

Inuvik Tuktoyaktuk Highway Environmental Commitments

#	Commitment	Status	Brief Rationale	Timeline
1.	The developer is committed to observing the relevant economic measures of the Inuvialuit Final Agreement (IFA).	Ongoing	Based on clauses 12(42) to 12(44) of the IFA, the clauses under economic benefits that apply to the ITH construction, the predominant persons employed for (42) park management (wildlife monitors) and (43) management regime providing economic opportunities (camps, construction, etc), Inuvialuit have been preferred (see #2 below), while (44) the Inuvialuit have been invited to and are actively participating in the planning process, e.g. HTC meetings, IWB and ILA permitting, etc. and are encouraged to have representatives at all monthly project meetings. In addition, the IRC has written with their support for the choice of contractor in terms of economic benefits.	This commitment will be closed once the highway opens as the development of the highway will be completed.
2.	The developer is committed to preferential employment opportunities for qualified local residents and contractors.	Ongoing	Based on contractor's submission of schedule 2, as of the end of year 2, 70.7% of expenditures have been local, and 82% have been Northern	This commitment will be closed once the highway opens as the development of the highway will be completed.
3.	The IFA guidelines for business operation will apply to this Project, giving priority hiring to companies included on the Inuvialuit Business List (IBL).	Ongoing	Contractors E Grubens Transport and Northwind Industries are on the IBL, and they have given priority to other companies on IBL.	This commitment will be closed once the highway opens as the development of the highway will be completed.
4.	The developer and on-site Project contractors will be responsible for the implementation of focused socio-economic measures, including recruitment and skills training.	Ongoing	Weekly reports include updates on training including apprentices, OJT, Class 1/3 brakes, driver simulators, etc.	This commitment will be closed once the highway opens as the development of the highway will be completed.
5.	The developer will install educational signage related to harvesting, fishing, hunting, and responsible use of the highway at appropriate and highly visible locations.	Operations	Money has been committed for the contractor to supply and install signs. Engagement is ongoing for the development of the signage.	The developer will continue working with ITI and stakeholders for signage up until the completion of the highway 2017. Commitment will be closed once the

				highway becomes operational.
6.	The developer will require that its project contractor(s) ensure that all heavy equipment operators are suitably trained in proper machinery maintenance and operation; that equipment is regularly inspected and serviced; and that contractor staff obey posted highway rules (e.g., speed limits, hunting/fishing restrictions).	Ongoing	Weekly reports include updates on training for heavy equipment operators, as well as any safety incidents or near misses that have occurred.	Continue to ensure the contactor is meeting this commitment until the completion of the highway in 2017. Commitment will be closed once the highway becomes operational and is no longer a project.
7.	The developer will require that its contractor(s) educate their staff on the prevention of accidents and malfunctions. The training received will be outlined for the developer, including emergency spill response.	Ongoing	Incidents are recorded in weekly reports, including safety and spill reports. The Spill Contingency Plan is provided to the contractor for implementation.	Continue to ensure the contactor is meeting this commitment until the completion of the highway in 2017. Commitment will be closed once the highway becomes operational and is no longer a project.
8.	The developer commits to ensuring that its contractor(s) have Health, Safety and Environment (HSE) manuals; work procedures documents; and site-specific health and safety plans.	Ongoing	All monthly meeting reports have a safety update where a WSCC representative is encouraged to attend. In addition, regular WSCC inspections are conducted and logged.	Continue to ensure the contactor is meeting this commitment until the completion of the highway in 2017. Commitment will be closed once the highway becomes operational and is no longer a project.
9.	The developer is committed to issuing on a regular basis a newsletter on the project, which will highlight progress and any substantive reports/information provided to public domain parties. A dedicated link to similar information will also be featured on the main Department of Transportation website.	Ongoing	The ITH website is updated regularly and contains newsletters, employment information, etc. The most recent progress report was completed in December 2016	Continue to do so until the completion and grand opening of the highway in 2017/2018. Commitment will be closed once the highway becomes operational and is no longer a project.
10.	The developer will meet with Kunnek Resource Development Corporation to discuss any questions or concerns regarding the highway's potential interaction with the reindeer herding operation, prior to permitting.	Complete	A meeting was held in 2013.	N/A.

11.	The developer will discuss the issue of compensation at its meetings with the Inuvialuit Game Council, Inuvik and Tuktoyaktuk hunters and trappers, committees, and Wildlife Management Advisory Council (NWT).	Complete	Multiple meetings have occurred with the IGC, HTC's, and WMAC in 2013	N/A.
12.	At this time, the developer's policy is to not allow its employees or contractors to fish while engaged in their employment activities.	Ongoing	Although the attempt to finalize a Fisheries Management Plan is ongoing, and neither the Aquatic Effects Monitoring Plan nor the Fish and Fish Habitat Protection Plan explicitly mention no fishing, the Wildlife and Habitat Protection Plan explicitly says "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." As there are no site locations that would allow fishing activities, this implies that no fishing is permitted. A similar clause in the ILA Land Use Permit ILA13TE017 (#10) states "The Holder shall not conduct activities on any Inuvialuit Lands other than the Authorized Lands unless approved by the Administrator". This again precludes employees from seeking fishing sites.	Continue to ensure the contactor is meeting this commitment until the completion of the highway in 2017. Commitment will be closed once the highway becomes operational and is no longer a project.
13.	The developer is responsible for the design and construction of the Highway, including field studies and data collection during Highway design and construction, and future operations funding, similar to other NWT highways.	Ongoing		N/A
14.	The developer will conform to the IFA and the Tuktoyaktuk and Inuvik Inuvialuit Community Conservation Plans (CCPs) and will integrate the goals of these documents into the Project's environmental management.	Complete	The documents have been integrated into the Environmental Management Plans.	N/A

