Wek'èezhìı
Land and Water Board

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Application for: W2016E0004
New Land Use Permit ✓ **Amendment ☐** **to** _____

1. Applicant's name and mailing address: Michael Conway Government of the Northwest Territories Department of Infrastructure P.O. Box 1320 Yellowknife, NT X1A 2L9	Fax number: 867-873-0606 Telephone number: 867-767-9089 ext. 31186
2. Head office address: Same as above. Field supervisor: Kerry Pike, North Star Infrastructure Radiotelephone: To Be Determined	Fax number: Same as above. Telephone number: 905-337-4004
3. Other personnel (subcontractor, contractors, company staff etc.) Department of Infrastructure Personnel and North Star Infrastructure personnel and subcontractors TOTAL: Up to 250 persons in three temporary camps, but planning accommodations for 300 (Number of persons on site)	
4. Eligibility: (Refer to section 18 of the *Mackenzie Valley Land Use Regulations*) a)(i) a)(ii) a)(iii) b) X	
5. a) Summary of operation (Describe purpose, nature and location of all activities.) The Government of the Northwest Territories Department of Infrastructure plans to improve access to the community of Whatì by constructing the Tłı̨chǫ All-Season Road (see maps provided in the Updated Project Description). The all-season two-lane gravel road will be approximately 97 km in length, predominantly following an existing linear disturbance. The road begins at KM 196 along Highway 3 and continues in a northwesterly direction to the community government boundary of Whatì. The proposed footprint is entirely contained within the Wek'èezhìı area. Culverts and two-lane bridges will be constructed for crossing watercourses. Borrow sources along the alignment will be developed including their respective temporary access roads to provide material for road construction. Three temporary construction camps will be constructed within borrow sources or along the alignment. A 2 km reserve corridor on Territorial lands is in place to allow for staging and alignment changes and in recognition that the conceptual alignment will need to undergo further refinement by North Star Infrastructure pending the final road design. See the Updated Project Description for further details. The following activities will be undertaken to complete the Tłı̨chǫ All-Season Road: • Clearing of vegetation along the right-of-way • Clearing of vegetation in quarry areas and construction of temporary access roads to quarries and water sources • Development of quarries • Construction of road embankment • Construction of bridges, temporary bridges and culverts • Construction of temporary construction camps • Construction of maintenance and storage facilities • Transportation of materials to work areas (e.g., fuels, food, construction materials, equipment, etc.) and from work areas (e.g. waste oil, sewage, inert garbage, etc.)	

- Drawing of water for road compaction dust suppression, winter road maintenance, and camp use
- Road maintenance and operation
- Use of explosives
- Use of machinery for earth-moving, land-clearing and drilling
- Development of winter roads

b) Please indicate if a camp is to be set up. (Please provide details on a separate page, if necessary.)

A total of up to three temporary camps with a combined capacity of 300 people is planned, but the total workforce is not expected to exceed 250. Camps will be located within the Project corridor or quarries and will be on Territorial and possibly also Tłı̨chǫ Lands. Camps may include:

- Accommodations facilities
- Kitchen and dining facilities
- Bathing and toilet facilities
- Waste storage facility
- Mechanic shop
- Fuel storage facility
- Diesel generators
- Other ancillary buildings as required
- Greywater sumps
- Storage areas
- Sewage lagoons

Camp locations may vary as activities progress along the alignment. All camps and associated sumps will be at least 100 metres from waters or watercourses. Water requirements for camps will not exceed 62.5 m^3 per day. See Section 3.6 of the Updated Project Description for further details. Camp water will come from local approved sources and may be supplemented by trucked water from local communities. Each camp will have an associated sump for greywater.

6. Summary of potential environmental and resource impacts (describe the effects of the proposed land-use operation on land, water, flora & fauna and related socio-economic impacts). Use separate page if necessary.)

