

Inuvik Tuktoyaktuk Highway Corridor Working Group Reference Material for EA1617-01

1. Inuvik to Tuktoyaktuk Highway Corridor Working Group Terms of Reference (June 8, 2013)
2. ITHCWG Proposed Meeting Agenda (November 22, 2016)
3. ITHCWG Minutes (November 22, 2016)
4. GNWT Response to Inuvik to Tuktoyaktuk Highway Project Review Panel Report (February 15, 2013)

TERMS OF REFERENCE

INUVIK TO TUKTOYAKTUK HIGHWAY CORRIDOR WORKING GROUP

June 8, 2013

PURPOSE

Provide a mechanism that meets the overall requirement outlined in the Decision of the Government of Canada for mitigation, monitoring, follow-up, adaptive management, communication, and reporting by providing the results from monitoring plan programs and information regarding the implementation of the Inuvik to Tuktoyaktuk Highway Project.

Principles

In keeping with the Decision of the Government of Canada issued on April 4, 2013, the Inuvik to Tuktoyaktuk Highway Corridor Working Group (ITHC WG) will function in accordance with the following principles:

- The WG is an information sharing mechanism for the Department of Transportation to report on the Inuvik to Tuktoyaktuk Highway project and to review outcomes of the multiple environmental management and monitoring plans to invited interested parties.
- Information provided through this WG is intended to be a primary source of data for the follow-up program under the *Canadian Environmental Assessment Act, 1992* for the purpose of verifying the accuracy of the predictions made in the environmental assessment and the effectiveness of the mitigation measures.
- The Department of Transportation will use this group as a means to communicate and report broadly to the interested parties, including Inuvialuit and Gwich'in communities and the public, on the Project on a bi-annual basis, at a minimum.
- Key areas of interest for the ITHC WG are permafrost and granular resources, surface hydrology, vegetation, fish, wildlife, and harvesting.
- ITHC WG representatives should be selected for their expertise and strategic insight in the relevant traditional knowledge, scientific area or user needs and expectations.
- The ITHC WG does not replace the legal authorities of Inuvialuit, federal or territorial regulators or co-management bodies.
- Meetings of the ITHC WG will not replace any project-specific sub-working group meeting requirements.
- Teleconferencing will be considered to facilitate parties located outside of Inuvik.
- Additional communication may occur as set out within the Department of Transportation's Communications Plan.

OBJECTIVES

The objectives of the ITHC WG are to:

- review and provide comments to the Department of Transportation on the design of project-specific monitoring programs within the Environmental Management Plan;
- review project-specific annual and other monitoring reports and provide comments to the Department of Transportation for the following year's project-specific monitoring and mitigation program; and
- provide advice to the Department of Transportation on ITH monitoring and mitigation results that may contribute to adaptive management and/or regional cumulative effects monitoring programs.

MEETINGS

Prior to each ITHC WG biannual meeting, the Department of Transportation will invite each of the following organizations to provide one (1) official representative and one (1) alternate representative to attend.

Inuvialuit Organizations

Inuvik Hunter and Trapper Committee
Tuktoyaktuk Hunter and Trapper Committee
Inuvialuit Game Council
Wildlife Management Advisory Council (NWT)
Fisheries Joint Management Committee
Inuvialuit Regional Corporation

Gwich'in Organizations

Gwich'in Renewable Resources Board

Regulatory Bodies

Inuvialuit Land Administration
NWT Water Board

Local Governments

Hamlet of Tuktoyaktuk
Town of Inuvik

Federal and Territorial Government

GNWT

Environment and Natural Resources
Prince of Wales Northern Heritage Centre

Canada

Infrastructure Canada
Aboriginal Affairs and Northern Development Canada
Fisheries and Oceans Canada
Environment Canada
Natural Resources Canada
Transport Canada

ROLES AND RESPONSIBILITIES

Department of Transportation's Role

- The Department of Transportation will chair the meetings.
- Prepare agendas and issue notices for meetings and ensure all documentation for discussion or comment is attached to the agenda.
- Distribute the Agenda one month prior to each meeting.
- Chair meetings, take notes of proceedings and prepare meeting minutes for circulation to members for review.
- Post meeting minutes on its Website within 2 months of each meeting.
(http://www.dot.gov.nt.ca/_live/pages/wpPages/inuviktotukhighway.aspx).

Invited Representatives' Role

- Review documents and data circulated prior to each meeting.
- Contribute experience and ideas.
- Have experts within respective organizations verify and analyse the data collected and provide recommendations or modifications.

DURATION OF MEETINGS

Length of meetings will vary based on the agenda. At each meeting during the construction phase there will be a standard agenda consisting of:

- Review construction progress
- Review of performance relative to commitments and Government of Canada Decision Response

- Review conformance with and effectiveness of the EMP as a whole, and with specific plans as relevant (Wildlife Management Plan, Erosion and Sediment Control Plan, and other plans)
- Review of adaptive management measures that were implemented, if any and information regarding the need for future adaptive management
- Provide written advice to the Department of Transportation and other organizations supporting the management plans on modification to activities
- Other items of business.

At each meeting during the operations phase the agenda will be similar but relevant to the operations commitments and plans.

DURATION OF WORKING GROUP

The ITHC WG will be established by Fall 2013 and will operate for the construction period and up to 3 years of highway operations, unless an extension is agreed to by its parties. The level of reporting and review will vary in relation to the level of construction and operational activities and impacts related to the ITH Project.

Appendix A - Estimated Schedule

Construction Phase – 2013 to 2016

EMP Document Review – pre-construction summer 2013

Annual post construction season meeting – late May 2014

Annual pre-construction season meeting – late September 2014

Annual post construction season meeting – late May 2015

Annual pre-construction season meeting – late September 2015

Annual post construction season meeting – late May 2016

Annual pre-construction season meeting – late September 2016

Monitoring Review – post-construction meeting late May 2017

Operations Phase – 2016 to 2019

EMP Document Review – pre-operations summer 2015

Annual pre-summer operations meeting – late May 2017

Annual pre-winter operations meeting – late September 2017

The need for additional meetings during the operations phase will be determined at that time and will be based on the level of monitoring and reporting necessary for that phase.

Date: 22 November 2016

Location: Aurora Research Institute, 191 Mackenzie Rd, Inuvik

Teleconference (1-800-303-7189, Participant Code 3049594)

ITEM	TIME	TOPIC	PRESENTER
1	09:00	Welcome and Opening Remarks	
2		Introduction of Participants	
3		Review of Agenda <i>Reminder that the meeting is being recorded for minute taking and there may be a photographer</i>	Chair
4		Review of June 15, 2016 Minutes and Action Items	Chair
5		Review of Summer 2016 Construction Activities and Erosion and Sediment Control	EGTNW
6	10:15	BREAK	
7	10:30	Regulatory Compliance <ul style="list-style-type: none"> ○ Incidents and Reporting Overview By Regulators <ul style="list-style-type: none"> ▪ Inuvialuit Water Board ▪ Inuvialuit Land Administration ▪ Environment & Climate Change Canada ▪ Fisheries and Oceans Canada ▪ Lands ▪ ENR ○ Review of Regulatory Tracking and Responses 	Various DOT
8		Review of Wildlife Mitigation and Monitoring <ul style="list-style-type: none"> ○ Wildlife and Wildlife Habitat Protection ○ Wildlife Effects Monitoring Program ○ Update on Draft Operational Plans 	DOT
9	12:00	BREAK - Lunch provided	
10	12:45	Review of Aquatic Mitigation and Monitoring <ul style="list-style-type: none"> ○ Fisheries Management Plan ○ SNP-Aquatic Effects Monitoring Program 	DOT
11		Review of Geotechnical Mitigation and Monitoring <ul style="list-style-type: none"> ○ Granular Resources and Pit Development ○ Research & Development 	EGTNW DOT / NTGS
12	2:30	Overview of Winter 2017 Construction Activities and Schedule	EGTNW
13	3:00	BREAK	
14	3:15	Lessons Learned/Roundtable Discussion	
15		Summary of Meeting and What to Expect Going Forward	Chair
16		Set Date for Spring 2017 Meeting	Chair / All
17	5:00	Closing Remarks	



MINUTES

Inuvik to Tuktoyaktuk Highway Corridor Working Group Meeting

Aurora Research Institute, Inuvik
November 22, 2016



PARTICIPANTS

Working Group Members:

Bijaya Adhikari, IWB	Jen Lam, IGC
Christopher Aguirre, Transport Canada – <i>via telephone</i>	Edgar Maring, Inuvik Community Corp.
Donald Arey, Dept. of Lands	Charles Pokiak, WMAC NWT
Fred Bailey, EGT Northwind	Loretta Ransom, ECCC – <i>via telephone</i>
Mark D'Aguiar, DFO	Mykola Sokurenko, ILA
William Day, Inuvik HTC	Jessica Taylor, DFO
Albert Elias, ILA Commission	Simon Tétreault, INFC
Mike Harlow, ILA	Philippe Thibert-Leduc, ENR
Steve Kokelj, NTGS	

Department of Transportation:

Stu Niven, A/Director, Environmental Affairs (Chair)
Dean Ahmet, Senior Project Manager ITH
Merle Carpenter, Director, Inuvik Region
Alexis Campbell, Environmental Analyst
Mohammad Hossain, Senior Project Officer
Kelly Kamo McHugh, Environmental Project Technician
Patrice Ndiangang, Senior Project Officer
Brianna Spicer, Project Assistant (Recorder)

1. WELCOME AND OPENING COMMENTS

- Overview of the meeting, safety and housekeeping items.
- Review of the Corridor Working Group Terms of Reference, purpose and objectives. As construction nears completion the working group will also shift to an operational focus. Next meeting will be co-chaired by the DOT Environmental Affairs Division and DOT Region of Inuvik.