15.	The proposed highway will be sited and designed to avoid or mitigate adverse effects on fish and fish habitat (i.e. HADD) for the various stream crossings. Where a HADD is unavoidable, the Developer will provide sufficient information for the purpose of the authorization and will develop suitable compensation strategies.	Ongoing	Ongoing. Regular monitoring of water crossings and culverts and fish passage is ongoing and solutions are devised and implemented whenever problems arise, such as for any underperforming culverts and due to the emergence of beaver construction at some culvert openings. The environmental field technician monitors the culverts in the summer, and the environmental field coordinator monitors embankment in the winter.	Continue to ensure this commitment is being met and monitored until the road opens in 2017. After that DOT will switch to O&M monitoring plans and the commitment will be closed as it will no longer be a project.
16.	Additional engineering studies for the proposed route alignment will be undertaken in 2012 including right of way surveying and bridge design.	Complete	Hydro technical Assessment was completed in August 2012.	N/A
17.	The Developer will undertake further engineering, environmental and archaeological studies in areas scheduled for construction during that same year or prior to that year.	Complete	Studies include, but are not limited to Geotechnical Investigation Program, Archaeological investigation, Bathymetry survey.	N/A
18.	Research authorizations will be obtained on an annual basis, as needed, prior to the conduct of seasonal field activities.	Ongoing	Research authorizations are obtained as needed.	Continue to do so until research permits are not needed.
19.	The Developer is committed to addressing the performance criteria and management goals identified in the ILA's draft Husky Lakes Special Cultural Area Criteria, pending approval.	Ongoing	Ongoing. The Developer is doing this by keeping the development out of the 1000 m Husky Lakes set back.	Continue to do so until completion of the road in 2017. The commitment will be closed once the highway becomes operational as it will no longer be a project.
20.	On approval of the Highway, the Developer commits to further consider Alternative 3 (2010 Minor Realignment) as the final alignment for the Highway.	Complete	In the Environmental Impact Statement (EIS, May 2011), it is stated "If the Inuvik to Tuktoyaktuk Highway Project is approved, Alternative 3 would be further considered and likely adopted in the detailed design stage based on additional information to be gathered in future survey, geotechnical and other investigations, and when comparing the map to the actual selected route, Alternative 3 was largely implemented as it passes west of source 172 (the original route passed THROUGH 172), and east of source 170 (Alternative	N/A

			2 passes west of 170). The comparison of routes can be found in Figure 1 on page v of the EIS.	
21.	<p>The Developer commits to using, as a guideline, the design parameters and construction techniques in the Transportation Association of Canada (TAC 2010) Development and Management of Transportation Infrastructure in Permafrost Regions. This will include mitigation strategies such as:-</p> <ul style="list-style-type: none"> - Applying appropriate erosion and sediment control BMPs for the construction of ditches and cross drainage channels; - Accessing and hauling from borrow sources during the winter months; - Constructing embankments during the winter months; - Conducting summer construction activities (such as grading and compacting the embankment, and placing of surfacing materials) only when the Highway can be accessed over the embankment; - Stockpiling surfacing material along the embankment during the winter for use in the summer; - Minimizing the surface area of open cut; - Grading slopes to minimize slumping; - Grading material storage and working areas to promote drainage; - Reclaiming borrow sources when construction is complete by grading slopes to blend with the natural topography and drainage of the surrounding area; - Designing and constructing thick or high embankments to create an insulative layer that promotes the development of a frozen embankment core; - Designing the alignment to avoid unfavorable terrain, such as areas with thick organic deposits and ice-rich polygonal or patterned ground; - Installing culverts to manage seasonal overland flows; - Installing sufficient cross drainage during construction to prevent or minimize potential water ponding; and- Inspecting and maintaining culverts, as needed, in the spring and fall. 	Ongoing	<p>The design meets or exceeds the intent of the TAC guidelines referenced in the commitment.</p> <p>Any problems that have arisen during construction where performance has not lived up to planning have been taken very seriously and dealt with as soon as possible in accordance with this policy.</p> <p>The Design rationale can be found in commitment #13 Rationale. In terms of construction techniques, semi-monthly QA reports have been submitted along with Progress Payment Claims.</p>	Continue to ensure this commitment is being met and monitored until the road opens in 2017. The commitment will be closed once the highway becomes operational as it will no longer be a project.
22.	The ILA's Pits and Quarries Guidelines will be followed.	Ongoing	Pit Development Plans are only accepted by DOL/ILA if they meet all the required criteria.	Continue to ensure this commitment is being met and monitored until the pits are reclaimed and closed.

