



Sahtu Land and Water Board

Staff Report

Applicant: Government of the Northwest Territories – Infrastructure (GNWT-INF)	
Location: Prohibition Creek Access Road, NT	File Numbers: S20L8-002
Date Prepared: June 02, 2023	Date of Board Meeting: June 09, 2023
Subject/Project Name: Prohibition Creek Access Road (PCAR)	

1. Purpose/Report Summary

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

- a) Water Licence Amendment request submitted by Government of the Northwest Territories – Department of Infrastructure (GNWT-INF)¹.
- b) Preliminary Screening Reasons for Decision, for the additional water withdrawal sources and locations for five watercourses that intersect the 13 km access route (**Attachment 2**).
- c) Summary of stakeholder review comments/recommendations (**Attachment 3**).
- d) Draft Amended Licence Cover and Conditions (**Attachment 5**).
- e) Draft Issuance and Reasons for Decision Letter (**Attachment 6**).

2. Background

2.1 Process Requirements

- **November 19, 2020** - Issuance of Type B Licence S20L8-002.
- **March 30, 2023** – SLWB received request for Amendment of the Type B Licence to include additional water withdrawal sources and locations for five watercourses that intersect the 13 km access route.
- **April 14, 2023** – Information in request deemed incomplete.
- **April 27, 2023** – Application complete.

¹ See [SLWB Online Registry](#) for S12L8-002 – [Application and Appendix C](#) – April 27, 2023

- **May 2, 2023** – review package was sent out electronically to members of the Tuli't'a District Distribution List using the Online Review System (ORS) with a request for reviewer comments by May 18, 2023.
- **May 15 & 18, 2023** – Reviewer comments received from Environment and Climate Change Canada (ECCC) - no comments; and Transport Canada (TC) – one comment.
- **May 25, 2023** – Proponent Response deadline and no responses received.
- **June 09, 2023** – Board meeting.
- **November 18, 2025** – Expiration of original Licence.

2.2 Project Overview

The Government of the Northwest Territories – Department of Infrastructure (GNWT-INF) (Applicant) submitted a request to amend Part D, Condition 1 of the Licence to permit water withdrawal from five watercourses intersected by the Prohibition Creek Access Road (PCAR). This amendment will allow GNWT-INF and its contractor to obtain water for project construction from sources closer to the project, accessible by road when sufficient flow is available.

The applicant is also requesting an amendment to Part A, Condition 1, Scope to add the additional watercourses, clarify activities to be undertaken during frozen versus unfrozen conditions, and add watercourse diversion and watercourse training to the Licence scope. These latter two activities have already been subject to the approved preliminary screening dated October 28, 2020².

3. Analysis and Discussion

3.1 Public Review Process

The project was referred to the Tuli't'a distribution list. Two reviewers submitted comments and no responses were received from the Proponent. The review comments and letters are included in Attachment 3. Comments and recommendations were received from:

1. Anna Graham, Environment and Climate Change Canada (ECCC) stated they had reviewed the amendment and had no comments or recommendations.
2. Holly Poklitar, Transport Canada submitted one comment about the preliminary screening portion, and recommended the Proponent assess their responsibilities under the Canadian Navigable Waters Act (CNWA) by conducting a self-assessment of the proposed work in the Mackenzie River (water intake) using Transport Canada's Navigation Protection Program (NPP) Online Project Review Tool, the CNWA Minor Works Order.

² See [SLWB Online Registry for S12L8-002 – Notice of Preliminary Screening Determination](#) – October 28, 2020

If ALL criteria have been met, work can proceed under the Minor Works Order, AND the Proponent is required to:

- deposit information and create a public notice,
- mark the work and maintain free navigation in the work as outlined in the Minor Works Order.

3.2 Community Consultations

The Proponent submitted an updated Engagement Log³ with the amendment application. Engagement included two email notifications on July 14, 2022 and March 9, 2023 to the parties identified in the approved Engagement Plan. Engagement was sufficient for this amendment.