2. INTRODUCTION OF PARTICIPANTS

3. REVIEW OF AGENDA

- No changes to the agenda distributed prior to the meeting.

4. REVIEW OF JUNE 2016 MINUTES AND ACTION ITEMS

- Minutes accepted.
- All except two action items from the June 2016 meeting have been completed. See table with results (appended).

5. REVIEW OF SUMMER 2016 CONSTRUCTION ACTIVITIES AND EROSION AND SEDIMENT CONTROL (ESC)

a) EGT Northwind – Fred Bailey

- Weather was quite wet throughout the summer which limited the work. Crews compacted side slopes and shaped the embankment.
- Lots done on erosion and sediment control in the spring, comprehensive program at all the water crossings. Inspections have continued approximately weekly, with follow up repairs and maintenance as required.

Q NTGS – Were there many iced culverts?

A EGTNW – Some in the North but none in the South.

Q ECCC – What do weekly inspections entail?

A EGTNW – A crew of people start at one end of the highway and work their way to the other end, inspecting each site along the way and looking at condition of installed erosion and sediment controls. So if there were silt fences that were starting to fail or coconut matting that shifted or slipped, they would reinstall or replace the ESC. The purpose was to keep track of the evolving state of the land – monitoring and adjusting as conditions changed. Access was usually by quad or truck.

Q ENR – Are the photos on weekly reports usually from these inspections?

A DOT – Those photos are usually from DOT site inspections; in addition to EGTNW crews, DOT visited the site each week.

7. REGULATORY COMPLIANCE

a) Inuvialuit Water Board (IWB) – Bijaya Adhikari

- The IWB is waiting for a report from DOT regarding possible long term impacts on permafrost and adjacent water bodies resulting from changes in embankment height. They would like this to include potential mitigation or remediation measures. DOT indicated that it is anticipated that the report will be provided to IWB early in the New Year (2017), once the as built conditions of the embankment have been reviewed. **ACTION**

b) Inuvialuit Land Administration (ILA) – Mike Harlow

- The ILA would like an update on the status of the legal surveys for the transfer of land. Delays in this process are leading to some anxiety about the land transfer. DOT provided an update that there is one outstanding item required for the subdivision approval, which will allow the legal survey to move forward. An amendment is required to the General Sanitation Exemption Regulations; a request has been made to the Department of Health and Social Services and their response is expected to be quick.
- The Gunghi Creek culvert replacement has been taking a long time and the ILA would like a plan with dates to give them confidence that this is proceeding. DOT indicated that a drilling program is to occur in March, providing the geotechnical information required for the new design. **ACTION**

Q ILA – Is there any opportunity to expedite the drilling at Gunghi Creek? There is frustration with the timeline and delays in getting this issue addressed.

A DOT – Because of the site locations and drill weight, it is not possible to move the timeline forward. Snow cover and frozen ground are required for the stability of the machinery and to protect the land.

Q ILA – Has DFO acted on any fish passage issues at the Gunghi Creek culvert, including possible sedimentation downstream?

A DFO – Fish passage has been present whenever DFO has been on site, when water is flowing. DFO requested that people take pictures and forward to DFO and DOT if fish passage issues are observed.

General Comment

- WMAC NWT noted that usually when they notice that fish are not moving, they know that there is a blockage somewhere in the lakes/creeks that are joined to the harbor. Depend on fish that move from creeks into the bay. Manmade interventions can cause issues, particularly if there is sediment flow after breakup.
- The ILA is looking to the operational phase of the project; there will be a need to look at the pit management process for the three pits that will remain active during operations. They will need to look at nuts and bolts of the permitting for this phase.

ILA – Mykola Sokurenko

- Three inspections conducted since the last meeting.
- Received and reviewed the detailed winter construction schedule – no concerns.
- Completed Environmental Monitor orientations last week in collaboration with Environment and Natural Resources (ENR) and the Department of Lands. The Environmental Monitors are anticipated to start monitoring on site November 28, 2016. Asked monitors to spread the message regarding safety risks and discouraging unauthorized access.

Q NTGS – Environmental Monitors are hired by ILA from Inuvik and Tuk, is that correct? What is their role and mandate?

A ILA – Correct, they act as eyes and ears for ILA. No enforcement capability, but they report back to appropriate regulatory organizations. Environmental Monitors are required on ILA lands and are encouraged when conducting activities on Crown land in the region – DOT has heard this message and employs monitors on the full project. There are thresholds that need to be met in terms of activity type and scale before monitors are required.

Q ECCC – Did the Environmental Monitors attend the Certified Erosion and Sediment Control Lead (CESCL) training?

A ILA – It was made available to them but not sure what the uptake was or if anyone participated.

Q ENR – Do Environmental Monitors work in the summer time as well as the winter?

A ILA – Not usually, as less work has taken place in the summer the threshold for monitoring hasn't been met during summer activities. This is offset by more inspections from the ILA (Mykola).

Q WMAC NWT – Before a hazard occurs, do the Environmental Monitors have the power to shut down operations when they see something?

A ILA – No, the office has that authority, so the Environmental Monitor would need to contact the office with any concerns or indication of hazards. The reason why the monitor does not have the ability to demand certain action is because they are viewed as part of the team that is out there; ILA

wants to avoid situations where there is conflict, as sometimes conflict means that information isn't shared. Goal isn't to slap people on the wrist if something is wrong. It's to correct any issues so that the project can be built smoothly with as few incidents as possible.

**c) Department of Fisheries and Oceans Canada (DFO) – Mark D'Aguiar
Environment and Climate Change Canada (ECCC) – Loretta Ransom
(Presentation #1: DFO-ECCC joint inspection ITH)**

- Reviewed mandates and how these departments work together to cooperatively enforce the Fisheries Act. Generally, Sections 20, 21, and 35 apply to DFO, while Section 36 (3) applies to ECCC.
- Summary of issues encountered this year; commend DOT and the Contractor as action was taken right away to address issues. Presented photos of what they observed at Hans Creek, Trail Valley Creek, Zed Creek, and crossings 18, 34A2, 21, 39D, 28A, A2A, and discussed the concerns and actions at these sights. Showed crossing 35A as an example of a successful site which demonstrates learning from previous years.
- An outcome of the environmental assessment was the follow up program. The purpose of this program is to verify the accuracy of the predictions made in the EA and determine the effectiveness of the mitigation measures of the project. Monitoring and requirements from other regulators fulfill part of the follow up program. Program covers construction and up to 3 years post-construction. Understanding that post-construction the ITHCWG will continue to capture items related to the adaptive management program, commitments, etc.
- Clarified the meaning of “fish kill” – numerous fish dying and directly attributable to fish passage issue or other construction activity. Report of a fish kill in the summer was an observation of one dead fish that could have died as a result of natural causes. If unsure if an observation is a fish kill, phone or email DFO to discuss.
- Noticed a number of silt fences that weren't curved around into the vegetation. Something to consider at sites when monitoring and adjust if required.
- Successes from this year include: quick response to any issues brought forward, follow through on guidance from regulators, thorough responses to issues, duty to notify exercised, transparency, communication, and investment/time for site visits and CESCL training.
- Recommendations following this year's activities:
 - I. Be proactive.
 - II. Plan for early freshet, including installing and maintaining erosion and sediment control measures and removing any materials from ice.
 - III. Regularly monitor and maintain or replace ineffective ESC materials.
 - IV. Review and follow through with adaptive management – update plans and reports.
 - V. Focus on prevention.
 - VI. Manage embankment drainage.
 - VII. Stabilize materials (stockpiles, steep embankment materials, etc.).
 - VIII. Avoid dredging the water course to alter the channel when installing culverts
- DFO reminded everyone of the duty to notify if a situation is “about to cause or has caused serious harm”.