23.	The list of guidelines and best practices will be maintained to ensure new guidelines and best practices are incorporated throughout the environmental assessment and regulatory phase.	Complete	Lessons learned on the development of the Tuktoyaktuk to Source 177 Access Road have been incorporated in the design. Updates to guidelines have been ongoing during construction, however the project is through EA and the regulatory phase therefore this commitment has been met and is completed.	N/A
24.	As key project or regulatory activities/milestones change, the Developer commits to transmitting any future revised GANTT charts to EIRB.	Ongoing	Modifications to scheduling have been transmitted as received from Contractor. This commitment covers a large scope of "changes". For example whenever modifications or amendments are required, information is transmitted to the required regulators.	Continue to ensure this commitment is being met until the road is completed in 2017. Commitment will be closed once the highway becomes operational as it will no longer be a project.
25.	Supplemental geotechnical and biophysical studies will be conducted to fulfill the requirements of the land use and quarry applications.	Ongoing	A comprehensive geotechnical program was funded at the end of Year 1 to supplement initial studies. Further studies will be carried out whenever they are deemed necessary.	Continue to do so until there are no more LUPs or QPs needed for the construction project. Any information needed for the LUPs or QP for the operations of the highway will be submitted.
26.	Areas presenting challenging terrain conditions will be investigated in the field in 2012 to better evaluate the necessary design mitigation.	Complete	Detailed terrain analysis was completed in 2012.	N/A.
27.	Further mapping and geotechnical studies will occur in 2012 to support detailed design of the route alignment and costing and build on the preliminary terrain stability and permafrost information provided in the EIS.	Complete	Geotechnical investigation and field reconnaissance was undertaken in 2013, prior to detailed design.	N/A.
28.	Additional analyses will be conducted as detailed engineering and design is undertaken. During the detailed design phase, one-dimensional and two-dimensional thermal design analysis will be carried out as appropriate for the proposed alignment and for selected Highway cross sections to be constructed in areas of particularly sensitive terrain.	Complete	This is documented in the Design Report dated September 5, 2013.	N/A.

29.	Two-dimensional thermal analysis of the embankment on the permafrost foundation will be used as a primary design tool for establishing appropriate cross sections in areas with differing ground conditions.	Complete	This is documented in the Design Report dated September 5, 2013.	N/A.
30.	The thicker embankment criteria will be applied when the objective is to ensure that the original active layer soils and the underlying permafrost will be preserved in a permafrost condition (high risk of thaw-subsidence).	Complete	This is documented in the Design Report dated September 5, 2013.	N/A.
31.	During the detailed design stage, the embankment will be modeled as a two-dimensional structure placed on a fully frozen permafrost foundation (winter construction). Geothermal analyses will predict the maximum ground temperature within the core of the embankment. At that time, the effect of the embankment side slopes on localized permafrost thaw will be predicted and mitigation measures adopted to minimize long-term performance risks.	Complete	This is documented in the Design Report dated September 5, 2013.	N/A.
32.	A number of studies have and will continue to be conducted to assist in delineating ice wedges on hill slopes in upland terrain along the Highway alignment.	Complete	Geotechnical investigation and field reconnaissance was undertaken in 2013, prior to detailed design.	N/A.
33.	Minimizing snow accumulation on the side slope will be one of the considerations in confirming the Highway cross section in the detailed design stage. The Highway will be designed to be generally self-clearing.	Complete	The location of the highway and the side slope ratio have selected in the design to balance many factors (including minimizing accumulation of snow drifts) in an effort to maintain the safety of the travelling public.	N/A.
34.	The long-term position of the permafrost table below the core of the embankment and below the side slopes has not been predicted (modeled) to date; however, it will be predicted (modeled) during the detailed design stage.	Complete	This is documented in the Design Report dated September 5, 2013.	N/A.
35.	Incorporating the appropriate cross section at the detailed design stage, based on the geothermal analyses and the route specific geotechnical data will provide a mitigation measure reducing the risk of shoulder rotation.	Complete	This is documented in the Design Report dated September 5, 2013.	N/A.

36.	<p>Mitigation options that will be considered and employed will include: Installation of geotextile – the geotextile will assist in maintaining the integrity of the Highway embankment by minimizing the loss of material from the embankment into the underlying terrain.</p> <ul style="list-style-type: none"> - Selection of the appropriate embankment height and side slope ratio for the specific terrain type. - Efficient drainage design - ensuring flow of water, in the spring/summer with defined stream and surface run-off to avoid or minimize standing water (ponding). - Appropriate selection (i.e., type and size) and installation of drainage structures, including proper end treatments for culverts such as erosion control and drainage aprons. 	Ongoing	All points have been in compliance as construction has been ongoing. For example, the weekly reports identify when and where geotextile is being put down.	continue to ensure this commitment is being met until the road is completed in 2017. Commitment will be closed once the highway becomes operational as it will no longer be a project.
37.	Bridges and culverts will be designed in accordance with the current Canadian Highway Bridge Design Code addressing stream hydraulics, design flood, scour, fish passage, vertical clearance, structure design life, climatic conditions, geotechnical design, structural design, protective aprons, and slope stabilization.	Complete	All designs are within the appropriate component/year's design files. Designs are done and installation is occurring, therefore this commitment is completed as it only identifies the design stage.	N/A.
38.	A ground temperature cable will be installed at borrow source 312, for the purpose of collecting project specific ground temperature data.	Complete	Ground temperature cables were installed in the 2013 Geotechnical Investigation program at six sites along the alignment and 13 major stream crossings including Hans Creek (Crossing 30a), which is within source 312. Ground temperature was collected and utilized in the detailed design. The most recent memo surrounding ground temperature data is found in the attached link.	N/A.
39.	In the detailed design, to the extent practical, the Highway design team will apply a minimum setback of 50 m from known active thaw flow slides. Or where not possible to fully avoid potentially active slide areas, long-term maintenance plan will need to be developed and employed to monitor and remediate possible movements over the life of the project.	Complete	A Sediment and Erosion Control plan applied during construction and during operation has been developed. This commitment is specific to the design stage, which is now completed.	N/A.