3.3 Management Plans

Management Plans already in effect for WL S20L8-002 include:

- Engagement Plan
- Spill Contingency Plan
- Waste Management Plan

No changes were required to these plans.

3.4 Potential for Environmental Impacts and Mitigation Measures

The following potential impacts and mitigation measures with the use of the additional five watercourses for water withdrawal included:

Ecosystem Component	Potential Impact	Proposed Mitigation
Erosion/Sedimentation	Vehicle use near water can lead to erosion	<ul style="list-style-type: none"> • Vehicles will remain on embankment as much as possible. • Existing Erosion and Sedimentation Control Plan will apply.
Water flow or level changes	There will be a temporary alteration of flow while the water truck is being filled (may be several hours)	<ul style="list-style-type: none"> • The rate of Water withdrawal will not exceed 10% Instantaneous Flow of the creek.
Breeding or Migratory Movement Pattern Disturbances	Potential for entrainment or entrapment of fish.	<ul style="list-style-type: none"> • A fish screen will be installed on the intake in accordance with DFO Interim Code of Practice: End of Pipe Fish Screen Guidelines

³ See [SLWB Online Registry for S12L8-002 – AMEND – 3. Engagement](#) – April 27, 2023

	With mitigation no impacts to spawning or migration are anticipated to occur.	(2020) • Water withdrawal will not exceed 10% Instantaneous Flow when flows are >30% Mean Annual Discharge in accordance with DFO Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada (2013).
Effect on Traditional Land Use, Harvesting	No additional impacts anticipated	• water truck movements will occur at the same time as other construction vehicle movements
Impairment of the recreational or traditional uses of the land or water	No additional impacts anticipated	• water take will be less than 10% of the flow when conditions allow.

These mitigation measures are achievable with conditions in the Licence. All relevant environmental impacts and mitigation measures are addressed in the Draft Updated Preliminary Environmental Screening Reasons for Decision (Attachment 2).

A draft Notification of Preliminary Screening 10-day Pause Period has been prepared for the Board’s consideration (Attachment 2). If no referral to environmental assessment is received by the end of day, June 19, 2023 the Board will issue the Licence amendment on June 20, 2023.

Proposed Works at Watercourses and Christina Creek Bridge Crossing

The amended Licence scope will include watercourse diversion and watercourse training. Both activities were included in the October 2020 Preliminary Screening Determination:

- Maintain natural drainage patterns (including quantity and quality).
- Follow best management practices for riparian habitat, including a setback of 100 m from the ordinary high-water mark of any water body. Where work within the setback is required, INF will consult with DFO prior to work within the riparian zone.
- Road construction methods in vicinity of water bodies will limit the amount of habitat lost.
- Installation of erosion control measures in accordance with DOT Erosion and Sediment Control Manual and the approved Permafrost and Erosion Plan.
- In-stream work, if required, will be restricted to during no or low flow periods.
- Work will respect DFO fish timing windows for the NWT.
- Disturbance of watercourse streambed and banks will be minimized as much as possible.

In 2020, GNWT-INF's technical consultants (K'alo-Stantec Inc. and Tetra Tech Canada Inc.) completed fisheries and hydrology (water flow) studies along the PCAR. The studies identified that there is work needed at Francis Creek Bridge, Helava Creek Bridge, and at the existing Christina Creek bridge crossing to accommodate the construction and intended use of the all-season PCAR.

In their original application, GNWT-INF stated that the Project scope would not include rehabilitation and/or replacement of bridges along the PCAR including at Francis Creek, Helava Creek, and Christina Creek. That work will proceed based on direction from structural engineers at a future date and would be subject to a separate regulatory approvals process.