Q ENR – What is the long term plan for these areas of loose soil?

A DOT – A seeding and mulching program is being developed and will be tested further this spring. Implementation will depend on the results of these tests, as well as budget. Much work has been done to determine an appropriate seed mixture for the region and purpose.

General Comments

- Steve Kokelj suggested that in the planning for freshet and snow melt, the impact of dust on snow melt should be considered. Data from Dr. Phil Marsh seems to show that freshet was earlier than usual and did not correlate as closely with the average spring temperatures.
- Mike Harlow indicated that this might be the new norm and that things may continue to be wetter than expected.
- Fred Bailey noted that humidity levels in the region have also changed, often increasing to above 85%.

6. **BREAK** – *Taken mid-way through DFO and ECCC presentation.*

7. **REGULATORY COMPLIANCE** – *Continued*

d) **Department of Lands – Donald Arey**

- Continued inspections through the summer and fall.
- Reviewing reports on reclamation and will be issuing a formal response, particularly at Source 174.
- Main concerns at this time are the pits, not the embankment. Especially in the North, PDPs were not always followed.

e) **Environment and Natural Resources (ENR) – Philippe Thibert-Leduc**

(Presentation #2: ENR WRO Inuvik Region PPT 22-11-2016)

- Reviewed the water licence and mandate of ENR in relation to this licence, as well as inspection activities since the June meeting.
- ENR commended DOT on the SNP sampling program; it is the most comprehensive water testing program they've seen under a water licence. Threshold exceedances have been reported and are on public record.
- Wish list for 2016/17:
 - I. Review and update management plans
 - II. Notify the Water Board and Inspector of any temporary crossings (e.g. ice bridges)
 - III. Continued reporting wildlife sightings
- Focus for spring 2017 will be on stabilization of permafrost at Source 174 (i.e. implement PDP guidance), updates to the ESC plan, regular on the ground monitoring, aim for a proactive approach.
- Received updated construction schedule and granular material testing report.
- Met with ILA Environmental Monitors, would like to also meet with EGTNW monitors to encourage communication and collaboration.

Q ENR – Is major spill response in place if something were to happen in the area? (More important as we move into operational phase, but would be good to consider now since this is a very sensitive environment.)

A EGTNW – There is a Mackenzie Valley Spill Response Consortium based in Inuvik that has 4 containers of supplies at the ready if an incident were to occur, whether spill on water or on land. Many local companies are part of this consortium.

ACTION: DOT to review local inventories and capacity, and possibly organize a desktop exercise.

f) Review of Regulatory Tracking and Responses – Alexis Campbell, DOT

- Regulator Inspection Summary tracking table continues to be used and updated.
- Request made by the legislative assembly for the commitment table. Working to make a publicly accessible version (removing internal links and clarifying acronyms, etc.) which will be posted on the website.

General Comment

- HTCs recommend notifying them of any upcoming press releases or sending them upcoming releases, so everyone can be on the same page.

10. LUNCH BREAK

8. REVIEW OF WILDLIFE MITIGATION AND MONITORING

a) Wildlife and Wildlife Habitat Protection Plan and Wildlife Effects Monitoring Program

ENR – Philippe Thibert-Leduc (Presentation #3: ITH WG ENR 2016 November)

- Reviewed purpose behind WEMP and WWHPP, as well as observations from the construction seasons.
- With Genny Michiel's departure from ENR, please report wildlife sightings and information to Marsha Branigan. **ACTION:** DOT to circulate contact information.
- Base-line caribou reports (habitat and crossing) are in the final stages of review and a plain language summary will be provided. The purpose was to determine the zone of influence and if the highway is blocking any movement.
- No new dens found in the area during the 2016/17 denning survey.
- A draft Operational WWHPP is being circulated and will be brought to various groups for review. Plan will include public outreach and education, recommendations for signage including wildlife areas and contact information to report incidents, and recommendations for monitoring wildlife activity. **ACTION:** Inuvik Community Corporation asked to be included on this distribution list.

Q DOT – Who will be writing the reports?

A ENR – Marsha Branigan as far as Philippe is aware. It is undecided if there will be someone replacing Genny, to finalize and complete the reports.

General Comment

- Loretta Ransom mentioned that a pamphlet had recently been circulated about the bank swallow, a species at risk. Recommends contouring slope of piles to less than 70 degrees to prevent swallows from nesting during breeding season, mid-April to mid-August. She asked that this be reviewed and consulted by DOT and the Contractor. **ACTION:** Loretta to provide DOT with pamphlet for circulation.

b) Update on Draft Operational Plans

DOT – Alexis Campbell (Presentation #4: ITHCWG Presentation as of 2016 11 14)

- The draft WWHPP for the operational phase mimics the construction plan to some extent.
- Genny and Alexis met with the Inuvik and Tuktoyaktuk HTC's earlier in November. The main concerns they heard expressed were related to:
 - I. Disturbance to land
 - II. Disturbance to wildlife
 - III. Patrolling of the highway
 - IV. Increased hunting and fishing
 - V. Blocked migration routes
 - VI. Safety
 - VII. Litter
 - VIII. Dust suppression
- For next steps the current draft will be circulated to HTC's, IGC, and WMAC in early December. As requested earlier in the meeting, the Inuvik Community Corporation will be added to that list. Any comments from this review will be incorporated as best as possible and the final draft will be circulated after that.

10. REVIEW OF AQUATIC MITIGATION AND MONITORING

DOT – Kelly Kamo McHugh (Presentation #5: ITHCWG SNP and AEMP November 22 2016)

- Reviewed sampling process and requirements.
- Spent 28 days sampling in 2016 between May and October, completing 5 rounds of sampling at water crossings (50 meters upstream and 150 meters downstream). 208 complete samples were collected this year, includes samples at the pits and at water crossings. In addition, 11 weekly pit samples, 34 quality control samples, and 88 monitoring site measurements (in situ measurements 50m downstream from the road).
- Efficiencies gained this year by having two teams out sampling – 3 DOT technicians with assistance from ENR and EGTNW.
- There were 14 exceedances. The one total suspended solids exceedance was at source 177 in early June, was mentioned at last Corridor Working Group meeting. The 13 pH exceedances were usually both upstream and downstream, suggesting that this condition is naturally occurring. The majority of these occurred at the same water crossings throughout the season, 24A and 25.
- Reviewed sampling requirements for 2017 and going forward. Final annual sampling would be in 2020.

Q ILA – Will water sampling at the pits continue during operations?

A DOT – Not sure, this is something we will need to review. There is nothing in the water licence that specifies sampling at the pits after construction.

Q NTGS – Do you use CCME thresholds?

A DOT – Some are CCME and some are BCE. We worked with SRK to design the sampling program.

11. REVIEW OF GEOTECHNICAL MITIGATION AND MONITORING

a) Granular Resources and Pit Development

EGTNW – Fred Bailey

- Activity will be mostly in Source 312, which will be used to complete the embankment and will be the primary source of surfacing material. Potential for using I401A but will keep everyone informed if that becomes necessary.
- Some access to pits will be required for reclamation work – monitoring I401A, ditching work in PW-10, and minor issues in GSC4.

Q DOT – Have you seen bank swallows nesting in the area? Do you think keeping piles at less than 70 degrees would be possible?

A EGTNW – Haven't seen bank swallows, but should be okay since slopes are only steep when active, otherwise the slopes are much less steep than required for their nesting.

Q NTGS – Mentioned that you will go back in to touch up some of the inactive pits, what kind of equipment does that involve?

A EGTNW – Excavator for the most part.

Q Charles – Is this work to level out the pit?

A EGTNW – More like touching it up, re-contouring and getting rid of some of the deficiencies that came about as a result of the ground shifting and settling. Trying to get the pits to the point where we know it's going to work for a longer period of time.

A ILA – There is collaboration between DOT, ILA, Lands, and the Contractor to look at all these pits and determine what really needs to be done to get the best possible outcome. There are two different approaches because some of the pits will never be used again and some will continue to be active.

b) Research and Development

Northwest Territories Geological Survey – Steve Kokelj (Presentation #6: ITH WG Kokelj 2016)

- There is a diversity of environments (climatic, geological, etc.) in the Mackenzie Delta between Inuvik and Tuktoyaktuk. Average permafrost temperatures generally decrease between Inuvik and Tuktoyaktuk; however, they decrease at a rate that is greater than the rate of change in mean atmospheric temperature. The difference is because of precipitation, snow cover, vegetation, etc. – modifying surface conditions leads to changes in permafrost temperatures.
- Warmer air temperatures + increase shrubs/tundra greening + more snow + drainage changes = rapidly warming permafrost.
- Region is subject to climate warming. Western Arctic is one of the most rapidly warming regions on the globe. Comparison of McKay map of permafrost temperatures in 1970s and more current maps.
- Tundra getting shrubbier. Intensity of greening in the region. Shrubs capture snow and snow warms the ground. Comparison of infrared photos from 1980s caribou/reindeer studies and current images show that lichen cover has decreased while shrubs have increased.
- Conditions away from the road impact the area around the road and on the road itself.
- Retrogressive thaw slumps have become more typical, particularly in the west and south of the Delta.
- Disturbance near Midway Lake has grown over the last two decades. Estimate that it has displaced 8 million cubic meters of material into the creek and surrounding area.