Potential environmental impacts and associated mitigation measures have been described in several documents prepared by the Developer and reviewed through the Environmental Assessment process (EA-1617-01). Key documents include the following:

- Original Project Description Report 2016, including a summary of anticipated environmental impacts and mitigation to air quality and emissions, noise, climate change, terrain, soils, permafrost, vegetation, wildlife, hydrology and water quality, fish and fish habitat, cultural and heritage resources and communities. Available at http://reviewboard.ca/upload/project_document/EA-1617-01_Project_Description_Report_2016_.PDF
- Developer's Adequacy Statement Response, including a detailed review of potential Project impacts to fish and fish habitat, wildlife and wildlife habitat, and socio-economics. Available at http://reviewboard.ca/upload/project_document/EA-1617-01_Developer_s_Adequacy_Statement_Response.PDF
- Developer's Commitments Table, provided with this application.
- Various environmental management and monitoring plans provided with this application, including a Spill Contingency Plan, Waste Management Plan, Fish and Fish Habitat Protection Plan, Water Monitoring Plan, Wildlife Management and Monitoring Plan, Erosion and Sediment Control Plan and Archaeological Chance Find Protocol.

7. Proposed restoration plan (please use a separate page if necessary).

The Tłı̨chǫ All-Season Road is intended to be a permanent all-season road; therefore, no restoration, closure or reclamation is planned for the Tłı̨chǫ All-Season Road itself. However, the Conceptual Closure and Reclamation Plan (submitted with this application) describes closure options for construction camps and quarries. See also Section 3.12 of the Updated Project Description.

8. Other rights, licences or permits related to this permit application (mineral rights, timber permits, water licences, etc.)

Process, Authorization, Permit, Licence, Approval	Act and/or Regulation	Permitting Board, Agency or Organization
Type A Land Use Permit (for construction, application W2016E0004)	Mackenzie Valley Land Use Regulations	Wek'èezhìı Land and Water Board (WLWB)

Type A Land Use Permit (for predesign geotechnical investigations, W2016S0009)	Mackenzie Valley Land Use Regulations	WLWB
Type B Water Licence (to span rivers, application W2016L8-0001)	Waters Regulations	WLWB
Land Use Permit (for routine operation and maintenance)	Mackenzie Valley Land Use Regulations	WLWB
Quarry Permit	Quarrying Regulations Northwest Territories Lands Act/Regulations Northwest Territories Land Use Regulations	GNWT-Lands
Explosives Permit	Explosives Act/Regulations 2013 Explosives Use Act/Regulations	Natural Resources Canada Workers' Safety and Compensation Commission
Access Authorization (on Tłı̨chǫ Land)	Tłı̨chǫ Lands Protection Amendment Law Tłı̨chǫ Land Use Plan Law	Tłı̨chǫ Government
Access Authorization (on Whatì Lands)	Tłı̨chǫ Agreement	Community Government of Whatì
Approval to transport dangerous goods	Transportation of Dangerous Goods Act/Regulations	Transport Canada
Permit to Burn and Fire Preparedness Plan	Forest Protection Act	GNWT-ENR
Lands Reserve	NWT Lands Act	GNWT-Lands
Land Exchange	Tłı̨chǫ Agreement	Tłı̨chǫ Government - GNWT
Navigation Protection Plan Notice to the Minister	Navigation Protection Act	Transport Canada
Fisheries Act Review	Fisheries Act	Fisheries and Oceans Canada
NWT Research Licence	Scientists Act	Aurora Research Institute
Wildlife Research Permit	Wildlife Act	GNWT Environment and Natural Resources
Wildlife Management and Monitoring Plan approval	Wildlife Act	GNWT-ENR
Archaeology Permit	Archaeological Sites Act/Regulations	GNWT-ECE
Camp Sanitation Approval	Public Health Act/Camp Sanitation Regulations	GNWT-HSS
Waste Disposal Approval	Tłı̨chǫ Agreement	Communities of Whatì and Behchokǫ̀

See also Section 4.0 of the Updated Project Description.

