KAVIK-STANTEC INC.
Suite 300, 805 8th Avenue SW
Calgary, Alberta T2P 1H7
Tel: (403) 269-5150

Eli Nasogaluak
Environmental Assessment Coordinator
Environmental Impact Review Board
P.O. Box 2121 Inuvik, NT X0E 0T0
eirb@jointsec.nt.ca

October 5, 2012 [VIA EMAIL]

Dear Mr. Nasogaluak:

Re: Preliminary Draft for Discussion Wildlife and Widlife Habitat Protection Plan (WPP)

On behalf of the GNWT - Department of Transportation, please find within the document enclosed, a *Preliminary Draft for Discussion Wildlife and Wildlife Habitat Protection Plan (WPP)* for the Construction phase of the Inuvik to Tuktoyaktuk Highway.

This preliminary draft WPP is intended to provide information about the proposed purpose, structure and content of the plan, which will continue to be developed over the coming months. This preliminary draft WPP was developed in consultation with the GNWT – Department of Environment and Natural Resources.

Reviewers of the preliminary draft WPP should note:

- It is an annotated table of contents, which is accompanied by a detailed table of Developer commitements, best practices, guidelines and regulatory requirements.
- The preliminary draft plan is for the Construction phase of the project and is used as an example of the similar plan which would be developed for the Operations phase of the project.
- The preliminary draft WPP will be further developed by DOT, in consultation with Canadian Wildlife Service, Inuvik and Tuktoyaktuk Hunters and Trappers Committees and the Wildlife Management Advisory Council (NT).
- A final draft of the WPP is expected to be completed prior to the release of the EIRB Panel's report of environmental assessment; a final WPP will be completed prior to construction, and will take into account recommendations made by the Minister and any requirements of project authorizations.

Thank you for your consideration of this submission.

Sincerely,

Erica Bonhomme
Senior Consultant, Environmental Services
KAVIK-STANTEC Inc.

cc. Jim Stevens, DOT; Gavin More, ENR

Inuvik to Tuktoyaktuk Highway – Wildlife and Wildlife Habitat Protection Plan (1) CONSTRUCTION

PRELIMINARY DRAFT FOR DISCUSSION

October 5 2012

Prepared for:
Government of the Northwest Territories – Department of Transportation
Yellowknife, NT

Prepared by:
KAVIK-STANTEC INC.

Inuvik, NT Project Number: 123510689

Table of Contents

1 INTRODUCTION....1-1
1.1 PURPOSE....1-1
1.2 WILDLIFE SPECIES....1-1
1.3 REGULATORY REQUIREMENTS....1-1
1.4 DEFINITIONS OF TERMS....1-1

2 CONSTRUCTION MITIGATION MEASURES....2-1

3 MONITORING AND INSPECTIONS....3-1

4 REPORTING....4-1

5 EDUCATION AND TRAINING....5-1

6 REVIEW OF WPP....6-1

List of Tables

No table of contents entries found.

Abbreviations

AANDC.....Aboriginal Affairs and Northern Development Canada
DOT.....Department of Transportation
ISR .....Inuvialuit Settlement Region
GNWT .....Government of the Northwest Territories

1 INTRODUCTION

1.1 Purpose

The Wildlife and Wildlife Habitat Protection Plan (WPP) is intended to apply to the planned construction of the Inuvik to Tuktoyaktuk Highway Project. A separate plan will be in place during the operation of the highway.

The purpose of the WPP is to minimize adverse effects to wildlife and wildlife habitat in the project area from activities associated with construction. The WPP:

- Describes mitigation measures for project activities; in particular provides implementation direction to contractors and others engaged in construction activities
- Defines key responsibilities for contractors, monitors, and others
- Describes monitoring requirements
- Describes reporting requirements

A separate Wildlife Effects Monitoring Program has been prepared for the pre-construction, construction and operations phases.

1.2 Wildlife Species

The WPP is intended to describe wildlife and habitat mitigation measures, monitoring and reporting requirements applicable to species at risk and species of management concern, including: Caribou, Grizzly bear, Moose, furbearers and birds. Measures related to reestablishment of habitat on disturbed sites, prevention of introduction of invasive plant species and prevention of dust impacts are also included.

1.3 Regulatory Requirements

[This section will include a list of federal and territorial regulatory requirements and all applicable guidelines.]

1.4 Definitions of Terms

[This section will define commonly used terms]

2 CONSTRUCTION MITIGATION MEASURES

[This section and subsections will provide a description of mitigation measures to address:

- Habitat Disturbance
- Plant Biodiversity
- Wildlife disturbance
- Wildlife harassment
- Bird disturbance
- Wildlife mortality
- Wildlife attractants

A summary of draft measures is provided in Table 2-1 associated with this document titled: *DRAFT Inuvik to Tuktoyaktuk Highway Wildlife and Habitat Protection Plan – Construction]*

[REFER TO TABLE 2-1]

3 MONITORING AND INSPECTIONS

[This section will include procedures for monitoring and inspections, including roles and responsibilities, timing, species and protocols]

A summary of draft monitoring procedures is provided in Table 2-1 associated with this document titled: *DRAFT Inuvik to Tuktoyaktuk Highway Wildlife and Habitat Protection Plan – Construction]*

[REFER TO TABLE 2-1]

4 REPORTING

[This section will include procedures, timing, protocols and responsibilities for reporting of observations and monitoring results]

A summary of draft measures reporting procedures is provided in Table 2-1 associated with this document titled: *DRAFT Inuvik to Tuktoyaktuk Highway Wildlife and Habitat Protection Plan – Construction]*

[REFER TO TABLE 2-1]

5 EDUCATION AND TRAINING

[This section will describe requirements for training employees in mitigation, monitoring and reporting procedures referenced in this plan.

