



Sahtu Land and Water Board Staff Report

Division: Land Program/ Waters Program	Report No. 1
Date Prepared: October 20, 2020	File No. S20E-005/S20L8-002
Meeting Date: October 27, 2020	

Subject: New Type A Land Use Permit and Type B Water Licence Applications, submitted by GNWT-INF for the Construction of Prohibition Creek Access Road

Project: Prohibition Creek Access Road (PCAR) Construction Project, Tulita District, NWT

1. Purpose/Report Summary

The purpose of this Report is to provide an update to Sahtu Land and Water Board on GNWT-INF's land use permit and water licence applications that are currently under review. The report will discuss about the following:

- a) **Application for Type A Land Use Permit (LUP or Permit) S20E-005:** Prohibition Creek Access Road (PCAR) Construction Project: to construct a 13 Km all-season access road from the southern end of the Canyon Creek All-Season Access Road (CCASAR) to the Prohibition Creek (Attachment 1);
- b) **Application for Type B Water Licence (Licence) S20L8-002:** Water use for PCAR Construction Project (Attachment 2);
- c) **Preliminary Screening Report** (Attachment 10);
- d) **Draft Terms and Conditions for the new Land Use Permit** (Attachment 11)
- e) **Draft Terms and Conditions for the new Water Licence** (Attachment 12);
- f) **Engagement Plan and Record** (Attachment 5);
- g) **Spill Contingency Plan Version 1 (revision required/anticipated; ref section 5.2.2)** (Attachment 6);
- h) **Waste Management Plan Version 1 (revision required/anticipated; ref section 5.2.3)** (Attachment 7);
- i) **Quarry Operations Plan Version 1 (revision required/anticipated; ref section 5.2.4)** (Attachment 8);
- j) **Permafrost and Erosion Control Plan (not submitted/anticipated; ref section 5.8.1)**
- k) **Wildlife Management and Monitoring Plan (not submitted/anticipated; ref section 5.8.)**

2. Background

Sep 18, 2020 - **Applications Received;**

Sep 24, 2020 - **Applications Deemed Complete;**

Sep 24, 2020 - **Applications Distributed for Review:** Tulita Dist. distrib. list, SLWB (Number of Review Agencies: 38);

Oct 13, 2020 - **Public Review Period End Date;**

Oct 19, 2020 - **Proponent Response End Date;**

Oct 30, 2020 - **End of the 42-day timeline for LUP Application;**

Oct 27, 2020 - **Board Meeting Day.**

Triggers for LUP and WL: The use of heavy equipment and the width of the constructed road (>1.5m) trigger a **Type A Permit** as per *Mackenzie Valley Land Use Regulations* (MVLUR) sections 4 a (i, ii, iii, iv and v) and 4b (i). **Direct water use** between 100-300 cubic meters triggers a **Type B Licence** for the PCAR Construction Project; it is classified as a “Miscellaneous Undertaking” as per Schedule H of the *Waters Regulations*.

Eligibility: PCAR Construction Project involves the 60 m Right of Way and use of Edie lake Quarry within territorial land. 60m right of way is surrounded by Sahtu Settlement Land. The territorial government has the right to occupy Territorial Land. Sahtu Lands access agreement is anticipated.

3. Project Overview

Government of the Northwest Territories – Department of Infrastructure (GNWT-INF) submitted applications for a Type A land use permit (LUP/Permit) and a Type B Water Licence (WL/Licence) for the Prohibition Creek Access Road (PCAR) Construction Project. GNWT-INF has planned to construct a 13 km all-season access road from the southern end of the Canyon Creek All-Season Access Road (CCASAR) to the Prohibition Creek with a Right of Way (ROW) width of 60 metre (m). The road will consist of a two-lane gravel roadway with an 8.5 m wide driving surface with total footprint of approximately 16.6 m (assuming an average embankment height of 1.5 m with 3H:1V side slopes). The access road will be located within the partially cleared right-of-way (ROW), immediately northeast of the Mackenzie Valley Fibre Line (MVFL) and on the existing Mackenzie Valley Winter Road (MVWR). In the existing condition, 50% of the ROW is already cleared. The PCAR Project includes a quarry (Edie Lake Quarry) operation, which was previously developed by GNWT-INF during the CCASAR project. Water sourced (water use estimate: < 250 m³/day) from the Mackenzie River will be used to provide dust suppression, material compaction, and temporary working surfaces during frozen ground conditions. The project is expected to be completed in 18-24 months; the LUP and WL are being sought for a term of five years.