40.	The Developer and its contractors, including all field operations staff, will adhere to and be made aware of all applicable legislation, regulations, guidelines, and terms and conditions.	Ongoing		This commitment has no end date associated with it.
41.	The ILA's Pits and Quarries Guidelines will be followed.	Ongoing	Ongoing. PDPs follow these guidelines and the ISR GRMP. Pit compliance checklists completed by the environmental field coordinator ensure that the guidelines and mitigations are followed.	This commitment will be ongoing until all the ILA pits are closed and reclaimed.
42.	The Developer and on-site Project contractors, including all field operations staff, will be made aware of and implement the mitigation measures identified in this EIS.	Ongoing	Approved mitigations in EMP are being and will continue to be implemented.	This commitment has no end date associated with it.
43.	DOT will ensure that the Highway construction contractors will take all steps necessary to comply with the terms and conditions of all legislation, permits and licenses.	Ongoing	The environmental field coordinator is helping to fulfill this commitment by monitoring and reporting on what is seen during site visits. Detailed Pit Compliance checklist as well as an embankment compliance checklist are completed during visits.	This commitment will be ongoing until the road construction is completed in 2017. Commitment will be closed when the highway becomes operational as it will no longer be a project.
44.	To protect the permafrost terrain along the proposed Highway alignment, typical 'cut and fill' techniques commonly employed in southern areas of the Northwest Territories and elsewhere will not be used for this Project.	Ongoing	No cutting into the terrain is being done in the design or construction and is specifically referenced in the design report.	This commitment will be ongoing until the road construction is completed in 2017. Commitment will be closed when the highway becomes operational as it will no longer be a project.
45.	The Developer is committed to constructing the proposed Inuvik to Tuktoyaktuk Highway, borrow sources, and associated winter access roads in a safe and environmentally responsible manner, and to strictly adhering to any mitigation measures as proposed by the Developer.	Ongoing	The environmental field coordinator is helping to fulfill this commitment by monitoring and reporting on what is seen during site visits. Detailed Pit Compliance checklist as well as an embankment compliance checklist are completed during visits.	This commitment will be ongoing until the road construction is completed in 2017. Commitment will be closed when the highway becomes operational as it will no longer be a project.
46.	The Developers and their contractors will meet the standards required for a safe work environment.	Ongoing	As with commitment #8, all Monthly Meeting Reports have a safety update where a WSCC representative is encouraged to attend. In addition, regular WSCC inspections are conducted and logged.	This commitment will be ongoing until the road construction is completed in 2017. Commitment will be closed when the highway becomes operational as it will no longer be a project.

47.	The Developer commits to working towards achieving the Environmental Impact Review Board's goal statements for all phases of the proposed development.	Ongoing	As with commitment #8, all Monthly Meetings encourage an EIRB representative to attend to voice any difficulties.	This commitment has no end date associated with it.
48.	Blasting, if required, will occur only during winter borrow source development.	Ongoing	This is being met as the borrow sources used to date have only been blasted in the winter as identified in the progress reports.	This commitment will be ongoing until all blasting at the pits is done and/or the pits are closed and reclaimed.
49.	Should the Developer require the use of explosives, any planned activities will be reviewed by DFO during the construction phase to ensure appropriate best practices are followed. Current guidelines will be followed as appropriate.	Ongoing	Explosive management plans have been sent to DFO prior to using explosives.	This commitment will be ongoing until all blasting at the pits is done and/or the pits are closed and reclaimed.
50.	The Developer is committed to building the roadway with 3:1 side slopes.	Ongoing	The intent of this commitment is to, in the design stage, select a side slope ratio that serves the needs of public safety relative to a) a vehicle running off the road; and b) preservation of the embankment. The design meets or exceeds this intent by using: 3:1 side slopes where fills are less than 4 m; 3:1 side slopes or a combination of 2.5:1 side slopes with guardrail where fill heights are between 4 and 6 m; and 3:1 side slopes and guardrail where fill heights are greater than 6 m. Additional toe berms have been incorporated into the design when deemed necessary for slope stability.	This commitment will be ongoing until the road construction is completed in 2017. Commitment will be closed when the highway becomes operational as it will no longer be a project.
51.	The Developer will use winter roads to access borrow sources; permanent all-weather access roads will not be required.	Ongoing	An all-weather access to I401A was developed in Year 2 under agreement with ILA. An all-weather access to 312 is approved for Year 3 under agreement with ILA and has been constructed.	N/A.
52.	The Developer is committed to performing the majority of the construction activities during the winter months.	Ongoing	Any necessary permits for minor extensions to the beginning or end of the winter construction season have been secured.	This commitment will be ongoing until the road construction is completed in 2017. Commitment will be closed when the highway becomes operational as it will no longer be a project.