A summary of draft measures is provided in Table 2-1 associated with this document titled: *DRAFT Inuvik to Tuktoyaktuk Highway Wildlife and Habitat Protection Plan – Construction]*

[REFER TO TABLE 2-1]

6 REVIEW OF WPP

This section will describe how often the WPP will be reviewed, by whom, and how the results of the review will be used to modify any of the procedures or requirements described in the plan.

A summary of draft measures is provided in Table 2-1 associated with this document titled: *DRAFT Inuvik to Tuktoyaktuk Highway Wildlife and Habitat Protection Plan – Construction]*

[REFER TO TABLE 2-1]

APPENDIX A

Procedures, Guidelines and Forms

[This section will provide all relevant procedures, protocols, guidelines, forms and any other related plans that are to be referred to during the implementation of the Wildlife Protection Plan. These include: bear response guidelines, flight altitude guidelines, etc.]

Table 2-1: DRAFT Inuvik to Tuktoyaktuk Highway Wildlife and Habitat Protection Plan - Construction

Issue	Mitigation / Monitoring / Reporting	Schedule	Spatial Extent	Responsibility /DUE DATE
Umbrella Commitments	The Developer will develop and implement a construction phase Wildlife & Habitat Protection Plan (WHMMP) that will include specific mitigation measures for Species at Risk, caribou, grizzly bears, moose, furbearers, and birds. Mitigation measures in this plan will be improved based on monitoring results and relevant research over time. Compliance and effects monitoring activities will be conducted to ensure the terms and conditions set out in regulatory approvals, licences and permits, the EMP, and in the commitments are met, and to check the effectiveness of mitigation measures in avoiding or minimizing potential effects. Environmental monitors will be supplied by, and report to, the ILA. The HTCs will be approached to supply Wildlife Monitors. Funding will be provided by the Developer and/or Developer's contractor(s). Wildlife monitors will be on-site during construction to monitor wildlife and manage risks. Duties and responsibilities include: • Maintaining detection and deterrent equipment; • Monitoring wildlife activity in Project area; • Lead responder to wildlife incidents; • Notify ENR/CWS in accordance with legislation or as directed by the Wildlife Protection Plan • Holding impromptu meetings or bear-awareness briefings as required; • Following the advice of ENR in regards to deterrence.			
Design Criteria	Minimize loss of habitat and reduction of habitat effectiveness through project design The footprint of each borrow source will be limited to the greatest extent possible and the number of borrow sources developed will be minimized.			
Habitat Disturbance	1. Dust will be controlled with the application of water as required. Dust suppression methods as described in *Guideline for Dust Suppression* (GNWT 1998) will be employed to minimize potential issues associated with dust. In addition, speed limits will be restricted during construction to minimize dust. 2. Off road vehicle use may impact vegetation. Impacts on habitat disturbance will be reduced by restricting vehicles to road and quarry footprint and conducting winter work using ice roads to access borrow sources or water sources. A minimum 20 cm ice / snow cover will be maintained on the overland access route. All off-ROW travel will be conducted under frozen ground conditions to prevent/minimize vegetation damage. 3. Final site inspection and clean-up will be conducted with site-specific clean-up conducted on foot where that work takes place off the right-of-way to avoid disturbance to vegetation. 4. To reduce the period time for plant re-colonization of borrow sites, each borrow pit will be closed as soon as it is no longer required. Each pit will be reclaimed in a progressive manner as described in its Pit Development Plan. Re-vegetation efforts, combined with slow natural re-vegetation processes, will lead to the slow re-establishment of vegetation characteristic of naturally granular upland areas. Disturbed sites where erosion may occur may be recontoured and re-vegetated with	Snow free months Annually	Length of Highway Length of Highway, Borrow Sources	DOT, Contractors DOT Consultants / ENR Biologists