The following studies are required to be completed for making the final project plan: Thermal Assessment, Archeological Impact Assessments (AIA): in areas of high archeological potential identified in the previously completed archeology overview assessments (AOAs), Hydrology and Fish Assessments, Topographic Survey and Pre-disturbance Den and Nest Surveys. With the exception of the Pre-Disturbance Den and Nest Surveys (which will not be completed until work

commences), the fieldwork for the additional studies has been conducted in the summer and/or fall of 2020. INF is currently awaiting the issuance of the final reports for each of the pieces of work. The geotechnical assessment at the Edie Lake Quarry will be completed under a separate permit issued as part of the CCASAR Project (S15E-004) (Reference: Review comment table; response to SLWB Comment ID1). The fieldwork will be completed in early November 2020, with final report issuance in early January 2021. Geotechnical investigation for the PCAR construction is covered under S20S-001. The project may require additional geotechnical drilling in the event of unforeseen circumstances.

Due to the above reasons, GNWT-INF has requested to include the following two items in the scope of the project for which the LUP/WL are being sought.

1. Environmental planning and engineering studies.
2. Geotechnical studies along the road alignment.

However, the Environment Protection Plan (EPP) did not discuss the impacts and mitigation measures related to geotechnical drilling.

Project exclusions: a) Rehabilitation and/or replacement of bridges along PCAR, including Francis Creek, Helava Creek and Christina Creek, will be completed under separate regulatory approvals and processes; and b) no camp is required for the project as the personnel will stay in Norman Wells, NWT.

(The project will use two temporary trailers for washroom and shelter during the project, and on-site personnel will be accommodated at Norman Wells, NWT: a) one trailer at the Edie Lake Quarry and b) second trailer at the project site.)

Additional note: PCAR project is an independently planned project but will be added to the Mackenzie valley Highway Project which is currently under Environmental Assessment.

4. Sahtu Land Use Plan Conformity

Projects proposed/conducted in the Sahtu Region must conform to the Sahtu land Use Plan (SLUP). The 19 Conformity Requirements (CRs) described in SLUP have been addressed by the PCAR Project is as follows:

- CR #1 – Land Use Zoning:** The Project is located in Zone 63 Deh Cho (Mackenzie River), a Special Management Zone. Water will be extracted from the Mackenzie River for Project use. The proposed Project and water use from the Mackenzie River are acceptable land used in the Special Management Zone.
- CR #2 – Community Engagement and TK:** Communication and meetings held with affected parties and affected Indigenous parties allowed for an informed discussion of the proposed activities, an exchange of information on the specific locations and issues of community concern, and the provision of TK relevant to the proposed activities. Community input and TK from the NWRRC and TRRC were incorporated into the design of the Project.

- **CR #3 – Community Benefits:** The benefits include training and capacity building. Economic opportunities will be generated for local and regional businesses during the construction and operation of the PCAR. The Project will result in improved access for traditional land uses and recreational activities in the areas between Canyon Creek and Prohibition Creek.
- **CR #4 – Archaeological Sites and Burial Sites:** An Archaeological Overview Assessment (AOA) was completed along the ROW and confirmed that activities can be completed in previously disturbed areas (e.g. along the existing alignment). An AIA will be completed in undisturbed areas along the ROW in the summer of 2020. The AOA and AIA completed at the quarry did not identify any archaeological features within the quarry reserve.
- **CR #5 – Watershed Management:** Less than 250 m³/day of water will be required during the Project. Water for the Project will be sourced from the Mackenzie River. The Project will be completed to limit impacts to water quality and/or quantity for surface water and groundwater.
- **CR #6 – Drinking Water:** The Project will have little to no reasonable potential to contaminated surface or groundwater within community catchments as there will be no Project related effluent deposited onto surfaces within or outside of the Project footprint. No effluent from the Project would be released into the Mackenzie River or any other drinking water sources located along the ROW.
- **CR#7 – Fish and Wildlife:** Background information has been compiled from previous studies completed in the area of the Project. This information is provided in Appendix H (Environmental Overview with TK Studies) of the PDR. The Project has been designed to prevent and mitigate adverse impacts to fish and wildlife (Ref: Table 10-8 of the PDR).
- **CR #8 – Species Introductions:** Introduction of non-native species is not anticipated. Mitigation measures are outlined in Section 10.5 of the project description report.
- **CR #9 – Sensitive Species and Features:** The Project work sites are not within or near areas of concern identified in this CR.
- **CR #10 – Permafrost:** The Project will be limited to the ROW and the Edie Lake Quarry and haul road. Due to the presence of thaw sensitive terrain, a Permafrost and Erosion Plan (PEP) will be developed and submitted to the SLWB for review and approval prior to the commencement of Project activities.
- **CR #11 – Project Specific Monitoring:** The Project considers the concerns raised by the affected parties and affected Aboriginal parties. Project related monitoring associated with permafrost and wildlife will be outlined in the Permafrost and Erosion Plan (PEP) and the Wildlife Management and Monitoring Plan (WMMP), respectively. Each of the plans will outline how the effectiveness of the mitigation measures will be monitored. The plans will propose adaptive management methods to be implemented should the measures be insufficient at mitigating risk.
- **CR #12 – Financial Security:** The developer of the road is GNWT-INF. Under the MVRMA, the territorial government is exempt from the collection of security.
- **CR #13 – Closure and Reclamation:** Closure and reclamation activities will be confined to the laydown and equipment staging areas and progressive reclamation in the Edie Lake Quarry. As the PCAR will remain operational, closure and reclamation is not required.
- **CR #14 – Protection of Special Values:** The SLUP states “Any land use activity proposed within a SMZ ..., must be designed and carried out in a manner that protects, respects, or takes into account the values of the zone” (SLUPB 2013). The Project will be conducted in a manner meeting the values to be protected, respected, and considered in SMZ 63. PDR (Table 11-1) describes the use of information from AIA and AOA to protect Archeological and Burial Sites; if archeological sites are detected, proper protocol will be followed to limit impacts to the same. PDR also describes the mitigation measures to protect water quality and riparian habitat. Traditional values were taken into account in planning the Project, through TK studies and engagement activities.