- What are the chemical effects of permafrost thawing? The active layer is nutrient poor while permafrost is rich in ions, metals, and other nutrients. As such, with thaw we see increases in dissolved minerals and sediment.
- Around kilometre 29 on the Dempster Highway where a thaw slump has impacted infrastructure, combined with large rainfall events.
- Take home message is that this is a dynamic environment, climate change is affecting permafrost in the environment – it's warming, ice rich landscapes are responding to that warming, there are aquatic impacts, and systematic observation and analysis of these changes is important in that it contributes to our knowledge, informs the way we develop and discussion about regulation.
- Potential to make the ITH a climate change and infrastructure research hub. Major local investment in this road by contractors, communities, etc. Strong partnerships with the Inuvialuit. Opportunities for education and training. DOT has logistics in place and a respected research center in Inuvik. Keys to success for this are:
 - I. Coordination and strategy
 - II. Define specific monitoring and research needs
 - III. Develop key questions
 - IV. Develop a plan
 - V. Build on strong existing collaborations
 - VI. Develop a framework for new collaborations
- There is a large data legacy from this project with thermal, stream, and geotechnical information recorded at many sites and through time.
- Manipulation experiment to study permafrost, golden opportunity for researchers learn what happens when we excavate frozen material, in a frozen state, how does permafrost react. Some of the questions we may be able to answer are: Will terrain and ground temperature stabilize? Will sites revegetate and with what? How will water quality evolve? Will certain structures stabilize?
- Recommendations:
 - I. Management and publication of legacy data
 - II. Terrain and permafrost recovery at borrow pits
 - III. Assessing permafrost conditions and thermal model
 - IV. Hydrology of permafrost terrain and the ITH
 - V. Local engagement

13. BREAK

12. OVERVIEW OF WINTER 2017 CONSTRUCTION ACTIVITIES AND SCHEDULE

EGTNW – Fred Bailey

- Have started a bit of work, but access to 312 is the first order of business.
- Not a lot to haul so the operation will be slower and smaller. They are looking to utilize 100% local talent – not as many people working but lots of time to get the remaining work done.
- February/March will be installing bridges and a drilling program for thermistors, info at Gunghi Creek, etc.
- The summer focus will be on crushing and surfacing. Approximately 31-32,000 m³ of material has been crushed and is stockpiled in Inuvik. Expect approximately 130,000 m³ to come from Source 312.
- Signage and guardrails will be final touches.

Q DOT – Surfacing gravel will go on mostly in the summer?

A EGTNW – Yes, once it is ready for surfacing gravel. There is work to do prior to the surfacing gravel – design compaction, shaping, etc.

Q DOT – Is the highway drivable or can ATVs be used?

A EGTNW – No, rutting and tracks can delay construction and even wreck sections of roadway. Only those authorized by DOT and the Contractor are to be on the road before it is completed.

Q ILA – Will you be hauling in both directions from source 312?

A EGTNW – It is likely that hauling will go north and south at the same time, but there will also be hauling from Inuvik.

14. LESSONS LEARNED/ROUNDTABLE DISCUSSION

- Discussed unauthorized access on the ITH.
 - o Mike Harlow noted that there are four main parties involved: DOT, contractor, land owner, and the operator of vehicle who shouldn't be there. Willingness to work together to address this tough situation and find strategies to minimize the number of people accessing the highway without authorization.
 - o Dean Ahmet provided an update that ENR will begin patrolling very soon and the RCMP has provided clarification as to how they can help.
 - o Stu Niven asked if DFO could have enforcement officers patrol in the summer too. Mark D'Aguiar suggested that this could be brought up, though with only four officers for all of NWT and Nunavut the enforcement capacity would be intermittent.
 - o Charles Pokiak further supported the need for response given the safety concerns of people possibly using firearms near where people are working on the road. He also indicated that Search and Rescue had been called out this summer for people accessing the ITH without authorization, which pulls resources away from potential life-threatening calls.

15. SUMMARY OF MEETING

- o Reviewed action items arising from this meeting.
- o Reiterated the transition from construction to operations. Can already see this reflected in the discussion around the table today; expect this to continue at the next meeting.
- o Thanks to Steve Kokelj and the NWT Geological Survey for attending this meeting and providing additional context to the working group discussions.

16. NEXT MEETING

- Next meeting will be co-chaired by Merle Carpenter and Stu Niven. **ACTION:** Meeting date to be determined.
- Note that DOT and Public Works and Services are being amalgamated, so future correspondence may come from Department of Infrastructure.

17. CLOSE OF MEETING

- Meeting completed at 3:30pm

Results of Action Items from June 15, 2016 Meeting:

Action	Responsible Party	Due	Results
Update observation response flowchart	DOT	Completed	Updated chart reviewed at November 22, 2016 meeting
Ensure ENR receives water usage reports	DOT	On-going	Reports will be forwarded throughout this season.
Advise Stu Niven if there is a spot for him to join the August/September site visit at low flow conditions	DFO	Completed	Site visit completed.
Provide ECCC with any additional documentation or photographs showing that their concerns from May have been addressed	DOT	Completed	DOT sent additional photos shortly following the June 15, 2016 meeting.
Loretta Ransom to send email with request regarding commitments 98 and 229 for DOT's consideration and response	ECCC / DOT	Completed	Loretta sent request, DOT reviewed and responded.
Include Simon Tétreault on correspondence regarding the Adaptive Management Plan	All	On-going	When updates are made or there is discussion regarding the AMP, Simon will be included.
Follow up with FJMC for an update regarding the Fisheries Management Plan	DOT	Will update at next meeting	FJMC was unable to attend the November 22, 2016 meeting. Update still pending.
Confirm if enforcement officers were out on site during the past construction season	ENR	Completed	Genny confirmed that enforcement officers were not out on site last year.
Send INFC written notification addressing environmental compliance	DOT	Completed	Notification sent shortly after the June 15, 2016 meeting.

Action Items from November 22, 2016 Meeting:

Action	Responsible Party	Due
Report of possible long term impacts on permafrost and adjacent water bodies resulting from changes in embankment height, submit to IWB	DOT	Early in 2017, already listed on Regulator Inspection Summary
Legal survey of ROW and Source 312, submit to ILA	DOT	
Plan and next steps (with dates) for replacement of the culvert at Gunghi Creek, submit to ILA	DOT	Early in 2017
Review of erosion and sediment controls at crossing 34A2 (unusual deep crossing at a sharp angle), update DFO	DOT	Added to Regulator Inspection Summary
Rocks at outflow of crossing 28A need to be moved, update DFO	DOT	Spring 2017, added to Regulator Inspection Summary
Review and update management plans	DOT	Completed
Review inventory and procedure for spill response, determine if a desktop exercise would be helpful	DOT	Next meeting
Inuvik Community Corporation asked to be included on the distribution list for the Operational WWHPP	DOT/ENR	Completed
Review pit management plan for Source 312 during the operational phase, in order to capture recent knowledge about the area and status of the pit	DOT/ILA	
Loretta to forward brochure about bank swallows to append to the meeting minutes	ECCC/DOT	Completed Brochure attached
Wildlife sightings or information to be sent to Marsha Branigan; Philippe provided contact information: Marsha Branigan Manager, Wildlife Management Marsha.Branigan@gov.nt.ca (867) 678-6670	ENR/DOT	Completed
Schedule next ITHCWG meeting	DOT	Completed Next ITHCWG meeting will be held Tuesday May 16 th , 2017



Northwest
Territories Executive Council

The Honourable Mr. Denis Lebel
Minister of Transport,
Infrastructure and Communities
HOUSE OF COMMONS
OTTAWA ON K1A 0A6

The Honourable Keith Ashfield
Minister of Fisheries and Oceans
HOUSE OF COMMONS
OTTAWA ON K1A 0A6

The Honourable James Moore
Minister of Aboriginal Affairs and
Northern Development
HOUSE OF COMMONS
OTTAWA ON K1A 0A6

The Honourable Peter Kent
Minister of Environment
HOUSE OF COMMONS
OTTAWA ON K1A 0A

FEB 15 2013

Dear Minister:

GNWT Response to Inuvik to Tuktoyaktuk Highway Project Review Panel Report

On January 25, 2012, the Review Panel for the Inuvik to Tuktoyaktuk Highway Project released its "*FINAL REPORT of the Panel for the Substituted Environmental Impact Review of the Hamlet of Tuktoyaktuk, Town of Inuvik and GNWT Proposal to Construct the Inuvik to Tuktoyaktuk Highway*". As you are aware, the Panel concluded that the Inuvik to Tuktoyaktuk Highway Project can proceed without significant adverse environmental impacts if its recommendations are implemented in combination with the commitments made throughout the review.