Issue	Mitigation / Monitoring / Reporting	Schedule	Spatial Extent	Responsibility /DUE DATE
	appropriate northern, native or non-invasive plant species for any deliberate re-vegetation efforts. Seed batch analyses will be conducted prior to seed batch purchase. Consultations with ENR will be undertaken before final decisions are made regarding revegetation species. 5. Vegetation removal will be minimized at the clear-span abutments, culvert installations and revegetations or other appropriate site-stabilization will be conducted. 6. Environmental Monitors will monitor each borrow source, bridge and culvert installations during development and post development to confirm adequate revegetation of sites. 7. Annual monitoring of roadsides for invasive species will be conducted each year of construction and invasive vegetation will be controlled immediately to eliminate seed production and long term establishment.	During snow-free season in LSA where seeding has occurred		
Plant Biodiversity	1. The project footprint will be surveyed by a qualified biologist/botanist for the presence of Yukon stitchwort and other rare plant species in advance of construction. Where rare plants and/or communities are found suitable mitigation strategies, such as avoidance, transplanting or collecting specimens for donation to a herbarium for educational or scientific purpose, will be implemented in consultation with a rare plant specialist. (Refer to Alberta Rare Plant Council Guidelines) 2. Riparian Black Spruce/Shrub vegetation type was only identified in the vicinity of Holmes Creek and Hans Creek, and represents the only forested vegetation type in the Tundra Plains Ecoregion. It is also the northernmost extent of black spruce in the area. Vegetation Surveys ahead of construction in the vicinity of other potential stream crossings will identify any other additional unique Riparian Black Spruce/Shrub vegetation type. If disturbance to rare vegetation types is unavoidable, efforts will be made to maintain as much of this vegetation type intact as possible. 3. Changes in vegetation resulting from alteration of surface hydrology will be avoided through provision of adequate drainage in wet lowland areas through the installation of culverts as necessary.	Baseline surveys – June 2012	Length of Highway, Borrow Sources, LSA	DOT / Consultants
Wildlife-General	1. Environmental and wildlife monitors will monitor Project activities during construction to ensure work is conducted in accordance with applicable regulations, commitments and mitigation measures. In addition, the monitors will provide advice to the construction contractor(s) and report their observations to the appropriate management agency (i.e., ILA, ENR or HTC) and designated Project contact. 2. A wildlife monitoring program will be implemented that requires operators to report wildlife observations to a Wildlife Monitor. A list of species requiring real time reporting will be used to allow the Wildlife Monitor to provide direction on construction activities. The Wildlife Monitor may recommend temporary avoidance of areas during migration or other sensitive wildlife activity. 3. Where required, for the purposes of worker safety or wildlife protection, workers will be immediately notified of wildlife presence in or near construction areas. 4. Wildlife Monitors may recommend avoidance of areas with sensitive wildlife activity or temporary work stoppages should observations indicate a need (e.g. when large numbers of wildlife are in the vicinity of the road alignment or winter access routes).	Ongoing during construction activities	Length of highway, borrow sources and camp facilities	DOT contractors and employees

DRAFT

Issue	Mitigation / Monitoring / Reporting	Schedule	Spatial Extent	Responsibility /DUE DATE
	5. A no feeding wildlife / no approaching wildlife policy will be enforced by the Project Supervisor. 6. A no littering policy will be enforced by the Project Supervisor. 7. A no hunting or trapping policy will be enforced by the Project Supervisor. 8. With the exception of the Wildlife Monitor, or a designated employee, project personnel are prohibited from keeping personal firearms in camps or project contractor vehicles. 9. Poaching or evidence of illegal hunting/trapping will be reported to ENR or CWS authorities. 10. Camps and associated infrastructure will be designed to incorporate proper bear safety, including installing adequate lighting, incorporating proper waste management, cleaning and maintaining the kitchen and dining area, and wildlife detection. 11. Directed lighting rather than broad lighting will be used whenever possible during spring, summer and fall months to avoid attracting birds. Lights will be positioned to shine down or will be fixed with shielding to direct light downward on buildings and other infrastructure sites, wherever possible. 12. Construction camps and facilities will be designed to include strategies that exclude wildlife wherever possible. Options include security fencing, electric bear fencing, thinning of vegetation and removing snow, obscuring visibility constructing vents to prevent small mammals and birds entering, and metal mesh skirting around elevated trailers, walkways, and stairs to prevent wildlife use. 13. Blasting, if required, will occur only during winter borrow source development. Blasting will normally be conducted outside of sensitive wildlife periods and outside minimum setback distances (see Wildlife Disturbance or species set back distances). The Wildlife Monitors will check blast areas for both human and wildlife presence prior to any detonation to ensure the area is clear and, following detonation; will recheck the surrounding area to ensure no wildlife, such as bears have been disturbed. 14. Vehicle movements will be strategized to minimize trips and reduce the potential disturbance of wildlife. These strategies will include the use of vans or extended cab pick-up trucks to transport workers and minimize vehicle disturbance of wildlife. 15. Workers will not walk off-site onto land at any time of year, unless there is a specific requirement (i.e., waste recovery), and these activities will be scheduled to avoid sensitive wildlife periods. 16. Access to the surface facilities will be limited to authorized personnel during construction.			