- **CR #15-19:** Not applicable to PCAR Construction Project

Board Staff notes that the project conforms with the SLUP.

5. Program Components

GNWT-INF has applied for a Type A LUP and Type B WL with a validity of 5 years. The components of the PCAR Construction Project have been discussed/documentated in the Project Description Report (Attachment 3), environment management plans (Attachments 5, 6, 7, 8) and other application documents (Attachments 4.1, 4.2, 4.3, 4.4 and 4.5).

5.1 Project Description Report (PDR) and Project Locations

PDR of the PCAR project discusses a) general project description, b) overview of draft road construction design, c) information about external authorizations, d) Environment Protection Plan (EPP), and e) Conformity to Sahtu land Use Plan. The EPP discusses possible impacts on air, water and land, and their mitigation measures. Project locations are described in the project description report (Attachment 3).

Project Locations:

Project Element	Description	Latitude	Longitude
Alignment	End of CCASAR	65° 13' 25.5" N	126° 30' 53.4" W
	End of PCAR	65° 9' 18.8" N	126° 18' 23.4" W
Edie Lake Quarry	Northwest Corner	65° 17' 7.0" N	126° 32' 17.0" W
	West Corner	65° 16' 58.0" N	126° 32' 29.0" W
	Southwest Corner	65° 16' 50.6" N	126° 32' 23.7" W
	Northeast Corner	65° 16' 57.0" N	126° 31' 25.0" W
	Southeast Corner	65° 16' 43.0" N	126° 31' 41.0" W

Board staff notes: EPP covers most of the potential impacts and their mitigation measures, and the remaining potential impacts will be mitigated by following the conditions of LUP and WL. EPP is further discussed and analyzed in Section 7 of this Staff Report and the Preliminary Screening Document (Attachment 10).

5.2 Management Plans

5.2.1 Engagement Plan and Record

An Engagement Plan and Record were prepared using *MVLWB's Engagement Requirements (as of 2013)*. The document includes viz. a) Engagement Plan and b) Engagement Record. Engagement Record is provided as a log of activities between November 2018 to August 2020. All the required affected parties were contacted (phone, e-mail, faxes, letters, newsletters, news releases, websites, and social media). Following organizations were engaged: a) Fort Norman Métis Land Corporation, b) Norman Wells Land Corporation, c) Tulita District Land Corporation, d) Tulita Dene Band, e) Sahtu Dene Council, f) Sahtu Secretariat Incorporated (SSI), g) Ayoni Keh Land Corporation, h) Behdzi Ahda" First Nation, i) Délıne Got' inę Government, j) Fort Good Hope Métis Nation Local #54 Land Corporation, k) Fort Good Hope (Kasho Got' ine) Dene Band and l) Yamoga Lands Corporation. Several concerns and mitigation measures were discussed, including: contract opportunities, material sources, training, permafrost and erosion control issues, funding, and Project schedule. The proponent is committed to ongoing engagement with local communities. (Reference: Attachment 5)

Board staff notes: Engagement indicated widespread support for the Project. The project lies within Tulita District; the engagement is satisfactory.

5.2.2 Spill Contingency Plan (SCP) Ver 1

GNWT-INF has submitted an incomplete Spill Contingency Plan (SCP) and has committed to updating the SCP with some specific details to be furnished by the contractor. However, it has sufficient information to serve as the first version of SCP. The SCP was prepared using the *Guidelines for Spill Contingency Planning (Indian and Northern Affairs Canada, 2007)*.