The Project scope did include and anticipate embankment construction during summer, installation of drainage culverts, equalization culverts, ditching, and geotextile and other erosion control materials as follows:

- Embankment compaction, grading, surfacing, and base coarse placement will occur in summer.
- Geotextile and culvert placement, embankment hauling, and embankment placement will primarily occur in winter, during frozen conditions, but may also be completed during the summer depending on the extent of permafrost and thaw sensitive terrain.
- Borrow material stockpiling, placement of riprap, erosion control mitigation may occur year-round depending on site characteristics and access considerations.
- Culvert installation will proceed concurrently to the construction of the PCAR.
- Equalization culverts will be installed at a frequency of three to five culverts per km to convey flows along the roadway. The number, size, and location of these culverts will be confirmed in the final design.
- Two of the watercourses (Francis Creek and Helava Creek) will require structural plate corrugated steel pipes (SPCSPs) and four crossings will require corrugated steel pipe (CSP) culverts.

- Installing SPCSPs and CSP culverts will require sub-excavation prior to installation to confirm placement on a suitable foundation and to allow proper compaction of material around the culvert to maintain structural integrity. The extent of sub-excavation will be confirmed during the final design.
- The final design will outline the requirements for excavation, preparation of culvert bedding (including material types and requirement for geotextile), and rip-rap placement, as well as the specifications for each culvert determined based on the topography and road geometry.
- Installation of culverts is planned to occur during no or low flow periods in accordance with the findings of the fish habitat study and/or authorization issued by DFO if deemed required by Section 34.4(2)(b) or 35 (2)(b) of the Fisheries Act. Should culvert installation outside of no flow periods be necessary, and if relevant to the specific location due to the presence of fish and/or fish habitat, work will respect the DFO fishing timing windows for the NWT.
- Geogrid/geotextile covered by re-used organic material (from ditching work) and hydroseed may be used on side slopes in areas where erosion is of concern. Application of this would be dependent upon detailed design considerations and field observations.
- Final construction timing and methodology will be established during detailed design and discussion with the selected Contractor.
- Installation of ditches along the PCAR will be minimized to only those locations where required to allow the culverts to function properly to convey the hydrological flow and avoid ponding.

A condition will be added to the Licence to require all engineering detail design plans to be submitted to the Board, the Inspector and DFO for approval prior to the start of any works within 100 m of any watercourse.

Unlike other creeks along the PCAR, Christina Creek flows directly alongside the current south bridge approach. To widen and improve erosion protection for the new all-season road, the rip rap and apron needs to be extended (widened). To do so will require filling into a portion of the existing creek.



To maintain flows and fish passage in the creek, GNWT-INF proposes to build a new channel to redirect flow away from the road before aligning with the existing bridge crossing. The figure above, shows the existing creek flow (white), approximate area of new rip rap (orange) and the approximate channel re-alignment (blue).

To redirect the flow, a clay plug will be installed in the existing channel in the area shown by orange cross-hatching. The length of the channel to be affected is approximately 80 metres. The new channel, following re-alignment will be approximately the same length as the old channel. The old channel will be left to naturally revegetate.

The new channel will be designed to have similar flows and fish habitat (pools and riffles) as the existing portion of the channel. Natural materials such as woody debris and suitable native vegetation is proposed to be added to improve bank stability.

A channel reconstruction plan and design will be submitted for approval prior to the start of construction. The design will be used to seek approval to construct the re-alignment from the SLWB, the Inspector and Fisheries and Oceans Canada. There is no current anticipated start date for construction.

3.5 Preliminary Environmental Screening

Under the Preliminary Screening Requirements of section 125(2) 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.

Based on the information provided in the application and by review agencies, a Preliminary Environmental Screening (PES) was required only for the additional watercourses proposed to be used for water withdrawal. The report concludes that the environmental impact of the proposed project can be mitigated with known technologies and no significant public concerns have been raised.