DRAFT

<table>
<tr><th>Issue</th><th>Mitigation / Monitoring / Reporting</th><th>Schedule</th><th>Spatial Extent</th><th>Responsibility /DUE DATE</th></tr>
<tr><td>Wildlife disturbance, setback distances - General</td><td>1. The following Wildlife sensitive periods[1] and recommended minimum set back distances for wildlife habitat and wildlife use areas will be followed. [Adapted from Draft Northwest Territories Seismic Operations Guidelines. AANDC et al. August 2011]. When setbacks cannot be followed, the Wildlife Monitor will contact the local GNWT - ENR or EC office to determine adjustments for specific situations.
<table>
<tr><th>WILDLIFE OR WILDLIFE HABITAT</th><th>PERIOD</th><th>SPECIFIC CONDITIONS</th><th>SETBACK DISTANCE</th></tr>
<tr><td>All wildlife and birds, general</td><td>Breeding, nesting and/or birthing seasons</td><td>Varies with region and species; contact local GNWT - ENR or EC office</td><td>250 m</td></tr>
<tr><td>Bear dens (grizzly bear, black bear)</td><td>Oct 1 – May 30</td><td>General development activities</td><td>800 m</td></tr>
<tr><td>Bear dens (grizzly bear, black bear)</td><td>Oct 1 – Apr 30</td><td>If activity is blasting</td><td>1.5 km</td></tr>
<tr><td>Bears (grizzly bear, black bear)</td><td>Jul. 15 – Sept. 15</td><td>Berry habitat</td><td>300 m</td></tr>
<tr><td>Caribou (barren-ground, woodland)</td><td>Year round</td><td>Shut-down distance if caribou are in the area</td><td>500 m</td></tr>
<tr><td>Caribou (barren-ground, woodland)</td><td>Snow period</td><td>Snowmobile distance if caribou are in the area</td><td>250 m</td></tr>
<tr><td>Fox dens</td><td>May 1 – Jul. 15</td><td>General development activities</td><td>150 m</td></tr>
<tr><td>Lynx dens</td><td>Apr. 1 – Jul. 15</td><td>General development activities</td><td>250 m</td></tr>
<tr><td>Mineral/salt licks</td><td>Year round</td><td>General development activities</td><td>1 km</td></tr>
<tr><td>Wolf dens</td><td>Apr. 1 – Jun. 15</td><td>Entering area by foot</td><td>500 m</td></tr>
<tr><td>Wolf dens</td><td>May 1 – Sept. 15</td><td>General development activities</td><td>800 m</td></tr>
<tr><td>Wolverine dens</td><td>Oct. 15 – Jul. 15</td><td>General development activities</td><td>2 km</td></tr>
<tr><td>Bird staging and nesting areas</td><td>When birds are present</td><td>Flight line distance to areas</td><td>1.5 km</td></tr>
<tr><td>Nests of bird species at risk</td><td>When nests are found</td><td>Rusty Blackbird</td><td>300 m</td></tr>
<tr><td>Bald Eagle</td><td>Apr. 15 – Aug. 31</td><td>Nest sites</td><td>500 m</td></tr>
<tr><td>Golden Eagle</td><td>Apr. 15 – Aug. 31</td><td>Nest sites</td><td>800 m</td></tr>
<tr><td>Osprey</td><td>Apr. 1 – Aug. 31</td><td>Nest sites</td><td>1 km</td></tr>
<tr><td>Raptors, general</td><td>Mar. 1 – Sept. 1</td><td>Nest sites</td><td>1.5 km</td></tr>
<tr><td>Nests of bird species at risk</td><td>When nests are found</td><td>Short-eared Owl</td><td>1.5 km</td></tr>
<tr><td>Raptors, general</td><td>Sept. 2 – Feb. 28</td><td>Nest sites</td><td>500 m</td></tr>
<tr><td>Tundra Swan</td><td>Apr. 1 – Sept. 30</td><td>Breeding water body</td><td>800 m</td></tr>
<tr><td>Nests of bird species at risk</td><td>When nests are found</td><td>Horned Grebe</td><td>800 m</td></tr>
<tr><td>Waterfowl</td><td>During migration</td><td>Staging areas and concentrations</td><td>3 km</td></tr>
<tr><td>Waterfowl</td><td>Year round</td><td>Nest sites,</td><td>250 m</td></tr>
</table></td><td>Ongoing during construction activities</td><td>Length of highway, borrow sources</td><td>DOT contractors and employees</td></tr>
</table>

[1] The wildlife sensitive periods presented are a general guide as the specific timing of wildlife and bird activities may vary from year to year.

<table>
<tr><th>Issue</th><th>Mitigation / Monitoring / Reporting</th><th>Schedule</th><th>Spatial Extent</th><th>Responsibility /DUE DATE</th></tr>
<tr><td>Wildlife disturbance, sensory disturbance - Aircraft</td><td>
1. Every effort will be made to avoid aircraft use during periods when birds are particularly sensitive to disturbance and are concentrated, such as during migration and moulting. If possible, aircraft flights will be scheduled for times when few birds are not present, including early spring, late fall and winter. If flights cannot be scheduled during these times, flights should be minimized over important bird habitat. In general, a minimum flight altitude of 650 m should be maintained, and a flight altitude of 1100 m should be maintained over areas where birds are known to concentrate.
Summary of Environmentally Acceptable Minimum Flight Altitudes [EISC July 25, 2011]
<table>
<tr><th>Aircraft Type</th><th>Species / Situation</th><th>Recommended Altitude</th></tr>
<tr><td>Not specified</td><td>Over areas likely to have birds</td><td>>650 m (2100 ft)</td></tr>
<tr><td>Not specified</td><td>Over areas where birds are known to concentrate (colonies, moulting areas)</td><td>>1100 m (3500 ft)</td></tr>
<tr><td>Subsonic Aircraft</td><td>Over large mammals during ferry flights</td><td>>300 m (975 ft)</td></tr>
<tr><td>Subsonic Aircraft</td><td>During wildlife surveys</td><td>>100 m (325 ft)</td></tr>
<tr><td>Not specified</td><td>When flying point to point in vicinity of caribou and other wildlife species</td><td>>610 m (2000 ft)</td></tr>
</table>
1. The following additional recommended minimum flight altitudes and sensitive periods for wildlife will be followed.
[Draft Northwest Territories Seismic Operations Guidelines. AANDC et al. August 2011]
<table>
<tr><th>SPECIES/GROUP</th><th>HABITAT TYPE</th><th>PERIOD</th><th>MINIMUM ALTITUDE</th></tr>
<tr><td>All wildlife and birds, general</td><td>Varies according to species; contact local GNWT — ENR or EC office</td><td>Breeding and birthing seasons; varies according to region and species</td><td>650 m</td></tr>
<tr><td>Wildlife, general</td><td>All habitat types during ferry flights</td><td>Year round</td><td>300 m</td></tr>
<tr><td>Wildlife, general</td><td>When flying point to point in vicinity of caribou and other wildlife species</td><td>Year round</td><td>650 m</td></tr>
<tr><td>Wildlife, general</td><td>During wildlife surveys</td><td>Year round</td><td>100 m</td></tr>
<tr><td>Birds, general</td><td>Areas likely to have birds</td><td>Year round</td><td>650 m</td></tr>
<tr><td>Birds, general</td><td>Areas where birds are known to concentrate (sanctuaries, colonies, moulting areas)</td><td>Year round</td><td>1100 m</td></tr>
<tr><td>Black and grizzly bear</td><td>Dens</td><td>Oct. 15 – May 15</td><td>300 m</td></tr>
<tr><td>Wolf</td><td>Dens</td><td>May 1 – Sep. 15</td><td>300 m</td></tr>
<tr><td>Wolverine</td><td>Dens</td><td>Oct. 15 – May 15</td><td>300 m</td></tr>
<tr><td>Raptors</td><td>Nest sites</td><td>Year round</td><td>650 m km</td></tr>
</table>
</td><td>Ongoing during construction activities</td><td>Length of highway, borrow sources</td><td>DOT contractors and employees