The SCP Version 1 contains the following information: a) project background, b) project map/location, c) emergency contact information, d) potential spill scenarios, e) spill response action plans, f) list of spill reporting requirements, g) resource inventory (personnel, equipment, spill kit location and contents), h) a summary regarding training and exercises, i) direction for media enquiries and j) Appendices A (NT-NU Spill Report Form), B (MSDS sheets), C (reportable spill quantities' table) and D (directions to use fueling equipment). (Reference: Attachment 6)

Board Staff notes: SCP has to be revised with the following additions: a) amount and location of stored fuel, b) Spill Response Organizational Chart under section 5 (Spill Action Plans), and c) complete list of equipment with the number, size and weight of the same.

5.2.3 Waste Management Plan (WMP) Ver 1

GNWT-INF has submitted an incomplete Waste Management Plan (WMP) and has committed to updating the WMP before starting the road construction activities. However, it has sufficient details to serve as the first version of WMP. The WMP was prepared using the *Guidelines for Developing a Waste Management Plan (MVLWB 2011)*.

The WMP classified the list of possible wastes to be generated in the projects as a) major project waste streams (all non-hazardous waste) and b) Other non-anticipated but potential waste streams (the list includes hazardous waste). The handling and disposal method for most of the waste streams are provided, with some details vaguely presented. The document discusses hazardous and non-hazardous waste, solid and sewage waste, small and large quantities of waste. (Reference: Attachment 7)

Board staff notes: The Town of Norman Wells has agreed to accept solid and sewage wastes from the Project. WMP has to be revised: a) clearly explain handling methods for all types of wastes, b) indicate disposal locations for all types of wastes, especially hazardous waste, c) provide volume/mass estimates for different types of waste.

5.2.4 Quarry Operations Plan (QOP) Ver 1

The Project involves the operation of one borrow source: the Edie Lake Quarry. The Edie Lake Quarry and the permanent quarry haul road were previously developed for the CCASAR Project of GNWT-INF (LUP S15E-004).

The Quarry Reserve has a capacity of 36 ha with only 6 ha cleared previously. Edie Lake is approximately 100 m southwest of the boundary of the quarry reserve; and 400 m southwest of the existing quarry footprint. Quarry operations will include drilling, blasting, excavation, crushing and stockpiling of granular materials.

GNWT-INF has submitted an incomplete Quarry Operations Plan (QOP). QOP Ver1 has been developed in accordance with the territorial *Department of Lands (Lands) Northern Land Use Guidelines: Pits and Quarries (Lands 2015)*. GNWT-INF intends to finalize the QOP before construction activities.

The QOP includes: a) Project overview, b) quarry location maps, c) resource description and summary on geotechnical assessment, d) quarry planning and development, e) quarry operation, f) drilling and blasting, g) work procedures and personnel responsibilities and h) land reclamation.

The QOP provides a conceptual Closure and Reclamation Plan for the Edie Lake Quarry. Progressive reclamation will be completed at the Quarry during operations. The plan focuses on progressive reclamation activities that will be completed on areas of the quarry that will no longer be used. However, it does not include long-term reclamation activities, as the quarry will continue to be developed by INF and other users. (Reference: Attachment 8)

Board staff notes: The QOP needs a major revision.

- It has to be more user friendly to the on-site personnel with instructions and warnings for different quarry operations; QOP has to be a functional user manual similar to SCP.
- Schematic diagrams for quarry development/operation similar to that provided in the guidelines may be added.
- QOP has to incorporate the Quarry impacts and mitigation measures discussed in the PDR; this is in line with the directions in the guidelines; an impacts and mitigations table must be added to make the QOP more functional.

- QOP has to incorporate a Blasting Management Plan.
- The finalized QOP may undergo a public review before the start of construction activities.

5.3 Other Application Documents

5.3.1 Environmental Overview with TK Studies

The document provides an overview of the environmental characteristics of the Project footprint [including the 60 metres (m) right-of-way (ROW) between Canyon Creek and Prohibition Creek, and the Edie Lake Quarry and quarry haul road] and general Project area to inform readers/reviewers of baseline conditions for valued environmental components (VEC) during the review of the Project Description Report. The report has also summarized the impacts of climate change in the region, as reflected by projections of future air temperatures, precipitation levels, and permafrost thickness over time.