This letter provides the response of the Government of the Northwest Territories (GNWT) to each of the recommendations of the Review Panel. Accepting the GNWT's positions on the Panel's recommendations would still permit the Project to proceed without significant adverse effects.

The GNWT Department of Transportation, the Hamlet of Tuktoyaktuk, and the Town of Inuvik express appreciation for the efforts of the Review Panel. We appreciate the time and effort all parties, including federal departments, spent reviewing the project.

The GNWT shares Canada's view that this critical piece of northern and national infrastructure is among our most important shared priorities. The completion of the environmental impact review marks a major milestone towards the highway's completion.

.../2

As a responsible public government with socio-economic and environmental mandates, we are committed to the sustainability of the environment and our people. The GNWT has invested almost \$12 million to date in environmental studies, hydrological assessments, terrain assessments, engineering, and baseline data collection to fulfill the requirements of the environmental review. The GNWT will continue to implement our commitments, including the continued coordination of our planning and monitoring efforts with Inuvialuit parties, all regulators, and stakeholders.

We have identified specific concerns with regard to several Panel recommendations. The GNWT's complete response to all of the recommendations is attached to this letter.

The following paragraphs detail our concerns with regard to two key recommendations.

Security

The Panel recommended an environmental security deposit of \$1 million. Once constructed, the Inuvik to Tuktoyaktuk Highway will be a public highway under the *NWT Public Highways Act* and is clearly a government project. Under the Inuvialuit Final Agreement Section 13(13), a government project is exempt from a requirement for an environmental security deposit.

The GNWT believes existing environmental protection planning and requirements will adequately protect the environment during construction. We will ensure the safety of the public and the environment during the operations of the highway. Public users will be required to meet the legislation and regulations under the *NWT Public Highways Act* and the federal and territorial *Transportation of Dangerous Goods Acts*.

The GNWT recommends this recommendation (#49) be rejected.

Oversight Body

The Government of Northwest Territories is a responsible public government. It does not accept the need for an Independent Environmental Monitoring and Oversight Committee (IEMOC) as recommended by the Panel. This has always been Canada's position as well. The GNWT notes that the Panel recognized the need to avoid duplication of existing regulatory mechanisms, but an IEMOC would create duplication and confound existing regulatory decision-making.

During the environmental review, the GNWT Department of Transportation (GNWT DOT) made it clear that Inuvialuit parties, federal departments and federal boards will maintain significant control of the project activities including final approval of site plans, monitoring, reporting and inspections. As with most linear projects, detailed planning for the Inuvik to Tuktoyaktuk Highway will occur after the completion of the environmental review and will apply the requirements of Canada's final decision on the Review Panel's report. Many of the future project decisions will fall under federal regulators and regulatory boards including the NWT Water Board and Inuvialuit Land Administration. The developer's applications and the decisions of the regulators are grounded in federal legislation and regulations.

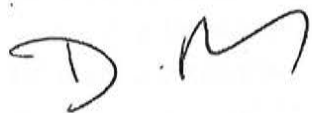
The GNWT believes the combination of a follow-up program with the federal responsible authorities and environmental programs that will be overseen by independent regulators will adequately meet the concerns of the Panel without creating legal and procedural conflicts with regulators, particularly independent regulatory boards.

To ensure collaboration among Inuvialuit organizations and federal departments, the GNWT will facilitate an Inuvik to Tuktoyaktuk Highway Corridor Working Group comprised of Inuvialuit and federal/territorial representatives, with advisory responsibilities. The GNWT will continue to host regular meetings with Inuvialuit communities and federal / territorial departments to review the results of studies and monitoring activities.

The GNWT is confident our government's commitment to ensure adequate consultation and support of key working groups will meet the intent of the Panel recommendations.

The GNWT is confident that the Inuvik to Tuktoyaktuk Highway project can proceed without significant environmental impacts. The GNWT requests an early decision on these matters. The GNWT also requests the federal government be mindful of our government's environmental and socio-economic mandate when reviewing our position on the Panel's recommendations.

Sincerely,



Honourable David Ramsay
Minister of Transportation



Honourable Michael Miltenberger
Minister of Environment and Natural Resources

Attachment

c: His Worship Mr. Floyd Roland
Mayor, Town of Inuvik
Inuvik, NT

His Worship Mr. Merven Gruben
Mayor, Hamlet of Tuktoyaktuk
Tuktoyaktuk, NT

**GOVERNMENT OF THE NORTHWEST TERRITORIES RESPONSE TO THE
RECOMMENDATIONS IN THE 'FINAL REPORT OF THE PANEL FOR THE
SUBSTITUTED ENVIRONMENTAL IMPACT REVIEW OF THE
HAMLET OF TUKTOYAKTUK, TOWN OF INUVIK AND GNWT PROPOSAL
TO CONSTRUCT THE INUVIK TO TUKTOYAKTUK HIGHWAY'**

Follow-Up Program

R01: The Responsible Authorities shall establish a follow-up program for the ITH project, the results of which can be integrated with both project-oriented and regional, government-led cumulative effects monitoring, mitigation, and adaptive management programs for the ISR.

GNWT Response

This recommendation is directed at federal responsible authorities under the requirements of the Canadian Environmental Assessment Act (1992). The GNWT Department of Transportation (DOT) recognizes it will be required to confer with federal regulators as it completes required mitigation recommendations of the panel and/or to meet regulatory legislation or policy requirements of federal regulators. The GNWT DOT has committed to providing the results of its baseline studies and appropriate monitoring data to federal and/or territorial authorities responsible for conducting regional cumulative effects management.

R02: An oversight body, the Independent Environmental Monitoring and Oversight Committee (IEMOC), independent of the Developer, shall be established to coordinate the monitoring, mitigation and adaptive management of the ITH project's construction and operation.

GNWT Response

The GNWT recommends Canada reject this recommendation in favour of commitments made by the GNWT during the environmental impact review process.

The GNWT recognizes the existing co-management processes established under the Inuvialuit Final Agreement as well as the independence of federal departments and regulatory bodies to determine their participation in the consultation and review process for the Inuvik to Tuktoyaktuk Highway (ITH).

As outlined in the commitments table (#218), the GNWT will invite interested agencies, organizations, and co-management groups to participate in an Inuvik to Tuktoyaktuk Highway Corridor Working Group facilitated by the GNWT DOT and guided by a collaboratively developed Terms of Reference. The Panel's recommendations will be

considered in the drafting of the Terms of Reference. It is envisioned that this working group will fulfill a number of the roles the Panel has recommended be the responsibility of the IEMOC.

The GNWT DOT agrees with the concept of technical working groups focused on geotechnical topics as recommended by Natural Resources Canada.

The GNWT recognizes the importance of meeting federal and territorial wildlife legislation and understands the need to work on specific issues with the most knowledgeable department or beneficiary experts. Federal departments and co-management bodies are will have representation on these working groups. This combination of participants is expected to ensure management plans include appropriate monitoring, mitigation and adaptive management.

Independent regulatory boards may provide observers to participate in the described working groups as they deem appropriate.

R03: Membership on the IEMOC shall include the Developer (2 members) including a representative from ENR, AANDC, NWT Water Board, DFO, EC, NRCan, INFC, WMAC, FJMC, ILA and the HTC's from Inuvik and Tuktoyaktuk. It should be co-chaired by the Developer and one of the Inuvialuit comanagement committees.

The IEMOC may establish subcommittees in order to make its operations more efficient.

GNWT Response

The GNWT recommends Canada reject this recommendation in favour of commitments made by the GNWT during the environmental impact review process.

The GNWT will invite representatives to participate on a corridor working group as discussed in R02.

R04: The IEMOC shall be established as soon as possible and before major construction activities begin and shall operate for the construction period and no more than 10 years of highway operations, unless an extension is agreed to by its parties. The level of IEMOC activity shall be scalable in relation to the level of construction and operational activities and impacts related to the ITH project.

GNWT Response

The GNWT recommends Canada reject this recommendation. The GNWT does not agree with the establishment of an IEMOC.