DOT consultants

ENR Biologists</td></tr>
</table>

DRAFT

Issue	Mitigation / Monitoring / Reporting	Schedule	Spatial Extent	Responsibility /DUE DATE
	2. Studies have shown that aircraft overhead flights may affect caribou in the following ways: o physical injury or death, o increased energy expenditures, and o long term behavioural changes Helicopters may cause greater disturbance than fixed wing because of greater noise, manoeuvrability and nature of work. Large groups (>10 animals) are visibly more reactive than small groups. Cows with calves are visibly more sensitive than bulls. Following behind moving caribou results in the most disturbance. To minimize these impacts to wildlife from project-related flights, the following strategies will be used: o The number of flights will be kept to the minimum necessary; o Flight paths will be altered as necessary to avoid to avoid important areas, especially during sensitive periods o If caribou are sighted they will not be approached, followed, hovered above, or circled o Higher altitude flight paths, or paths that veer away from caribou will be chosen when the animals are observed running, panicking or exhibiting other startle responses.			
Wildlife harassment – Wildlife Acts and Regulations	1. Employees will not approach, harass or feed wildlife. 2. Wildlife showing normal feeding behaviour and no aggression toward humans will be left alone, unless there is a human safety issue. 3. Wildlife attempting to avoid humans will be left alone. 3. The destruction of wildlife will be avoided unless no other recourse is possible or if danger to human safety or property is imminent. 4. The requirements of the *Wildlife Act* and *Migratory Birds Regulations* will be adhered to including the prohibitions on wildlife disturbance and/or "harassment of wildlife". Directions on defensive actions, reporting and permit requirements will be followed by the Wildlife Monitor and/or Project employees. ***Wildlife Act*** ***38.*** *(1) Subject to subsection (3), no person shall without a permit entitling him or her to do so* *(a) persistently or repeatedly chase, weary, harass or molest wildlife without intending to capture or kill it;* *(b) engage in any activity that is likely to result in a significant disturbance to a substantial number of wildlife animals;* *(c) break into, destroy or damage any den, beaver dam or lodge or muskrat push-up outside any municipality or prescribed area, unless authorized to do so by the regulations or any other law; or* *(d) destroy, disturb or take the eggs or nests of any birds mentioned in the prescribed schedule.* *...* *(3) A person may chase a bear away from a municipality, camp or settlement or its immediate vicinity where that action is necessary to defend life or property and makes it unnecessary to kill the bear, and a vehicle may be used in that chase.*	Start of construction	Project facilities and camps, project area, length of highway work-sites	DOT contractors and employees, Project Supervisor Wildlife Monitor

