carbonaceous biochemical oxygen demand (CBOD5), Polychlorinated biphenyls (PCBs), Fecal coliforms, Petroleum hydrocarbon fractions F1-F2, Benzene, toluene, ethylbenzene, and xylenes (BTEX), Mercury, Metals, Sulphate, Chloride, Nitrite, Nitrate, Alkalinity, pH, Turbidity, Conductance, Colour, Phosphorus, Hardness, and Total Organic Carbon (TOC). Board staff recommend that the Board strongly encourages the sampling parameters of the Surveillance Network Programs (Annex A) of recent issuances by the Board (i.e. S15L3-002 issued to the Charter Community of K'asho Got'ine and S16L3-001 issued to the Hamlet of Tulita) are considered for inclusion, noting both include phenols.

2. GNWT – ENR
 - No comments or recommendations at this time
3. GNWT-Lands
 - No comments or concerns at this time
4. Board staff

Comment ID 1: Deline - requests clarification on selection of communities included in the Project scope which does not include Deline.

The Proponent responded that the Deline landfill has a closure and reclamation plan in place and monitoring wells were installed under that plan. MACA will be taking samples at the site in the future, but no drilling is needed.

It is Board staff opinion that the Proponent response adequately addresses the recommendation. Board staff confirm that the Board approved [Landfill and Sewage Lagoon Closure and Reclamation Plan](#) (Version 2), Part 2.2.2.3 (Site-Specific Groundwater Conditions, pg. 4) provides details of the 15 shallow monitoring wells installed during the Environmental Site Assessment throughout the vicinity of the facilities which are shown in Figure 2 of the Plan.

6. Conclusions

The purpose of this Project is to initiate groundwater quality monitoring of municipal waste disposal facilities which will significantly improve the capacity of municipalities to be in compliance with requirements currently under their Water Licences (WLs). Active WLs issued to the Town of Norman Wells ([S07L3-002](#)), Charter Community of K’asho Got’ine ([S15L3-002](#)) and Hamlet of Tulita ([S16L3-001](#)) include the requirement for groundwater quality monitoring with implementation outstanding which limits the ability to be in compliance with the conditions of their WL. Board staff recommend the Board acknowledges the significance of this Project toward improving the capacity of municipalities to achieve compliance as well as encourage GNWT-MACA to consider the sampling parameters included in the Surveillance Network Programs annexed to the referenced WLs when finalizing their list of site-specific parameters.

The draft Permit Conditions are based upon the standard condition list, stakeholder comments, and Board staff recommendations. Board staff conclude that the conditions contained within this draft Permit should mitigate the potential environmental impacts this development may have on the land and water.

7. Recommendations

Board staff recommend the Board proceed with the regulatory process for this Land Use Permit including:

1. Approve the draft **Preliminary Screening**;
2. Approve the **draft LUP**, with a term of five years;
3. Approve the **Waste Management Plan**;
4. Approve the **Spill Contingency Plan** and require the submission of a revised plan with correction to the ECCC Emergency contact information within 30 days of issuance;
5. Approve the **Engagement Plan**;
6. Approve the draft **Reasons for Decision** and draft **Letter of Issuance** prepared for Board consideration (see Attachment 5)

Should the Board grant approval, the Permit could be issued on January 29, 2018.

8. Attachments

1. [Land Use Permit Application](#) (hyperlink only)
 - a. [Appendix A – Letter from GNWT-Lands](#)
 - b. [Appendix B – Proposed Project Location Maps](#)
 - c. [Appendix C – Waste Management Plan](#)
 - d. [Appendix D – Spill Contingency Plan](#)
 - e. [Appendix E – Engagement Plan](#)
 - f. [Appendix F – Engagement Log](#)
 - g. [Appendix G – Engagement Record](#)
 - h. [Appendix H – Teleconference Meeting Minutes](#)
2. [Review Comment Summary Table with Attachments](#)
3. Draft Preliminary Screening
4. Draft Land Use Permit
5. Draft Issuance Letter and Reasons for Decision

Respectfully submitted,



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Executive Director Comments:



Paul Dixon
Executive Director