3.6 Conformity with Sahtu Land Use Plan

The following update was made to the Conformity Determination with the SLUP:

For CR#5 – the proposed water use will not substantially alter the quality, quantity, or flow for waters that flow on, through, or adjacent to Sahtu Lands because the water intake for smaller watercourses will be less than 10% of the flow of the creek (generally during spring, summer, fall) and DFO considers this to be low risk for impact to fish or fish habitat. Compliance with section 47 of the MVRMA has been met.

3.7 Licence

The following changes were made to the Licence Scope and Conditions:

Scope - Part A, Condition 1

- clarify activities to be undertaken during frozen versus unfrozen conditions.
- add the additional watercourses for water withdrawal,
- add watercourse diversion and watercourse training to the scope.
- clarify the closure and reclamation requirements.

Defined Terms:

The following terms were removed as they are not used in the Licence conditions: Effluent, Greywater, Remediation, Sewage Disposal Facilities, Solid Waste Disposal Facilities, Toilet Wastes, Waste Disposal Facilities, Wastewater.

The following defined terms were added:

Water Management Area, Waters Regulations, Water Use.

Some Conditions were modified to update to the Standard Water Licence Conditions Template.

Two new non-standard Licence Conditions were added that require the submission of a Plan for approval prior to commencement of any instream works. The new conditions proposed are:

The Licensee shall develop detailed design plans for proposed works within 100 m of any watercourse, and submit to the Board, the Inspector and DFO for approval, at least 60 days prior to commencement of watercourse training, or diversion or installation of culverts.

The Licensee shall develop a **Channel Reconstruction Plan and Design** for Cristina Creek, and submit to the Board for approval, at least 60 days prior to commencement of channel realignment. The plan should include, but not be limited to the following: a) The new channel will be designed to have similar flows and fish habitat eg. pools and riffles, as the existing portion of the channel, and b) natural materials such as woody debris and suitable native vegetation be used to improve bank stability.

The draft conditions as presented to the reviewers on the ORS is included in Attachment 4.

The Amended Licence Cover Page and Final Conditions has been prepared and includes the proposed new non-standard condition (Attachment 5).

All Parties have had an opportunity to provide recommendations to the Board regarding draft conditions. In finalizing the conditions, the Board will consider these recommendations and all the evidence provided through the regulatory proceeding.

4. Conclusion

The updated Preliminary Environmental Screening Report did not identify any Significant Adverse Environmental Impacts or Public Concerns with the proposed project. All potential environmental impacts identified by review agencies on the original project can be mitigated with known technology and have been addressed in the Term and Conditions of the Licence. Two other conditions were added to require a reconstruction plan and design for the realigned Cristina Creek and to submit detailed drawings for approval prior to works proposed within 100 m of any of the five watercourses along the PCAR alignment. No additional environmental impacts were identified by reviewers for the addition of five watercourses for water use.

GNWT-INF is to follow the Canadian Navigable Waters Act (CNWA) by conducting a self-assessment of the proposed work in the Mackenzie River (water intake) using Transport Canada's Navigation Protection Program (NPP) Online Project Review Tool.

A draft Notification of Preliminary Screening 10-day Pause Period has been prepared for the Board's consideration (Attachment 2). If no referral to environmental assessment is received by the end of day, June 19, 2023 the Board will issue the Licence amendment on June 20, 2023.

5. Recommendation

Board staff recommend the Board proceed with the regulatory process for this Water Licence Amendment including:

- 1) Approve the draft **Preliminary Screening and Reasons for Decision and Notification of Preliminary Screening 10-day Pause Period**
- 2) Approve the **WL Amendment** with revised cover page, scope, and conditions.
- 3) Approve the draft **Issuance and Reasons for Decision Letter** prepared for Board consideration.

6. Reference Material Attached

1. WL Application Amendment Cover Letter
2. Draft Notification of Preliminary Screening 10-day Pause Period and Reasons for Decision
3. Review Comment Table and Letter
4. Draft Conditions for Review on the ORS
5. Draft Final Licence Cover Page and Conditions
6. Draft Issuance Letter and the Reasons for Decision

Respectfully submitted,

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