Roads: Is this to be a pioneered road? No Has the route been laid out or ground truthed? Yes

9. Proposed disposal methods.

A Waste Management Plan for the proposed activities is to be developed in accordance with the Board's *Guidelines for Developing a Waste Management Plan* and submitted as an attachment to the application form.

a) Garbage:

All waste produced during the project will be removed from the site and disposed of appropriately at a licensed facility. Incineration,

temporary storage and removal of waste are detailed in the Waste Management Plan and Incineration Management Plan provided with this application; see also Section 3.9 of the Updated Project Description.

b) Sewage (Sanitary & Grey Water):
Greywater from camps will be collected, run through grease traps and deposited into sumps or onto the terrestrial environment. Sewage from the camps will be collected and transported for appropriate disposal at approved facilities. Sewage from camps will be collected in a sewage lift station fitted with floats, switches and then transferred with a macerating pump to a larger holding tank that will be heated and insulated. From there it will be transported offsite by means of a tandem or off road LGP vacuum truck. On-site Sewage lagoons or treatment systems may also be used as a contingency. See also Section 3.9 of the Updated Project Description and the Waste Management Plan provided with this application.

c) Brush & trees:
Surface preparation along the Tłı̨chǫ All-Season Road alignment will follow the guidelines stipulated by the Northern Land Use Guidelines: Roads and Trails. Details on brush disposal are outlined in the Waste Management Plan provided with this application. See also Section 3.9 of the Updated Project Description.

d) Overburden (Organic soils, waste material, etc.):
Overburden will be stored near the source, at least 100 metres from the nearest Waters or Watercourse, and will be sufficiently bermed.

10. Equipment (includes drills, pumps, etc.) (Please use separate page if necessary.)

Type & number Size Proposed use

Equipment Type (number)	**Size**	**Purpose**
Tracked dozers (5)	D3 through to D9 (150 to 300 Horsepower)	Clearing alignment, drainage channels and granular borrow sites, clearing granular investigation cutlines, pushing roadway construction material on the roadway and in borrow area, pushing borrow materials and leveling stockpiles, smoothing and compacting, etc.
Hydraulic excavators (5) (wheeled and tracked)	30 to 90 Metric ton (MT)	Clearing alignment, excavating drainage channels, excavating at culvert installation sites, excavating at bridge sites, excavating borrow sites and loading haul vehicles, making repairs to roadway embankment, granular investigations, etc.
Motor graders (2)	Various	For roadway maintenance and road repairs, grading granular surfacing, alignment maintenance, snow ploughing, borrow source maintenance, etc.
Loaders (2)	Various	For loading haul trucks, moving granular materials at work areas, stockpiling granular materials, feeding crusher, etc.
Compaction equipment (3)	Various	To compact roadway surface and surfacing, compact roadway embankment, compact around culvert installations, etc.
Rotary drills (2)	Various	To carry out granular and geotechnical investigations, prepare for piling installations at bridge or ferry sites, to prepare for blasting at quarry sites, etc.
Gravel crushing plants (cone and jaw) (2)	Various	To produce specified granular material.
Single axle, tandem axle and tri axle haul trucks (5)	Various - sewage trucks, sanding trucks and plow trucks	For snow ploughing and road maintenance, sanding on the road, hauling construction materials, hauling water for work camps, sewage and waste removal.