53.	Highway construction activities during the summer period will be primarily limited to road base compaction and grading, and culvert remediation and maintenance with no work expected to take place on undisturbed land. These activities will be confined to the surface of the previously constructed Highway embankment.	Ongoing	Some late summer work at borrow sources will be conducted. All work is documented in the weekly reports.	This commitment will be ongoing until the road construction is completed in 2017. Commitment will be closed when the highway becomes operational as it will no longer be a project.
54.	The developer is committed to controlling dust generated in relation to the construction and operation of the Highway through the application of non-toxic dust suppression techniques (water trucks) that comply with the GNWT's Guideline for Dust Suppression (GNWT 1998).	Ongoing & Operations	Dust suppression will be undertaken following the GNWT's guidelines.	This commitment will be applied throughout the life of the highway.
55.	The frozen granular fill will only be placed directly on geotextile on the permafrost after the permafrost has frozen back.	Ongoing	The weekly reports that indicate geotextile is being placed before fill.	This commitment will be ongoing until the road construction is completed in 2017. Commitment will be closed when the highway becomes operational as it will no longer be a project.
56.	The Highway will remain closed to public traffic during the construction phase.	Ongoing	Necessary signs and blockades are in place at both ends of the highway, and any minor transgressions are dealt with whenever possible.	This commitment will be ongoing until the road construction is completed in 2017. Commitment will be closed when the highway becomes operational as it will no longer be a project.
57.	The Developer will follow all applicable legislation and guidelines when developing and operating the borrow source.	Ongoing	Ongoing. PDPs are submitted and approved before pits become operational. PDPs are only approved if they follow applicable legislation and guidelines.	This commitment will be ongoing for the life of the borrow sources.
58.	The Developer is committed to limiting the footprint of each borrow source and minimizing the number of borrow sources developed.	Ongoing	Attempts to limit borrow source access are implemented whenever possible, such as not using 314-325, 173, or PW11, and limiting the Jimmy Lakes development to GSC4 only.	This commitment will be ongoing until the road construction is completed in 2017. All borrow sources for the development of the highway have been developed.
59.	Borrow pits will be closed as soon as they are no longer required and reclaimed in a progressive manner, as described in the Pit Development Plan.	Ongoing	Proper remediation and reclamation procedures are undertaken as described in the PDP.	This commitment will be ongoing until the pits are reclaimed and closed according to the standards set out by the ILA and DOL.

60.	Pit Development Plans will conform to the approving authority's regulations and permitting requirements.	Ongoing	PDPs are only approved if they conform to the approved regulations and requirements.	N/A.
61.	The ILA's Pits and Quarries Guidelines will be followed.	Ongoing	PDPs follow these guidelines and the ISR GRMP and are approved only if they meet the requirements of the ILA/DOL.	This commitment will be ongoing until the pits are reclaimed and closed according to the standards set out by the ILA and DOL.
62.	Supplemental geotechnical and biophysical studies will be conducted to fulfill the requirements of the land use and quarry applications.	Complete	A comprehensive geotechnical program was funded at the end of Year 1 to supplement initial studies. Further studies will be carried out whenever they are deemed necessary.	N/A.
63.	Pit Development Plans will include mitigation measures to address potential environmental concerns, and operational and reclamation plans. Mitigation measures include: Developing borrow sources only during winter periods; - Maintaining an appropriate amount of undisturbed land between borrow source locations and any water body; - Excavation and/or removal of material from the quarry should only take place to within one metre of the high water mark above the groundwater table; and - Applying appropriate erosion and sediment control BMPs for the construction of ditches and cross drainage channels, and ensuring that soil, silt or sediment-laden water does not enter surface waters.	Ongoing	Some late summer work at borrow sources will be conducted, such as stockpiling and drainage control. ESC methods are found in the ESC manual which is followed. All other mitigations are described in the PDP.	This commitment will be ongoing until the pits are reclaimed and closed according to the standards set out by the ILA and DOL.
64.	Pit development plans will be developed for each of the borrow sites to be used for construction of the Highway. These plans will conform to the approving authority's regulations and permitting requirements.	Ongoing	PDPs are only approved if they conform to the approved regulations and requirements.	N/A.
65.	The Developer commits to ensuring that borrow source development is monitored by environmental monitors.	Ongoing	Environmental monitors will be present during all construction activities that meet the thresholds. Number of ILA monitors present on North and South sections are tracked in Weekly Reports.	This commitment will be ongoing until the pits are done being developed in 2017. Commitment will be closed when highway becomes operational as it will no longer be a project.