DRAFT

Issue	Mitigation / Monitoring / Reporting	Schedule	Spatial Extent	Responsibility /DUE DATE
	39. *(1) Notwithstanding anything in this Act, a person may wound or kill wildlife if it is necessary* *(a) to preserve his or her or another person's life; or* *(b) to protect his or her property.* *(2) Every person who wounds or kills wildlife under subsection (1) shall without delay report the wounding or killing to an officer and* *(a) give the wildlife to the officer, or* *(b) advise the officer of where the wildlife is located, and the officer shall dispose of the wildlife in the prescribed manner.* ***Wildlife Licences and Permits Regulations*** *General Wildlife Permit Licence* ***17.*** *(1) The holder of a general wildlife permit is entitled to possess wildlife, allow otherwise unauthorized harassment of wildlife, ...* **Migratory Birds Regulations** ***6.*** *Subject to subsection 5(9), no person shall* *(a) disturb, destroy or take a nest, egg, nest shelter, eider duck shelter or duck box of a migratory bird, or* *(b) have in his possession a live migratory bird, or a carcass, skin, nest or egg of a migratory bird* *except under authority of a permit therefore.* 5. Structures will be designed to minimize or prevent use as a nesting structure. If nesting occurs, the nest will not be disturbed until after the birds have left the area.			
Wildlife disturbance during sensitive periods – **Waterfowl**	1. Wildlife Monitors will confirm concentrations of waterfowl present in key areas of waterfowl concentrations (nesting, rearing, migration staging) identified through baseline surveys in the vicinity of construction or maintenance sites before summer activities commence. 2. If concentrations of waterfowl are present in nesting areas, the Wildlife Monitor will determine if Project activities should be minimized to avoid disturbance until nesting is completed (i.e. young have left the vicinity). 3. All vehicles and equipment will be refuelled at least 100 m from waterbodies. 4. Equipment used in or near water will be clean and free of oil, grease or other deleterious substances. 5. In the event of a spill, all efforts will be made to properly contain and manage the spill. The spill area will be monitored closely and appropriate deterrents (e.g., warning noises, flagging) employed to discourage birds from entering the affected area.	Baseline surveys – June 2012	Length of highway	DOT Consultants Wildlife Monitors

DRAFT

Issue	Mitigation / Monitoring / Reporting	Schedule	Spatial Extent	Responsibility /DUE DATE
Wildlife disturbance during sensitive periods –**Birds - General**	1. If a key nesting feature of a Species at Risk is discovered, both ENR and CWS will be contacted. If the nest is identified within predetermined set-back distances (as determined through consultation with CWS/ENR), activities will be temporarily suspended pending consultation with these agencies. 2. During construction, the presence of birds on the proposed Highway will be communicated to other construction vehicle drivers. • Construction and maintenance vehicles will stop or reduce speeds when birds are on the road or near the road, respectively. • Vehicle speeds during construction and post construction in strategic areas will be regulated to reduce the potential of bird mortality due to collisions.		Length of highway	
Wildlife disturbance during sensitive periods – **Grizzly Bears/Black Bears/**	1. Prior to each winter of construction, aerial surveys will be conducted to locate active bear dens within 1.5 km of the vicinity of areas scheduled for winter work activities to minimize the risk of disturbance of denning bears. Freshly dug dens will be mapped such that construction activities will avoid active dens during the hibernation period. As part of the surveys, ENR Biologists and/or Wildlife Monitor will confirm grizzly bears if likely to use dens before winter activities commence. Depending on the distance from planned construction areas the options to be followed are: a. If wildlife or sign of active use is observed within 500 m, the Wildlife Monitor may implement measures to deter bears from denning within 500 m of activity and permanent development sites (e.g., borrow sites and access roads). The Wildlife Monitor will consult with ENR biologists to confirm use of deterrent measures. b. To prevent the establishment of active dens on high suitability denning sites, temporary electric fences may be installed in the late summer around primary borrow sites and other areas to be disturbed the following winter. Location of fencing will be determined in consultation with ENR biologists. 2. If dens are discovered within 500 m of the Highway development sites after the fall preconstruction survey, the Wildlife Monitor will immediately contact GNWT ENR to determine the appropriate course of action. 3. The presence of Grizzly bears will be reported to Wildlife Monitors in real time. Observations will include the behavioural response of animals to the development activities. The presence of Grizzly bears in the areas of construction and camps will be communicated to other drivers. 4. Construction vehicles will stop or reduce speeds when grizzly bears are on the road or near the road, respectively. 5. Vehicle speeds during construction will be regulated to reduce the potential of grizzly bears mortality due to collisions. 6. Blasting will be avoided within 500 m of active den sites during sensitive grizzly bear periods from September 30 – May 30. 7. The Field Supervisor will ensure proper storage, transportation and disposal of wastes to avoid attracting bears and other carnivores to camps or other work sites.	Baseline surveys – annually in October starting 2011	Length of highway, borrow sources, winter access	ENR Biologists Wildlife Monitors