Tractor trailers (1)	Various	To move equipment to, from and within work sites (low/high boys), etc.
Rock/aggregate trucks (15)	Various	To move rock between quarry areas, to haul construction materials within work area, etc.
Water trucks (2)	Various	For dust control and water supply
Fuel tankers (2)	10,000 L to 40,000L	To re-supply fuel storage tanks, to refuel equipment, etc.
Pile drivers (crane mounted) (2)	Various	For installing piles at bridge sites, etc.
Service vehicles (28)	Various - pickup trucks, utility service trucks, flat decks, snowmobiles, quads, etc.	To support and maintain all equipment required for construction
Tree harvesters mulchers/brushers (5)	Various	For alignment clearing, borrow site clearing etc.
Cranes and aerial work platforms (4)	Various	For hoisting and placing bridge components, removing and installing culverts, setting up crushing plants, loading and unloading equipment, loading, unloading and placing temporary camp facilities, etc.
Temporary camp facilities (3)	50 to 200 person camps	To accommodate construction crews, including one maintenance facility
Large generators (6)	25 to 200 kW	For temporary camps, lighting units, crusher plants
Various small equipment (rock pickers, soil cultivators, post hole drills, post drivers, water pumps, rig maps, tampers, compressors, light plants, generators, jack hammers, welders, etc.	Various	To support construction

11. Fuels

Fuels	(✓)	Number of containers	Capacity of containers	Location
Diesel	✓	2	40,000 L	Maintenance facility (km 0)
Gasoline	✓	1	15,000 L	Maintenance facility (km 0)
Aviation fuel				
Propane	✓	3	1000 lbs	Temporary camp locations
Propane	✓	25	30 lbs	Temporary camp locations

Other	✓	8 (various equipment operating fluids)	8,000 L	Maintenance facility (km 0)

12. Containment fuel spill contingency plans. (Please attach separate contingency plan if necessary).

See the Spill Contingency Plan provided with this application, and the Updated Project Description Section 3.7

13. Methods of fuel transfer (to other tanks, vehicles, etc.)

See the Spill Contingency Plan provided with this application, and the Updated Project Description Section 3.7

14. Period of operation (includes time to cover all phases of project work applied for, including restoration)

Work is currently scheduled to being on 31 August 2019. NSI has developed a construction staging and sequencing strategy that considers an autumn mobilization timeframe and utilization of winter climate to assist with access at water crossings. Roadway embankment in each of the four construction segments will be constructed independently, with start time and duration best suited to complement the uniqueness of each segment. Temporary access such as Baily bridges or engineered ice roads at water crossings will enable work to proceed during sensitive environmental work windows. Pioneering work including accessing the first bridges, major cuts and quarries will begin in the fall of 2019. As much as possible this work will be completed in first fall/winter 2019-2020. Remaining cleanup work will be completed in the third summer/fall (2021) up to substantial completion of the work in November 2021. Further details are provided in the Updated Project Description Section 3.4.

15. Period of permit (up to five years, with maximum of two years of extension).

To account for any unforeseen construction delays or schedule extensions, the permit request is for a five-year permit period. An extension will be applied for as required.

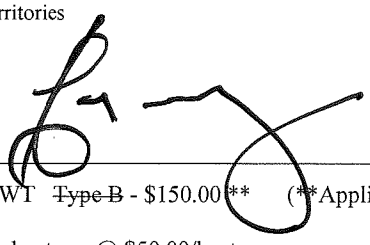
16. Location of activities by map co-ordinates (attached maps and sketches)
See the Updated Project Description Section 1.0 and Appendix A.

Minimum latitude (degrees, minutes, seconds) 63°14'0.00"N	Maximum latitude (degrees, minutes, seconds) 62°26'0.00"N
Minimum longitude (degrees, minutes, seconds) 116°25'60.00"W	Maximum longitude (degrees, minutes, seconds) 117°10'0.00"W

NAD 83 Map Sheet no. 85N/3, 85N/2, 85K/15, 85K/10, 85K/7, 85K/8

17. Applicant
Print name in full

Michael Conway
Government of the Northwest Territories
Department of Infrastructure

Signature  Date JAN 0 7 2019

18. Fees **Type A** - $150.00 ** Not paid by GNWT ~~Type B~~ - $150.00 ** (**Application Fees are Non-Refundable**)

Land use fee: Not paid by GNWT - hectares @ $50.00/hectare $ **0.00**
Assignment fee $50.00 $ --
Total application and land use fees $ **0.00**

Please make all cheques payable to "Receiver General of Canada"