66.	Developer is committed to conformance with the requirements of the Explosives Use Act.	Ongoing	The developer and contractor continues to be in conformance with the Explosives Use Act.	This commitment will be ongoing until the pits are done being developed in 2017.
67.	Borrow sources will not be developed within 50 m of any watercourse or water body or within 1 km of the Husky Lakes.	Ongoing	No borrow sources are currently being developed in that area, and no future sources are identified in that area.	N/A.
68.	The development of borrow sites and most activities associated with each of the active borrow sites will typically occur during the winter period when dust is not expected to be a significant concern.	Ongoing	No pits have been developed in the summer months as identified in the weekly reports.	This commitment will be ongoing until the pits are done being developed in 2017.
69.	Winter geotechnical drilling, sampling and lab testing of portions of preferred borrow sites will be undertaken in 2012 to confirm the extent, quantity and quality of materials available at these sites. Follow-up vegetation cover, and rare plant field surveys and sampling will also be conducted at these preferred borrow sites in the summer of 2012.	Complete	Work was completed in 2013 and has continued in 2014. Rare plant survey is contained in EMPs.	N/A.
70.	The borrow pits required for construction of the Highway will be developed, operated and decommissioned in full compliance with all regulatory requirements.	Ongoing	Pit developments follow the PDPs that have been approved by the DOL/ILA.	This commitment will be ongoing until the pits are reclaimed and closed according to the standards set out by the ILA and DOL.
71.	Pit development plans will conform to the approving authority's regulations and permitting requirements. For borrow sources on Inuvialuit-owned land, the pit development plan will conform to the ILA's Granular Management Plan and requirements for a Quarry Permit. For borrow sources on Crown lands, the pit development plan will conform to INAC's (2010d) Northern Land Use Guidelines Access: Pits and Quarries. In both cases, the Guidelines for Development and Management of Transportation Infrastructure in Permafrost Regions (TAC 2010) will be used as a reference for preparation of the pit development plans.	Ongoing	All PDPs are vetted by DOT and the appropriate authorities prior to implementation.	N/A.

72.	Erosion control and plans to control runoff from the borrow sites, including any stockpiles that may be developed, will be addressed in pit development plans. Site drainage controls, including localized ditching/swales within the borrow sites and silt fencing will be employed as necessary to ensure that sedimentation contained in meltwater from ground ice in the aggregate, or site runoff in general, are appropriately managed and are not released into the surrounding watershed.	Ongoing	The mechanisms in the ESC manual are in place, and various members of the DOT-ITH team are out there weekly ensuring the ESC measures are still in place and working.	This commitment will be ongoing until the pits are reclaimed and closed according to the standards set out by the ILA and DOL.
73.	For stockpiles developed at active borrow sites for use in the following winter, the Highway construction contractor(s) or their environmental consultants will be tasked to carry out inspections of the stockpiles and the active borrow areas in the late summer to determine if a wildlife den has been established in any of the stockpiles or borrow sites.	Ongoing	ENR has undertaken these surveys, with the latest on being completed in the fall of 2016. The report is to follow.	This commitment will be ongoing until the construction of the highway is completed in 2017. Commitment will be closed once the highway is operational as it will no longer be a construction project.
74.	Where it is deemed preferable to install culverts in summer, construction will adhere to appropriate guidelines, such as those identified in Dane (1978) and in the DFO Land Development Guidelines for the Protection of Aquatic Habitats, to avoid or minimize the potential for erosion, sedimentation or channel effects.	Ongoing	Culvert installation has and will adhere to the Sedimentation and Erosion Control Plan and appropriate DFO guidelines.	This commitment will be ongoing until the road construction is completed in 2017. Commitment will be closed when the highway becomes operational as it will no longer be a construction project.
75.	Summer construction will not take place between April 1 and July 15, in accordance with the DFO timing window for spring spawning fish (respecting grayling and northern pike, which are the only large-bodied fish species likely to use Project area streams for spawning).	Ongoing	Instream work is not anticipated or has been undertaken during April 1-July 15.	This commitment will be ongoing until the road construction is completed in 2017. Commitment will be closed when the highway becomes operational as it will no longer be a construction project.
76.	The Developer, using local contractors, will be responsible for ongoing operation, maintenance, and safety of the Highway.	Operations	Contracting for operation and maintenance after construction is still in the planning stages, but local contractors will be used whenever possible.	This commitment will be ongoing for the life of the highway.
77.	The Developer will construct and operate the Highway to GNWT DOT standards and guidelines for public highways.	Ongoing & Operations		This commitment will be ongoing for the life of the highway and will be part of the operations and maintenance plan.

78.	Should the Mackenzie Gas Project proceed, the Developer will work with the Mackenzie Gas Developers to ensure that increasing traffic on the Highway is effectively managed.	Operations	If the Mackenzie Gas Project proceeds, the Inuvik region will engage with the developers.	N/A.
79.	For Highway maintenance operations, an annual application of gravel surfacing and spot gravelling will be required.	Operations	This is a standard part of operations and maintenance of the gravel highways. All-weather access construction into I401A and 312 is being implemented with this in mind.	This commitment will be ongoing for the life of the highway and will be part of the operations and maintenance plan.
80.	To minimize snow accumulation on the sideslope, the maintenance staff are expected to use wing-plows to lower the snow accumulations along the sideslopes of the Highway as far as possible (approximately 2 m) to reduce drifting and snow maintenance activities associated with the Highway.	Operations	This will be implemented in the O&M plans that are still being developed.	This commitment will be ongoing for the life of the highway and will be part of the operations and maintenance plan.
81.	The developer is committed to controlling dust generated in relation to the construction and operation of the Highway through the application of non-toxic dust suppression techniques (water trucks) that comply with the GNWT's Guideline for Dust Suppression (GNWT 1998).	Operations	Dust suppression will be undertaken following the GNWT's guidelines.	This commitment will be ongoing for the life of the highway and will be part of the operations and maintenance plan.
82.	An Environmental Management Plan (EMP) will be prepared prior to construction, and will be submitted for regulatory approval prior to use. The EMP will clearly define expectations for compliance monitoring, responsibilities, requirements for training, and reporting.	Complete	The construction EMP have been finalized.	N/A.
83.	An Environmental Management Plan will be developed to provide broad guidance relating to maintaining existing stream channel, fish habitat, and water quality conditions.	Complete	The construction EMP have been finalized.	N/A.