DRAFT

Issue	Mitigation / Monitoring / Reporting	Schedule	Spatial Extent	Responsibility /DUE DATE
	8. The Wildlife Monitor and designated, trained staff will have access to bear deterrent materials including bear spray, cracker shells, and a 12 gauge shotgun with plastic slugs and slugs. All work crews will have at least one can of bear spray while bears are active. The use of any deterrent method will be reported to ENR. 9. ENR Bear response guidelines will be followed. Response guidelines to all employees and contractors as part of orientation and training. 10. Bear Conflicts will be reported using ENR report form (attached).			
Wildlife disturbance during sensitive periods – **Barren-ground Caribou**	1. All sightings and movements of barren-ground caribou will be monitored and reported to Wildlife Monitors in real time. Observations will include the behavioural response of animals to the development activities. 2. To facilitate normal herd movements, consideration of changes in construction activities will be determined by the Wildlife Monitor, in consultation with ENR Biologists, on an ongoing basis. The presence of caribou in the areas of construction and access roads will be communicated to other drivers. 3. Construction vehicles will stop or reduce speeds when caribou are on the road or near the road, respectively. 4. Vehicle speeds during construction will be regulated to reduce the potential of caribou mortality due to collisions. Work stoppages may be required during periods of high caribou presence should observations indicate a need (e.g. when large numbers of barren-ground caribou cows with calves are in the vicinity of the road alignment or winter access routes). Activities may resume after wildlife pass and have moved away. 5. Blasting will be avoided within 500 m of individual barren-ground caribou. If it is clear that barren-ground caribou will likely remain in the development area for extended periods the Wildlife Monitor may gently encourage individual or small numbers of caribou to move away from the area. 6. All human/caribou conflicts and incidents or mortalities will be reported to the Wildlife Monitor, Field Supervisor and Safety Advisor and documented. The Wildlife Monitor or Field Supervisor will advise the ENR Wildlife Officer of these as soon as possible after the event. 7. DOT and ENR will provide information on barren-ground caribou observations of the Cape Bathurst, Tuktoyaktuk Peninsula and and discuss implications relevant to wildlife protection with HTCs, IGC and WMAC (NWT).	Annually every year of construction	Local study area, length of highway	DOT contractors and employees ENR biologists, ENR Wildlife Officers Wildlife co-management groups
Road and human related wildlife mortality	1. All vehicles and equipment will follow construction zone speed limits to minimize the chance of hitting wildlife. 2. Vehicle operators will yield right-of-way to wildlife and take reasonable measures to avoid wildlife-vehicle collisions. 3. DOT Wildlife Monitors will notify ENR Wildlife Officers of the species, sex/age/location of both road kills and naturally occurring wildlife carcasses located on within the right-of-way and other construction areas as soon as possible.	Winter months	Length of highway, borrow access, borrow access	DOT contractors and employees Wildlife Monitor ENR Wildlife Officer

DRAFT

Issue	Mitigation / Monitoring / Reporting	Schedule	Spatial Extent	Responsibility /DUE DATE
	4. ENR is responsible for removing road kill and naturally occurring wildlife kills located near the highway and will provide the location of a disposal site for kills occurring on the highway. 5. All wildlife sightings, encounters, unusual behaviour, or vehicle strikes will be immediately to the Wildlife Monitor. Causes of any road kills will be investigated by the Wildlife Monitor and the results will be discussed with ENR or CWS staff. 6. With the exception of the Wildlife Monitor, Project personnel are prohibited from carrying firearms. 7. All Project personnel will undergo a wildlife awareness program including reporting procedures and prevention of wildlife-vehicle collisions (See Employee Wildlife Education and Training section).			
Wildlife attractants	1. The Waste Management Plan will identifies the means of minimizing and disposing of attractants to wildlife such as garbage, food wastes and other edible and aromatic substances will include the following measures: • Minimize and dispose of attractants to wildlife such as garbage, food wastes and other edible and aromatic substances. • Store all food and garbage in either: airtight sealed container, bear proof containers or in an enclosed bear proof area. • Store on-site grease, oils, fuels in bear-proof areas or containers. • No waste will be incinerated on- or off-site. • Waste will be transported and disposed of at the Tuktoyaktuk and/or Inuvik municipal solid waste facilities in accordance with the municipalities' terms and conditions for usage of the facilities. 2. The Project contractors will finalize and implement a *Waste Management Plan* that considers prevention of wildlife attraction including: o A list of odorous wastes that may attract wildlife, and the identification of its storage and method of transport to prevent wildlife attraction will be included. This will also indicate whether odorous waste is stored for the purpose of on- or off-site disposal (i.e. road or air transport). o A list of storage and transport methods and disposal locations for identified wastes including appropriate containment to secure waste storage and incineration to prevent odours and accumulation. This includes the use of bear-proof storage containers that reduce odours at all times. o regular removal of waste from collection sites, and store in wildlife-proof containers areas for shipment and disposal at an approved disposal site as soon as possible o Waste removal crews will be sent out to areas surrounding each construction site to collect and properly dispose of any waste material that have blown off site. o regular road and camp clean-ups to ensure that no hazardous substances, wires, or loose materials are present to endanger wildlife and ensure proper storage and disposal of hazardous wastes o Gasoline, 2-stroke oil, lubricating oils, anti-freeze, white gas, plastics and rubber will be stored in leak and wildlife proof containers to minimize odours. o Use of appropriate wildlife exclusion techniques (e.g. fencing) to prevent wildlife from entering waste storage areas and sewage treatment facilities o Post signs at strategic locations in camp, such as dining areas, kitchens, garbage receptacles, and waste disposal sites, to indicate food storage or garbage disposal areas. 3. Work areas will be kept clean and free of potential hazards to wildlife such as wire, cable, tubing, plastic, antifreeze or other materials that wildlife may eat or become entangled in.	Start of construction	Project facilities and camps, project area, length of highway work-sites	DOT contractors and employees Wildlife Monitor ENR Environmental Protection

DRAFT

Issue	Mitigation / Monitoring / Reporting	Schedule	Spatial Extent	Responsibility /DUE DATE
	4. Project-related personnel will immediately report all dead wildlife to the Wildlife Monitor. ENR Wildlife Officers will remove carcasses or instruct the Wildlife Monitor on the appropriate disposal of carcases to avoid attracting carrion feeders to the location.			

Employee wildlife education and training	The Developer's contractor(s) will be responsible for educating and training staff on applicable practices contained within the Wildlife Management Plans.
	