The report provides an overview of TK studies conducted by the Norman Wells Renewable Resources Council (NWRRC) and the Tulita Renewable Resources Council (TRRC). (Reference: Attachment 4.1)

Outstanding findings from TK Studies:

- One respondent of the TK study indicated that permafrost thaw was occurring on the MVWR alignment.
- Willow, berries and flowers in the area have been used for medicinal use.
- Many animals within the Project area are harvested, including moose, Woodland caribou, wolf, muskox, marten, beaver, bear, lynx, muskrat, small game, waterfowl and upland birds.
- Some fish spawning grounds have been known to occur at the mouths of the creeks.
- The MVWR alignment used to be a traditional trail with camps along the road. Unmarked burial sites may occur as people used to have lived in the Project area.

Board staff notes: The findings from this report were adequately addressed and included in the EPP.

5.3.2 Edie Lake Geotechnical Assessment Report

The geochemical assessment study was completed by Wood in 2019. Following are the main findings from the study:

- Acid Base Accounting analysis– Rock at the quarry was non-potentially acid-generating with a low sulphate content and low potential to generate Acid Rock Drainage. The very high net neutralization potential (736.9 kg calcium carbonate per tonne) was consistent with the rock type found (carbonate).
- Whole Rock Metals analysis – Concentration of one parameter (calcium) exceeded the referenced guideline values; the elevated concentration of Calcium was attributed to the rock type (carbonate) and was not identified as a concern.
- Shake Flask Extraction analysis – Concentrations of leachable metals indicated in the sample were all below the referenced guidelines.

Although Wood concluded that the material from the quarry had a low acid generation potential, Wood recommended that additional assessment would be required to confirm this finding.

GNWT-INF will complete supplemental geotechnical assessment of the Edie Lake Quarry in the summer of 2020 (final report awaited/expected by Jan 2021) to further characterize ARD/ML potential and develop a more refined estimate of the quarry volume which will assist in quarry design. The geotechnical assessment will also include an evaluation of ground ice content and permafrost characteristics. The geotechnical work will be completed under LUP S15E-004 issued under the CCASAR project. (Reference: Attachment 4.2)

5.3.3 Letters of Support

GNWT-INF submitted Letters of Support for the Project from Norman Wells Land Corporation (NWLC), Sahtu Secretariat Incorporated (SSI), **Town of Norman Wells**, and **Norman Wells and District Chamber of Commerce**. (Attachment 4.3)

5.3.4 Permissions for waste disposal

- Permission for Sewage Waste Disposal at Norman Wells (Attachment 4.4)
- Permission for Solid Waste Disposal at Norman Wells Landfill (Attachment 4.5)

(References: Attachment 4.4 and 4.5)

Board staff notes: Norman Wells will only accept sewage waste and non-hazardous solid waste from the Project; GNWT-INF has to determine the disposal location for hazardous waste.

5.4 Construction Equipment List and Purposes

(Excerpt from PDR Table 6-5; attachment 3)

Equipment	Size	Purpose
Tracked Dozers	D3 to D9	Clearing alignment, drainage channels and granular borrow sites; pushing construction material on the roadway and in the borrow area; pushing borrow materials and levelling stockpiles; smoothing and compacting, etc.
Hydraulic Excavators (tracked and wheeled)	30 to 90 metric ton	Clearing alignment, excavating drainage channels; excavating at culvert installation sites; loading haul vehicles, making repairs to roadway embankment, etc.
Graders	Various	For roadway maintenance and road repairs, grading granular material, alignment maintenance, snow ploughing, borrow source maintenance, etc.
Loaders	Various	For loading haul trucks, moving granular materials at work areas, stockpiling granular materials, feeding crusher, etc.
Compaction Equipment	Various	To compact roadway surface and surfacing materials, compact roadway embankment, compact around culvert installations, etc.
Geotechnical Drills	Various	To conduct borrow source and geotechnical assessments (if required), to prepare for blasting at quarry sites, etc.
Gravel crushing plants (Cone and Jaw)	Various	To produce specified borrow material.

Equipment	Size	Purpose
Single axle, Tandem Axle, and Tri Axle Haul Trucks	Various – water tankers; sewage trucks; sanding trucks, and plow trucks	For snow ploughing and road maintenance, watering of the road, hauling granular and rock materials to the project work sites, stockpiling granular materials, gravel surfacing, sanding on the road, hauling construction materials, hauling water, waste removal.
Tractor Trailers	Various	To move equipment to, from, and around Project sites
Rock/Aggregate Trucks	Various	To move borrow material between quarry areas, to haul construction materials within work area, etc.,
Water Trucks	Various	For dust control
Fuel Tankers	Up to 40,000 L	For refueling equipment, etc.
Service Vehicles	Various – Pickup trucks, utility service trucks, flat decks, snowmobiles, quads, etc.	Various – Pickup trucks, utility service trucks, flat decks, snowmobiles, quads, etc.
Tree harvesters / mulchers/ brushers	Various	For alignment and borrow source clearing, etc.,
Crane	Various	To install culverts
Crusher, Conveyor and Screener	Various	For borrow source development
Various small equipment (rock pickers, post drivers, water pumps, tampers, compressors, lighting plants)	Various	To support and maintain all equipment required for the construction activities
Generators	Various	To provide power to lighting units, crusher plants, small hand tools and other equipment.