The GNWT has initiated drafting of Terms of Reference for a Corridor Working Group. The GNWT will undertake discussion with Inuvialuit and federal departments to determine an efficient consultation process. Panel comments will be considered in the drafting of these consultation processes. Final terms of reference will be developed in consultation with Inuvialuit and government representatives.

R05: Government participation on the IEMOC shall be paid for by the departments involved. The cost for comanagement bodies and Inuvialuit institutions such as HTC's to participate shall be paid for by the Developer. Any studies and analyses required to monitor, manage and respond to ITH project effects shall be paid for by the Developer. Basic secretariat costs for IEMOC shall be paid for by the Developer. A budget shall be developed in advance of each year's operations.

GNWT Response

The GNWT recommends Canada reject this recommendation. The GNWT is committed to provide reasonable financial support for co-management bodies and Inuvialuit institutions in the corridor working groups and topic specific working groups.

The GNWT recognizes the independence of federal departments in the process and agrees with the requirement for departments to participate at their own cost in review and consultation processes.

The GNWT commitments further acknowledge its responsibility to undertake specific studies and analyses to monitor, manage, and respond to ITH project effects.

R06: The IEMOC shall be established by its Parties, including representatives of the Developer, Canada, the Joint Secretariat (for WMAC and FJMC), the HTC's and ILA by way of a collaboratively developed legal agreement which sets out the purpose, membership, funding and governance arrangements amongst these parties, consistent with the Panel's recommendations.

GNWT Response

The GNWT recommends Canada reject this recommendation.

See response to R02.

R07: Development of the IEMOC agreement shall begin within 30 days of Ministerial approval of the Panel's report. This agreement must be in place before major construction activities begin. The Developer shall pay the negotiation costs of the Joint Secretariat and HTC's.

GNWT Response

The GNWT recommends Canada reject this recommendation.

See Response to R02.

Monitoring and Adaptive Management

R08: A project specific monitoring, mitigation and adaptive management program shall be developed for the ITH project by the IEMOC (the ITH Adaptive Management Program).

GNWT Response

The GNWT recommends Canada reject this recommendation.

The GNWT DOT committed to develop an Environmental Management Plan (EMP). The individual plans within the EMP will contain adaptive management requirements as appropriate. The GNWT DOT's commitments outline the individual plans it will prepare which will detail monitoring and mitigation.

In addition, plans must adhere to the requirements of federal legislation, and may include direction from independent boards such as the Inuvialuit Land Administration and Northwest Territories Water Board.

R09: The ITH Adaptive Management Program shall be in place before major construction activities are initiated for the project.

GNWT Response

The GNWT recommends Canada reject this recommendation.

The GNWT is committed to completing an EMP prior to initiation of major construction activities.

R10: The IEMOC shall ensure that its Adaptive Management Program includes:

- **the integration of science and Traditional Knowledge into programs to monitor ITH project performance relative to the Developers' impact assessment predictions;**
- **provision for modification of any monitoring and mitigation programs based on observed VEC responses; and**
- **the publication and periodic distribution of monitoring and adaptive management results to keep Inuvialuit communities and the public**

apprised of the adaptive management activities related to highway construction and operation, and to ensure that ITH monitoring and mitigation results are integrated with and contribute to regional cumulative effects monitoring programs.

GNWT Response

The GNWT recommends Canada reject this recommendation.

The working group process outlined in R02 is intended to ensure timely reviews and the sharing of information and updates prior to each year of construction.

The GNWT recognizes regional cumulative effects monitoring and management is the responsibility of federal or territorial departments based on their legislated responsibilities. The GNWT has committed to sharing its data with those departments. The GNWT understands those departments have a responsibility for combining data from other sources including past, current and future projects as well as the activities of those departments. This will achieve the objective of regional cumulative effects monitoring and management.

R11: Any follow-up program established by Responsible Authorities shall recognize the role of the IEMOC and provide for collaboration and cooperation between these groups and their programs.

GNWT Response

This recommendation is directed at federal Responsible Authorities. The GNWT does not agree with the establishment of an IEMOC.

The GNWT is committed to appropriate consultation with Inuvialuit parties and federal departments. Consultation with these parties will occur during regulatory processes.

R12: The IEMOC's Adaptive Management Program shall consider the need to address monitoring of permafrost and granular resources, surface hydrology, vegetation, fish, wildlife, and harvesting impacts to address concerns raised in this proceeding. The final scope of this program and any future changes to it shall be an IEMOC decision.

GNWT Response

The GNWT recommends Canada reject this recommendation.

The GNWT is committed to appropriate consultation with Inuvialuit parties and federal departments. Consultation with these parties will occur during regulatory processes.

R13: The IEMOC shall consider the Panel's Recommended Activities in the development of the agreement referred to in Recommendation R06.

GNWT Response

The GNWT recommends Canada reject this recommendation.

Economic

R14: The Developer shall work with local academic institutions in the design of short duration, skill-based training courses for Inuvialuit beneficiaries and other northern residents to improve job readiness, expand the available labour pool, and enhance local skill capacity. To the extent possible these courses shall be available before the initiation of major construction activities.

GNWT Response

The GNWT accepts this recommendation.

The GNWT acknowledges the importance of advanced planning based on firm schedules. The GNWT will continue to work with the existing Regional Training Partnership to determine the appropriate training required and timing of courses.

R15: The Developer shall require its contractors to report on training, including the types of training provided and the number of employees trained, and make the information public.

GNWT Response

The GNWT accepts this recommendation and will include the requirement in its contracts. The GNWT will make the information public to the extent it respects individual privacy rights and accords with the Access to Information and Protection of Privacy Act (ATIPP).

R16: The Developer shall publish updates on the numbers of Inuvialuit and northern businesses that have received project-related contracts, as well as relevant details regarding the contracts.

GNWT Response

The GNWT accepts the intent of the recommendation. The GNWT annually publishes a report on contracts over \$5,000 in accordance with both the Financial Administration Act (FAM) and ATIPP.

R17: The Developer and its contractors shall provide updates to the public regarding the numbers of individuals from Tuktoyaktuk and Inuvik who have been hired, the types of positions they have been hired for, and total wages paid.

GNWT Response

The GNWT accepts the recommendation. The GNWT will require the provision of this information in all construction-related contracts.

R18: Responsible parties (ITI, IRC, IDC) shall examine changes in tourism as a result of the project, and

- **identify potential or additional economic opportunities that could be filled by Inuvialuit businesses; and**
- **assist Inuvialuit businesses, both existing and potential, to take advantage of opportunities related to increased tourism.**

GNWT Response

The GNWT accepts this recommendation. The Department of Industry, Tourism and Investment (ITI) will contact the Inuvialuit Regional Corporation and Inuvialuit Development Corporation to examine the potential for tourism development related to the Project. The implementation of this recommendation is within ITI's ongoing tourism and business support programming, and builds upon a recent community development plan for Tuktoyaktuk that identifies a number of tourism business opportunities.

Community

R19: The Developer, GNWT departments and service agencies shall make use of the Inuvialuit Indicators Project to assist in monitoring the potential impacts of the project on individuals and the communities of Inuvik and Tuktoyaktuk.

GNWT Response

The GNWT accepts the intent of this recommendation. The GNWT will make use of the best available data, including the Inuvialuit Indicators Project, to monitor the potential impacts of the Project on individuals and the communities of Inuvik and Tuktoyaktuk.

Land Use, Access and Harvesting

R20: The Developer shall work with the Parties (DFO, EC, ENR) and comanagement bodies (FJMC, WMAC) and HTCs to ensure that the Developer's mitigation, monitoring and management commitments related to wildlife, fish and

harvesting are met and reported on annually through IEMOC or through the specific comanagement bodies responsible for resource management in the ISR.

GNWT Response

The GNWT accepts the intent of this recommendation. The GNWT recognizes the need to work with the parties and will be responsible for monitoring and reporting requirements required by regulators. The GNWT does not agree with the establishment of an IEMOC.

Existing Inuvialuit co-management processes ensure responsible departments provide advice and information to appropriate Inuvialuit organizations or individuals.

[Barren-ground] Caribou

R21: The Developer shall monitor project-specific effects on caribou and work in collaboration with existing or planned regional caribou monitoring programs by government including the following:

- **compare baseline caribou habitat amount to Project construction and operations phase habitat amounts (verify prediction for amount of caribou habitat lost to Highway);**
- **complete statistical power analyses to determine appropriate sample size for caribou collaring program;**
- **compare baseline caribou movement to Project construction and operations phase movements using radio collar data;**
- **compare baseline caribou distribution to Project construction and operations phase distributions using radio collar data (verify predicted ZOI of 1 km);**
- **compare baseline caribou habitat use to Project construction and operations phase habitat use using radio-collar data (verify prediction for habitat degradation);**
- **compare baseline caribou harvest rates to Project construction and operations phase harvest rates; and**
- **compare baseline caribou collision-based mortality rates to pre-defined thresholds.**

GNWT Response

The GNWT accepts the intent of this recommendation subject to annual approval of the Legislative Assembly.