84.	The installation of culverts and the construction of bridges will be guided by an Environmental Management Plan (EMP), which will include construction scheduling restrictions, environmental construction guidelines, methods to prevent spills of deleterious substances, erosion and sediment control plan, and monitoring plan.	Ongoing	This is addressed in the Sedimentation and Erosion Control Plan.	This commitment will be ongoing until the highways is completed in 2017. commitment will be closed once the highway is operational and is no longer a construction project.
85.	<p>The EMP will contain the following types of plans:- Explosives management;</p> <ul style="list-style-type: none"> - Environmental management; - Spill contingency; - Environmental Emergency Response Plan (if needed); - Erosion and sediment control; - Pit development for borrow sources; - Fish and fish habitat protection; - Wildlife management; - Health and safety; - Waste management; - Hazardous waste management; and - Archaeological site(s) protection. <p>Where necessary, the Developer and its contractor(s) will seek approval for the plans prior to use.</p>	Complete	EMPs have been created and are available on Buzzsaw: Aquatic Effects Monitoring, Fish and Fish Habitat Protection, Sediment and Erosion Control, Rare Plant Survey, Emergency Response Management, Archaeological Impact Assessment, Explosives Management Plan, Spill Contingency Management, Waste Management Plan, Wildlife and Habitat Protection, Spill Response Procedure, Safe Work Practice (SWP)-Fuelling Equipment, SWP-Handling Petroleum, Preliminary Closure and Reclamation Plan.	N/A.
86.	Spill Contingency Plan - The Developer will require that Project contractors prepare spill contingency plans, outlining spill reporting, containment, and clean-up. These will be completed by contractor(s) at least three months prior to the start of construction.	Complete	Spill Contingency Management and Spill Response Procedures have been submitted.	N/A.

87.	Health and Safety Plan - The Developer commits to ensuring that its contractor(s) have Health, Safety and Environment (HSE) manuals; work procedures documents; and site specific health and safety plans. The Developer or its contractor(s) will develop Project- specific Bear Safety Guidelines and will educate staff accordingly including the proper use of non-lethal wildlife deterrent materials (e.g., bear spray). These will be completed by contractor(s) at least three months prior to the start of construction.	Ongoing	Predator defense training was held in the Fall of 2015 and covered topics such as using non-lethal deterrents.	N/A.
88.	Hazardous Waste Management Plan - The Developer and/or contractor(s) will develop a hazardous waste management plan (HWMP) as part of land use permitting applications.	Complete	The hazardous waste is included in the waste management plan.	N/A.
89.	Waste Management Plan - The Developer and/or contractor(s) will develop a waste management plan for all wastes associated with preconstruction and construction activities as part of land use permitting applications to the ILA and AANDC. The waste management plan will apply to the Developer and all associated Project contractors involved in the generation, treatment, transferring, receiving, and disposal of waste materials for the Project.	Complete		N/A.
90.	Erosion and Sedimentation Control Plan - The Developer and/or contractor(s) will provide an erosion and sedimentation control plan to the ILA and AANDC as part of land use permitting. These plans will also be reviewed by DFO and Environment Canada.	Complete		N/A.
91.	Fish and Fish Habitat Protection Plan - The Developer will develop and implement a fish and fish habitat protection plan in cooperation with DFO, FJMC and the Tuktoyaktuk-Inuvik Working Group that will include mitigation measures and adherence to Operational Statements or other direction by DFO.	Complete		N/A.

92.	Wildlife and Wildlife Habitat Protection Plan - The Developer will develop and implement a wildlife (i.e. mammals and birds) and wildlife habitat protection plan in consultation with GNWT ENR, Environment Canada, WMAC, and HTCs.	Complete		N/A.
93.	Archaeological Site(s) Protection Plan - The Developer will prepare an archaeological site(s) protection plan to facilitate the continued protection and management of archaeological resources during the construction phase of the Project.	Ongoing	The AIA report states that there were no emerging issues in regards to protected sites.	N/A.
94.	Pit Development Plan – The Developer will provide pit development plans to the ILA and AANDC as part of the quarry permitting process. Site specific pit development plans will be phased over three years ahead of each year of construction.	Complete	All PDPs are vetted by DOT and the appropriate authorities prior to implementation. All pits that have and will be developed have PDPs submitted.	N/A.
95.	The Developer and its contractors will be fully committed to complying with the terms and conditions of all licenses, permits, authorizations and approvals, items of non-compliance or concern will be dealt with immediately on site during project construction or as soon as practical thereafter.	Ongoing	The environmental field coordinator helped to fulfill this commitment by monitoring and reporting on what is seen during the site visits. A detailed Pit Compliance checklist as well as an embankment compliance checklist was completed during the site visits.	This commitment will be ongoing until the construction of the highway is completed in 2017. Commitment will be closed once the highway is operational as it will no longer be a construction project.
96.	The Developer anticipates developing an Environmental Management Plan for the operations phase of the project. The operations EMP will be completed six months prior to the opening of the Highway to the public. This EMP will be developed in consultation with agencies such as the HTCs, WMAC, Environment Canada and GNWT ENR. The EMP will include guidelines and public education related to Highway usage and monitoring of highway user activities.	Operations	The operations EMP is currently being developed and will be completed six months prior to the opening of the Highway to the public.	This commitment will be completed prior to the highway being open to the public. The highway is to be open November 2017, so the plans are anticipated to be completed by May 2017.
97.	The EMP will include an adaptive management component, which will reference appropriate BMPs, guidelines, and techniques that are relevant to construction in northern latitudes, and indicate how they are to be applied under specific circumstances.	Operations	The operations EMP is currently being developed and will be completed six months prior to the opening of the Highway to the public.	This commitment will be completed prior to the highway being open to the public. The highway is to be open November 2017, so the plans are anticipated to be completed by May 2017.