Board Staff notes: GNWT-INF wants their contractor to furnish the complete list of equipment.

Two small temporary trailers for shelter during the work time will be installed: a) located in the Edie Lake Quarry and b) located on the ROW; both away from 100m ordinary high-water mark of any waterbody.

5.5 Fuel Requirements and Fuel Storage

Bulk fuel will not be stored on the ROW. Mobile fuel tankers will transport fuel from Norman Wells daily. Fueling will be done by pick-up trucks and tidy tanks with secondary containment.

Diesel will be the primary fuel used; gasoline may or may not be needed according to the contractor's final equipment list. Other fuel required: hydraulic oil, lube oil and propane. The contractor will estimate the type of equipment and the necessary quantity of fuel.

5.6 Fees and Security

Territorial Government is exempt from paying application fees and security.

5.7 Term

GNWT-INF has applied for a term of five years. INF intends to start the project in January 2021.

5.8 Pending Reports and Plans

As explained in section 3 of this report, the following studies are pending, and final reports are anticipated in January 2021: a) Thermal Assessment, b) Archeological Impact Assessments (AIA), c) Hydrology and Fish Assessments, d) Topographic Survey and e) Supplementary geotechnical study under S15E-004 at the Edie lake Quarry. Pre-disturbance Den and Nest Surveys are expected to be completed as part of the Wildlife Management and Monitoring Plan (WMMP).

Board staff comment: Although the above-said studies are pending, GNWT-INF has supplied sufficient information to perform the preliminary screening. INF has to submit a Wildlife Management and Monitoring Plan (WMMP) as they are taking an adaptive management approach for protecting wildlife (Reference: Attachment 3). The Final Design Plan also must be submitted prior to road construction. INF has to allow sufficient time for public review and hence have to submit the WMMP and Final Design Plan 90 days before starting the project. INF also has to submit a Permafrost and Erosion Control Plan (PEP), as discussed below.

5.8.1 Permafrost and Erosion Plan (PEP)

GNWT-INF will submit the PEP once the project's final plan is ready before the road construction starts. PEP will incorporate the components under the guidelines for a) Permafrost Erosion Plan and b) Sediment and Erosion Control Plan.

Board staff comment on PEP: GNWT-INF has to submit the PEP at least 90 days before the start of the road construction, to allow sufficient time for public review and Board approval of the plan.

5.9 Access and Benefits Agreement

GNWT-INF has not yet arranged the access and benefits agreement with Tulita District Land Corporation; it is anticipated and awaited.

5.10 External Authorizations

Section 5.1 of the PDR discusses external authorizations that may be required for the PCAR Construction Project.

- Quarry Permit from GNWT-Lands
- Timber Cutting Permit- GNWT-ENR
- Permit to Burn – GNWT-ENR (to be acquired by the contractor, if required)
- Archaeological Permit (2020) – GNWT-PWNHC
- Blasting and Explosives Use – Natural Resources Canada and WSCC

6. Public Review of the Applications

The applications and related documents underwent public review between Sep 24, 2020, and Oct 13, 2020 (proponent response period ended on Oct 19, 2020). (Attachment 9)

Of the 38 organizations (Tulita district distribution list) to which the application was distributed, 24 are represented within the Sahtu Settlement Area. Review comments were received from:

- a) Government of the Northwest Territories – Lands – Sahtu Region (**GNWT-Lands-Sahtu**)
11 comments: 3 clarifications on PDR; 4 suggestions to improve LUP conditions, and; 4 suggestions to improve the management plans.
- b) GNWT-Prince of Whales Northern Heritage Centre (**PWNHC**): 1 comment on adding AIA high potential condition, as AIA report is pending.
- c) **SLWB** Comment to clarify the need to add additional geotechnical assessment in LUP and WL scope. Proponent Response: additional geotechnical investigation for the PCAR project is not anticipated but may be required for unforeseen circumstances.

GNWT-ENR has submitted a “no comment” letter. There were no significant concerns raised in the public review.

7. Preliminary Environmental Screening

Under the Preliminary Screening (PS) Requirements of section 124(1) of the *Mackenzie Valley Resource Management Act* (MVRMA), the Board must conduct a preliminary screening of any proposed development prior to the issuance of a Licence, Permit, or Authorization, unless it is exempt from Part 5 of the MVRMA.