The GNWT will continue to work closely with the Wildlife Management Advisory Council (NWT) and appropriate Hunter and Trapper Committees (HTCs) to develop and implement a Wildlife Effects Monitoring Program including barren-ground caribou herds

to fulfill the requirements of this recommendation. The GNWT notes that its ability to deploy radio-collars will rely on support from the HTC's.

The GNWT does not know what is meant by a "pre-defined threshold".

Grizzly Bear

R22: The Developer shall complete the development of a WEMP in collaboration with the parties to the IEMOC as part of an adaptive management process.

GNWT Response

The GNWT accepts the intent of this recommendation subject to annual approval of the Legislative Assembly. The GNWT does not agree with the establishment of an IEMOC.

The GNWT will continue to work closely with the Wildlife Management Advisory Council (NWT) and appropriate Hunter and Trapper Committees (HTCs) to develop and implement a Wildlife Effects Monitoring Program including grizzly bears. The GNWT notes that its ability to deploy radio-collars will rely on support from the HTC's.

R23: The Developer shall determine presence or absence of bear dens in construction areas with pre-construction surveys.

GNWT Response

The GNWT accepts this recommendation.

The GNWT conducted bear den surveys in October 2011 and 2012 and will continue to do so prior to each winter season of construction.

R24: The Developer shall monitor project-specific effects on grizzly bear and collaborate with existing or planned regional grizzly bear monitoring programs by government including the following:

- **compare baseline grizzly bear movement to Project construction and operations phase movements using radio collar data;**
- **compare baseline grizzly bear habitat use to Project construction and operations phase habitat use using radio-collar data (verify prediction for habitat degradation);**
- **compare baseline grizzly bear harvest rates to Project construction and operations phase harvest rates;**
- **compare baseline grizzly bear collision-based mortality rates to pre-defined thresholds; and**
- **compare baseline grizzly bear denning frequency within or near the road corridor to Project construction and operations phase denning frequency (verify predicted ZOI of 500 m).**

GNWT Response

The GNWT accepts the intent of this recommendation subject to annual approval of the Legislative Assembly.

The GNWT will continue to work closely with the Wildlife Management Advisory Council (NWT) and appropriate Hunter and Trapper Committees (HTCs) to develop and implement a Wildlife Effects Monitoring Program including grizzly bears. The GNWT notes that its ability to deploy radio-collars will rely on support from the HTCs.

The GNWT does not know what is meant by a "pre-defined threshold".

Muskrat

R25: The Developer shall complete pre-construction surveys for muskrat push-ups on lakes where winter snow removal and/or winter water withdrawal will take place.

GNWT Response

The GNWT accepts this recommendation.

R26: The Developer shall follow mitigation measures set out in permits issued under the *Wildlife Act* and monitor mitigation success, if muskrats are present.

GNWT Response

The GNWT accepts the intent of this recommendation. GNWT DOT will obtain a permit if it is necessary to destroy muskrat pushups and adhere to any terms and conditions on the permit. The GNWT will consider mitigations in its Wildlife and Wildlife Habitat Protection Plan.

Reindeer

R27: AANDC shall address and resolve any potential land use conflicts before issuing land tenures for the highway.

GNWT Response

This recommendation is directed at Aboriginal Affairs and Northern Development. The GNWT will continue to meet with the Kunnek Resource Development Corporation to discuss concerns.

The GNWT recognizes this recommendation is limited to the portion of the Highway on Crown Land and applies to the construction phase. Once constructed the Highway alignment will become Commissioner's Land and will be subject to territorial legislation including the Public Highways Act and regulations. Crown land outside the right-of-way will remain as federal Crown land until devolution.

R28: With respect to private lands, the ILA shall initiate dialogue between the reindeer herd owner and the Developer and assist with conflict resolution as necessary.

GNWT Response

This recommendation is directed at the Inuvialuit Land Administration (ILA). The GNWT will continue to meet with the Kunnek Resource Development Corporation to discuss concerns.

The GNWT will participate in ILA-led discussions with the reindeer herd owner.

The GNWT recognizes this recommendation is limited to the portion of the Highway private land and applies to the construction phase. Once constructed the Highway alignment will become Commissioner's Land and will be subject to Territorial Legislation including the Public Highways Act and regulations. Crown land outside the right-of-way will remain as federal Crown land until devolution.

Fish and Fish Habitat

R29: The Developer shall consult with both DFO and AANDC to determine appropriate mitigation measures before using a chemical dust suppressant technique on the ITH.

GNWT Response

The GNWT accepts this recommendation. The GNWT will ensure adherence to the NWT Environmental Protection Act.

R30: The Developer shall, prior to construction, develop management plans for the protection of fish and fish habitat in any areas affected by construction in collaboration with DFO, and the Tuktoyaktuk and Inuvik HTCs and FJMC.

GNWT Response

The GNWT accepts this recommendation. The GNWT is currently working with the Inuvik and Tuktoyaktuk Fisheries Working Group, HTC's, and DFO in the development of a fisheries management plan.

R31: The Developer shall develop a long-term maintenance plan for the Hans and Zed Creek crossings to protect fish habitat.

GNWT Response

The GNWT accepts the intent of this recommendation. The GNWT is currently working with the Inuvik and Tuktoyaktuk Fisheries Working Group, HTC's, and DFO in the development of a long-term fisheries management plan which will address this issue.

Species at Risk

R32: The IEMOC shall determine appropriate setback distances for bear denning areas and critical habitat of SAR, waterfowl and tundra-nesting bird species.

GNWT Response

The GNWT recommends Canada reject this recommendation. The GNWT does not agree with the establishment of an IEMOC.

The GNWT will continue to work with HTC's, Environment Canada and WMAC during preparation of the Wildlife and Wildlife Habitat Protection Plan for the construction phase.

R33: The Developer shall monitor project-specific effects and collaborate in the monitoring of regional effects on all identified SAR, such as boreal woodland caribou, grizzly bears, and wolverines, with existing or planned regional monitoring programs by government including:

- **compare baseline species habitat amount to Project construction and operations phase habitat amounts (verify predictions for habitat loss);**
- **compare baseline species habitat use to Project construction and operations phase habitat use (verify predictions for habitat degradation);**
- **compare baseline species distribution to Project construction and operations phase distributions (verify predictions for disturbance);**
- **compare baseline species harvest rates to Project construction and operations phase harvest rates (verify predictions for mortality); and**
- **compare baseline caribou collision-based mortality rates to pre-defined thresholds (verify prediction for mortality).**

GNWT Response

The GNWT accepts the intent of this recommendation to the extent possible for the listed species. The GNWT notes Bullets 2 and 3 are redundant. The GNWT does not know what is meant by a "pre-defined threshold". The GNWT notes its ability to deploy radio collars will rely on support from the HTCs.

Water Use and Winter Access Roads

Total Water Requirements

R34: The 10 per cent water withdrawal limit contained in the *DFO Protocol for Winter Water Withdrawal from Ice-covered Waterbodies in the Northwest Territories and Nunavut (2010)* shall be applied to every lake and water body used as a water source over the lifetime of the project.

GNWT Response

This recommendation is directed to the Northwest Territories Water Board. The GNWT does not accept the application of the DFO Protocol for winter water withdrawal to all waterbodies in the territories.

Winter Access Roads

R35: Monitoring of the effects of long term water use for the construction of these roads shall be included in the regulatory approvals granted by DFO, AANDC and the NWT Water Board, as appropriate, and the results of this monitoring shall be integrated into the cumulative effects and adaptive management programs to be established by the IEMOC.

GNWT Response

This recommendation is directed primarily to the Northwest Territories Water Board and Fisheries and Oceans and Aboriginal Affairs and Northern Development as appropriate. The GNWT does not agree with the establishment of an IEMOC.

The GNWT does not accept the need for this recommendation because there is no substantial long term water use contemplated for construction.

Terrestrial Impacts of Winter Access Roads

R36: AANDC and the NWT Water Board shall ensure that the same road alignments are not used to access aggregate sources every year in order to avoid the vegetation and terrain damage caused by repeated use.

GNWT Response

This recommendation is directed primarily to Aboriginal Affairs and Northern Development and the Northwest Territories Water Board. The GNWT notes the Inuvialuit Land Administration is not included in the parties the Panel has listed.