	To ensure the safety of Project employees and wildlife, the Field Supervisor and Safety Advisor will, in consultation with ENR and CWS, educate all field workers on the applicable practices.
	
	The training and information to contract employees will include the following:
	
	• Providing the wildlife monitor and designated, trained staff training and access to non-lethal deterrent materials (e.g., bear spray).
	
	• An understanding of wildlife response protocols including reporting requirements and procedures related to wildlife observation, wildlife incidents and accidents.
	
	• Specific instructions not to disturb any birds or nests observed.
	
	• Project restrictions and operating protocols (e.g. wildlife right-of-way, speed limits)
	
	• Grizzly bear and wolverine ecology, including:
	  • understanding bear and wolverine sign, behaviour, seasonal movements and location of natural food sources
	  • types of areas bears and wolverine use at different times of the year.
	
	• Discussion of the implications of wildlife human-habituation, and food conditioning to other attractants.
	
	• Detrimental effects of directly or indirectly feeding wildlife, including bears, foxes, wolverine, birds, etc.
	
	The Developer or its contractor(s) will develop familiarize staff with the following.
	
	• Working safely in wildlife country and avoiding wildlife encounters including:
	  • Bear awareness and safety training referencing regulations, permit conditions, industry standards, and Project commitments and policies, and information on managing non-natural attractants.
	  • Appropriate videos/DVD's such as "Staying Safe in Bear Country" and "Working in Bear Country" provided as part of the bear awareness and safety training.
	  • Wildlife policies (i.e. no feeding, no harassment, no hunting, no trapping).
	  • Bear Safety Guidelines, including the proper use of non-lethal wildlife deterrent materials (e.g., bear spray)
	  • Waste and wildlife attractant management.
	
	• Worker safety precaution protocols including:
		Prior to start of development activities and annually thereafter	All Project activities and work sites	DOT contractors and employees, Project Supervisor
				
				Wildlife Monitor
				
				ENR Wildlife Officers/Biologists

DRAFT

Issue	Mitigation / Monitoring / Reporting	Schedule	Spatial Extent	Responsibility /DUE DATE
	• Check work site for bears before leaving vehicle or building; be alert, especially in areas where vegetation or terrain limit visibility and might hide a bear, and locations where sounds may mask the sound of an approaching bear; • Watch for bear sign and avoid potential denning and feeding areas if possible; • Crews working remotely~~,~~ will be in pairs or larger groups and will look out for each other; • Garbage will be packed back to camp for proper disposal; • A communication system, e.g. radios or satellite phones, will be available so crews can regularly communicate with their supervisors and Wildlife Monitor; and • Crews will report where they are to be working and when they will return.			
Wildlife Reporting	1. DOT contractors, in consultation with ENR Biologists and CWS Biologists, will prepare a reporting protocol and log for observations of specific wildlife species. The protocol will include location [lat/long or km], date, species, number, sex/age if possible, wildlife behaviour and, as required, type of wildlife-vehicle and wildlife human interaction. 2. Species to be recorded by Wildlife Monitors include: Species at Risk - Polar Bear, Rusty Blackbird, , Boreal Caribou, Short eared Owl , Peregrine Falcon COSEWIC Assessed - Grizzly Bear, Wolverine, Horned Grebe Barren-ground caribou Moose Foxes Wolves Waterfowl - Tundra Swan, Greater White-fronted Goose, Snow Goose, Canada Goose, Mallard, Northern Pintail Upland Birds - Rock and Willow Ptarmigan 3. Specific reporting frequency will be included in the reporting protocol related to notification of biologists of issues of potential dangerous wildlife situations, wildlife-vehicle interactions and wildlife-road structure interactions (e.g. wildlife resting on road turn-outs). 4. The Inuvik ENR Bear Encounter form will be used for any bear encounters. The use of any deterrent method on wildlife will be reported to GNWT ENR. 5. ENR will maintain all wildlife observations in the GNWT departmental Wildlife Management Information System.	Ongoing	All Project activities and work sites	DOT contractors and employees Wildlife Monitor ENR
WPP Review	1. Project contractors will employ an adaptive management approach to ensuring sensitive species/ species at risk are adequately protected during all phases of construction. 2. The Developer will prepare a wildlife and wildlife habitat inspection table prior to construction describing the types of inspections required, the frequency of inspections and reporting frequency to report on effectiveness of mitigations. 3. DOT will conduct annual reviews of the WPP with ENR, EC and its Wildlife Monitors to discuss issues and adapt the Operations WPP if required.	Annually - post winter construction		DOT / ENR Biologists and/or CWS Biologists

DRAFT

Issue	Mitigation / Monitoring / Reporting	Schedule	Spatial Extent	Responsibility /DUE DATE
	4. The Developer will prepare wildlife and wildlife habitat effects monitoring table. The effects monitoring table will describe the indicators and parameters to be monitored and the target or management goal as well as the party/person responsible for each monitoring program. 5. DOT will encourage organizations such as the Hunter and Trapper Committees, Wildlife Management Advisory Council and GNWT Department of Environment and Natural Resources to work together to develop guidelines and conditions for Highway usage and follow-up with monitoring of harvesting activities. 6. The ongoing monitoring and/or annual review will report on the adequacy of mitigations for SARA species and report on any adjustments made.			

DRAFT