The PCAR Project has three primary sources of environmental impacts:

1. Quarry Development and operation: Edie Lake Quarry previously developed for CCASAR
2. Road Construction Activities - PCAR
3. Water Use: for dust suppression, soil compaction etc.

Analysis of possible major impacts due to quarry operations: The quarry is already established and screened under the LUP S15E-004, which involved initial development with 6 ha of clearing. Now approximately 29 ha remains undeveloped. The current Project will need approximately 500,00 metric tonnes of gravel. The southwest boundary of the quarry has only the bare minimum setback from Edie Lake. However, the existing cleared area is 400 m away from Edie Lake (Attachment 8). Board staff notes the following evidence to conclude that adverse impact to the aquatic ecosystem will be minimal or not anticipated due to the following: a) Currently, development is 400 m away from the Lake; the shortest distance from the quarry boundary to any water body is 100m, which is the reference minimum distance for safe operations (Attachment 8 and Standard Land Use Permit Conditions), b) the quarry has a low acid generation potential (Attachment 4.2), c) dust pollution will be mitigated by water spraying and use of blasting cover, d) noise pollution will be unavoidable but has a temporary impact only and e) quarry will be progressively reclaimed.

Analysis of impacts from road construction: Construction of road can cause air pollution from dust, noise pollution from equipment, vegetation clearance, the chance of fuel spillage, loss of wildlife habitat, soil erosion and permafrost degradation. The PDR has provided adequate mitigation measures for dust control with water spraying, minimizing the vegetation clearance, secondary containment for fuel, ecological surveys and WMMP to minimize wildlife disturbance and use of geotextile and winter construction to minimize permafrost thaw. INF's approach is to convert the existing MVWR to the all-season road with some deviations according to the geotechnical investigation report and final design. No significant landscape change is expected. The benefit of constructing the road clearly exceeds the cost of constructing as per preliminary screening. This is a public interest project with widespread support.

Analysis of impact from water use: Reduction of water quantity and quality from water use is not expected. The water source is the Mackenzie River, and water use will be less than 250 cubic metres per day.

Analysis of the possible deposit of waste in water: Deposit of waste in the water is not expected as the road construction is away from the water bodies. Improper blasting at the quarry can cause waste deposition in water; however, proper blast management methods will mitigate this and follow QOP, SCP and WMP. Drainage channels and fish-bearing water bodies will be protected using appropriate culverts. Bridge construction and replacement at the creeks will be under separate authorizations.

Fish and Wildlife: It is not likely to affect fish and fish habitat as the water hose will use fish screens, and the deposit of waste will be avoided. If any fish habitat is encountered, INF will apply for screening from DFO. PDR discusses the management of vegetation and wildlife; however, road construction may encounter nest or dens for which adaptive management will be done with WMMP.

A small ponded area is located within the alignment ROW, approximately 4.1 km northwest of Prohibition Creek (65°10'36.69" N, 126°22'13.57" W). Previous hydrology assessments, including the Imperial Oil Resources Ventures Limited Partnership (IORVL) and MVFL, did not identify a pond's presence at this location. It is anticipated that this waterbody is ephemeral, which likely freezes to the bottom during winter. During construction, embankment material may need to be deposited along the edge and/or within the water body due to its location within the ROW. Fish habitat and hydrological assessments will be completed to confirm if this pond is fish-bearing. GNWT-INF is currently awaiting the final report for fish assessment to INF is completing fisheries assessments of the drainage channels and the above-mentioned ponded area. Upon completing the assessments, if potentially fish-bearing water bodies are identified, INF will submit a request for review to the regional DFO Fish and Fish Habitat Protection Program office. If deemed required by DFO, INF will obtain authorization in accordance with Section 34.4(2)(b) or 35 (2)(b) of the *Fisheries Act*. INF will incorporate approaches to minimize the presence of ponded water within the ROW (e.g. appropriate culvert placement and sizing).

Analysis of Permafrost thaw: The main public concern on the Project is the possibility of permafrost degradation. PDR has discussed many mitigation measures to prevent the permafrost thaw, including the timing (new embankment construction in winter), geotextile use, minimize vegetation clearing, etc. GNWT-INF is currently completing the hydrology and topography studies. This will enable them to make the Final Plan with adequate (drainage and equalization) culverts to maintain natural drainage channels and water flow and avoid unnecessary culverts. (As per PDR, the current plan involved the installation of 3-5 culverts per Km). This is important as culvert installation involves

excavation, which may involve the permafrost's top/active layer. GNWT-INF will be submitting the Permafrost and Erosion Plan discussing permafrost protection and sediment and erosion control plan.