The GNWT recommends Canada clarify this recommendation as it appears to limit the authority of the independent decision making of the NWT Water Board and Aboriginal Affairs and Northern Development. The recommendation may not be warranted for each gravel source access and the regulators should consider each application on a case by case basis.

R37: The Developer shall develop a monitoring program with respect to vegetation and terrain that includes active layer and near-surface permafrost impacts from winter road construction to the aggregate sources. Monitoring reports should be filed with the appropriate regulators, including AANDC, on a regular basis and not less that (sic) every two years, with particular emphasis on cumulative impacts of the roads on these terrain characteristics. This monitoring program and its results shall be integrated into the cumulative effects and adaptive management programs to be established by the IEMOC.

GNWT Response

The GNWT recommends that Canada reject this recommendation. The GNWT does not agree with the establishment of an IEMOC.

The GNWT is aware that regulators may stipulate specific requirements as terms and conditions in regulatory authorizations for construction phase. The GNWT recognizes that land management authorities may conduct additional monitoring during the operations phase to support their land management decisions. Federal departments will need to confirm the cumulative effects monitoring programs they have established.

Aggregate Resources

R38: AANDC, ILA and the NWT Water Board shall require the filing of draft pit development plans with the Developer's applications for gravel extraction. These plans shall include conceptual closure and reclamation plans. These regulators shall require final pit development plans from the Developer before gravel extraction from the sites listed in Table 5 begins.

GNWT Response

This recommendation is directed primarily to Aboriginal Affairs and Northern Development, Inuvialuit Land Administration, and the Northwest Territories Water Board. The GNWT notes that each of these regulators requires developers to conform to regulations and policy requirements which include the specific details in this recommendation.

R39: The pit development plans shall address the effects of quarrying operations on vegetation, surface water, permafrost, wildlife and terrain features, and include specific mitigation measures for consideration by the regulators. The Developer shall consult the HTC's of Inuvik and Tuktoyaktuk about these plans before they are approved by the regulators.

GNWT Response

The GNWT accepts this recommendation.

R40: Pit development licences or permits shall be based on and limited by the schedule of aggregate requirements provided by the Developer and presented in Table 5 of this report. After construction, further development of the pits should only be permitted once progressive reclamation of the original disturbance has been initiated and the ground surface is shown to be stable.

GNWT Response

This recommendation is directed primarily to Aboriginal Affairs and Northern Development, Inuvialuit Land Administration, and the Northwest Territories Water Board. New source locations not included in the scope of the review will be reviewed by the Environmental Impact Screening Committee.

R41: Any extra requirement for aggregate over and above the requirements forecast for specific time intervals in Table 5 of this report shall be considered as a new application and be subject to screening by the EISC.

GNWT Response

This recommendation is directed to the Environmental Impact Screening Committee.

R42: AANDC and ILA shall require evidence of permafrost stabilization as part of the conditions for reclamation and closure of borrow pits, and until it is clear that permafrost has been re-established in the pit floors and slopes, the liability for the pits shall remain the responsibility of the Developer.

GNWT Response

This recommendation is directed to Aboriginal Affairs and Northern Development and Inuvialuit Land Administration. The GNWT is aware that regulators may stipulate specific requirements as terms and conditions in regulatory authorizations and will adhere to these conditions.

Climate Change

R43: As part of its applications for pit and quarry licences, the Developer shall provide to AANDC and ILA a rigorous and transparent quantitative assessment of the potential impacts of climate change on the aggregate needs for the project including estimates of aggregate needs 25 and 50 years after construction.

GNWT Response

The GNWT recommends that Canada reject this recommendation. The GNWT is uncertain that this recommendation is technically feasible. If feasible, the GNWT commits to consult with Natural Resources Canada and Environment Canada to determine whether and how to implement the recommendation.

R44: The Developer shall develop preliminary pit management plans, including a preliminary closure and reclamation plan, for all borrow sites and quarries listed in Table 5 and file them with AANDC, ILA and the NWT Water Board at the time applications are made for use of these areas. Approval of final pit management plans by regulators before aggregate extraction begins shall be a condition of any licences or permits when issued.

GNWT Response

The GNWT accepts the first part of this recommendation, which is directed at the GNWT. The GNWT will file preliminary pit management plans as discussed in R38 and R39.

The second part is directed at AANDC, ILA, and the NWT Water Board. The GNWT will adhere to terms and conditions set out in authorizations issued by Aboriginal Affairs and Northern Development and Inuvialuit Land Administration.

R45: The Developer's estimates of future quarry size (areal extent and volumes), based on its projected need for aggregate, and AANDC's independent opinion on the estimates shall be presented to the NWT Water Board during its water licensing process to enable the development of water management plans and reclamation plans for quarries and borrow pits.

GNWT Response

This recommendation is directed to the GNWT and AANDC. The GNWT accepts its portion of the recommendation.

Effects Assessment

R46: The Developer, in collaboration with GNWT-ENR, EC and wildlife comanagement organizations, working through the IEMOC, shall further develop and implement the proposed WEMP to ensure that it addresses both direct and cumulative effects from highway construction and operations on wildlife distribution and abundance within the regional cumulative effects study area.

GNWT Response

The GNWT recommends Canada reject this recommendation. The GNWT does not agree with the establishment of an IEMOC.

The GNWT notes the WEMP is not intended to address this recommendation. The GNWT notes that Cumulative Effects Assessment should be developed from a Valued Ecosystem Component (VEC)-centric or regional-centric standpoint, not a project-centric one.

The GNWT's management planning for each barren-ground caribou herd is range-based. The GNWT also must recognize the established role and interests of others in the management planning for wildlife, for example the Advisory Committee for the Cooperation on Wildlife Management which is preparing a plan for barren-ground caribou herds. Grizzly bear management planning is the responsibility of a number of federal departments and co-management groups in the Inuvialuit Settlement Region. As a result ongoing monitoring and management already considers cumulative effects planning and is not limited to a regional study area.

R47: The results of WEMP monitoring of cumulative effects on wildlife, vegetation and land use shall be integrated into the IEMOC's adaptive management framework, and, to the extent possible, into any government regional cumulative effects monitoring programs.

GNWT Response

The GNWT recommends Canada reject this recommendation as it is beyond the scope of a single project. The GNWT does not agree with the establishment of an IEMOC.

The GNWT notes the WEMP is not intended to address this recommendation. The GNWT also notes that Cumulative Effects Assessment should be developed from a VEC-centric or regional-centric standpoint, not a project-centric one.

The GNWT will include adaptive management as appropriate in its Environmental Management Plan. The GNWT notes the WEMP does not include the range of topics listed in this recommendation and is focused on the Project. The GNWT is taking a leading role in developing collaborative cumulative effects programs for multiple species but this is a shared responsibility among governments, co-management partners, and land users.

Worst-Case Scenario

R48: The Panel finds that a worst-case scenario based on a fuel truck roll over on the highway as described in the EIS to be the appropriate scenario for this development. The Panel also finds that a total cost or value for this worst-case scenario is \$1.05 Million dollars.

GNWT Response

The GNWT notes this statement is not a recommendation directed at any party but rather confirms the Panel's view on the worst-case scenario.

R49: The Panel recommends that consideration be given to requiring security from the Developer in this amount in order to protect Inuvialuit harvester's rights pursuant to section 13 of the IFA.

GNWT Response

The GNWT recommends Canada reject this recommendation.

As acknowledged by the Panel, the Inuvik to Tuktoyaktuk Highway will be a public highway and users will operate under territorial and federal legislation. The Inuvialuit Final Agreement Section 13(13) provides the authority/requirement for environmental security but specifically excludes government from this requirement

As is the case for provincial and federal highways across Canada, the GNWT is not liable for accidents incurred by public users; the GNWT therefore does not agree a security is required. Under legislation the carrier causing a fuel spill is liable for cleanup costs rather than the GNWT.

Under the NWT Nunavut Spills Agreement federal and territorial departments are responsible for ensuring carriers report and cleanup spills. In addition, federal departments have specific legislation to recover damages or fine polluters under the Fisheries Act.

Husky Lakes

R50: The Inuvialuit Land Administration shall work with the Developer, HTC's, FJMC and WMAC (NWT) to ensure proper signage and guidelines are established to monitor access to the Husky Lakes area.

GNWT Response

This recommendation is directed to the Inuvialuit Land Administration. The GNWT will participate in discussions as requested by the ILA.

Land Use and Management Category E Lands

R51: Developer shall consult with the communities, HTC's and ISR comanagement boards on the development and content of the Project's environmental management plans in relation to Category E lands.

GNWT Response

The GNWT accepts the intent of this recommendation. The GNWT will ensure consideration of Category E lands as it consults on its environmental management plans.