Socio-economic impact: This public interest project is highly beneficial for the local community as the Project will directly or indirectly generate employment in the present and future. The PCAR Project is essential for Sahtu.

Cultural/ archaeological impact: The ROW was a traditionally used trail/road and may have unmarked burial sites. AIA is not complete, and therefore the "Archaeology High Potential" condition is added to the LUP. AIA report will be completed in Jan 2021 before the road construction. Vegetation clearance will be minimized; loss of medicinal plants and food sources (small and large game) will be minimized (PDR mitigation measures and adaptive management through WMMP).

The Preliminary Screening report (Attachment 10) analyzes the impacts and mitigations in detail. In conclusion, the environmental impact of the proposed Project can be mitigated with known technologies. PS determined that the Project (PCAR) may not be referred for Environmental Assessment.

8. Conclusion

The Preliminary Screening Report (Attachment 10) did not identify any Significant Adverse Environmental Impacts or Public Concerns with the proposed project. All potential environmental impacts identified by review agencies can be mitigated with known technology and addressed in the Terms and Conditions of the Land Use Permit and Water Licence.

The Board Staff has prepared a draft Land Use Permit and a draft Water Licence. Board staff conclude that the conditions within draft LUP and WL should mitigate the potential environmental impacts this development may have on the land and water.

Draft Land use Permit and Water Licence cover pages, Draft Reasons for Decision and Draft Decision Letter are attached (Attachments 11, 12, 13 and 14).

9. Recommendations

Board staff recommend the Board proceed with the regulatory process for this Land Use Permit and Water Licence, including:

- 1) Approve the draft **Preliminary Screening Determination with cover letter to MVEIRB;**
- 2) Approve the **draft Land Use Permit**, with a term of five years;
- 3) Approve the **draft Water Licence**, with a term of five years;
- 4) Approve the **Engagement Plan and Record;**
- 5) Conditionally approve the **Spill Contingency Plan Ver 1** with revisions required before commencement of road construction activities, as noted in section 5.2.2 of this report;
- 6) Conditionally approve the **Waste Management Plan Ver 1** with revisions needed before the start of road construction activities, as noted in section 5.2.3 of this report;

- 7) Conditionally approve and/or provide directions for the **Quarry Operations Plan Ver 1** for which major revision is required, as noted in section 5.2.4 of this report. QOP Ver 2 may be submitted 90 days before commencement of road construction activities;
- 8) Approve the draft **Reasons for Decision** and draft **Decision Letter** prepared for Board consideration.
(If approved, the LUP/WL may be issued after receiving the proof of access to Sahtu Lands).

10. Attachments/References

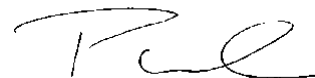
- 10.1 Application for Land Use Permit S20E-005 ([hyperlink](#) only)
- 10.2 Application for Water Licence S20L8-002 ([hyperlink](#) only)
- 10.3 Project Description Report – with EPP and SLUP Conformity Check ([hyperlink](#) only)
 - 10.3.1 PCAR maps (excerpt from PDR)
- 10.4 Other application documents
 - 10.4.1 Environmental Overview with TK Studies ([hyperlink](#) only)
 - 10.4.2 Edie Lake Geotechnical Assessment Report ([hyperlink](#) only)
 - 10.4.3 Letters of Support for PCAR Construction Project ([hyperlink](#) only)
 - 10.4.4 Permission for Sewage Waste Disposal at Norman Wells ([hyperlink](#) only)
 - 10.4.5 Permission for Solid Waste Disposal at Norman Wells Landfill
- 10.5 Engagement Plan and Record ([hyperlink](#) only)
- 10.6 Spill Contingency Plan (SCP) Version 1 ([hyperlink](#) only)
- 10.7 Waste management Plan (WMP) Version 1 ([hyperlink](#) only)
- 10.8 Quarry Operations Plan (QOP) Version 1
- 10.9 Review Comment Table with attached letter from GNWT-ENR
- 10.10 Draft SLWB Preliminary Screening Determination with cover letter to MVEIRB
- 10.11 S20E-005 Draft Land Use Permit Terms and Conditions
- 10.12 S20L8-002 Draft Water Licence Term and Conditions
- 10.11 S20E-005 Draft Land Use Permit Cover Page
- 10.12 S20L8-002 Draft Water Licence Cover Page
- 10.13 Draft Reasons for Decision
- 10.14 Draft Decision Letter

Respectfully submitted,



Aswathy Mary Varghese, PhD
Regulatory Specialist

Executive Director Comments:



Paul Dixon
Executive Director