98.	As part of the adaptive management program, a list of outstanding or new environmental issues that require further action or monitoring will be compiled at the end of each winter construction season and environmental management plans will be updated as needed.	Ongoing	This is ongoing. As an example of adaptive management, it was recognized that DOT needed an additional person to ensure compliance during year 3 of construction. An environmental field coordinator was hired to fulfill this requirement.	This commitment will be ongoing until the construction of the highway is completed in 2017. Commitment will be closed once the highway is operational as it will no longer be a construction project.
99.	The Developer will require that Project contractors prepare spill contingency plans, outlining spill reporting, containment, and clean-up, in accordance with INAC's Guidelines for Spill Contingency Planning (2007).	Complete	SCP was completed and can be found as part of the EMPs on Buzzsaw.	N/A.
100	A spill contingency plan will be developed which includes prevention, preparedness and response. Copies of the spill plan will be made readily available on site, and all staff will be familiar with operational procedures in the event of a spill. The Spill Contingency Plan will: <ul style="list-style-type: none"> - assign responsibilities to company staff and/or contractors and outline a clear path of response; - provide a list of agencies / persons to be contacted in the event of a spill including their phone numbers, etc.; - provide direction regarding response actions for spills on various types of terrain (e.g. spills on land, water, snow/ice, muskeg, etc.); - create and maintain a list and indicate location(s), both on and off site, of equipment available to be used in the event of a spill; - ensure an appropriate spill kit with absorbent material is located at all sites where fuel storage and transfer occurs; - ensure drip pans are utilized when refueling equipment; - ensure proper handling and disposal of contaminated materials resulting from the containment, clean-up, etc. of any spills; and state that all spills of oil, fuel, or other deleterious materials, regardless of size, are to be reported to the NWT 24-hour Spill Line 1-867-920-8130. 	Complete	The SCP encompasses these requirements.	N/A.

101	The Developer will require that Project contractors prepare an Environmental Emergency Response Plan (if required, as per Part 8, Environmental Emergencies Regulations of CEPA 1999).	Complete	The Emergency Response Management Plan was completed and can be found as part of the EMP.	N/A.
102	The Developer will ensure that the Project contractor has appropriate spill response equipment on-site.	Ongoing	Spill response equipment is identified in the SCP found on buzz saw.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational as it will no longer be a construction project.
103	All spills of oil, fuel, or other deleterious materials, regardless of size, are to be reported to the NWT 24-hour Spill Line (867) 920-8130. All releases of harmful substances, regardless of quantity, are immediately reportable where the release: - is near or into a water body; - is near or into a designated sensitive environment or sensitive wildlife habitat; - poses an imminent threat to human health or safety; or - poses an imminent threat to a listed species at risk or its critical habitat.	Ongoing	This is outlined in the SCP. All spills are recorded and reported to the appropriate authorities as identified in the weekly reports.	This commitment will be ongoing until the highway construction project is completed in 2017, however all spills will be reported to the spill line. This is outline in the SCP and will be followed during the operation and maintenance of the highway.
104	In the event of a spill, the Developer's contractors will respond according to the site- specific spill contingency plan and the contractor's HSE manual and procedures.	Ongoing	All spills and response procedures are contained in Weekly Reports. The SCP is followed in the event of a spill.	This commitment will be ongoing until the highway construction project is completed in 2017, however all spills will be reported to the spill line. This is outline in the SCP and will be followed during the operation and maintenance of the highway.
105	The Developer commits to ensuring that any exposed areas will be suitably stabilized prior to the spring thaw period.	Ongoing	This a mitigation found in the ESC manual.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational as it will no longer be a construction project.

106	The Developer is committed to using heavy equipment during Highway embankment construction through the winter months when all watercourse crossing locations are frozen.	Ongoing	Some heavy equipment will be used during summer along the constructed embankment and/or for stockpiling/ windrowing at the borrow sources; but these will not cross open watercourses.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational as it will no longer be a construction project.
107	The Developer will require that Project contractors prepare spill contingency plans, outlining spill reporting, containment, and clean-up. These will be completed by contractor(s) at least three months prior to the start of construction.	Complete	A Spill contingency management plan has been prepared. The contractor will prepare site-specific spill contingency plans.	N/A.
108	<p>The Developer will develop and implement an erosion and sedimentation control plan as part of the EMP. The plan will comply with appropriate erosion and sediment control guidelines, GNWT best management practices (currently being prepared in coordination with DFO), and measures outlined in the DFO (1993) Land Development Guidelines for the Protection of Aquatic Habitat. Some measures that will be followed include:</p> <ul style="list-style-type: none"> - Limiting the use of construction equipment to the immediate footprint of the Highway or borrow source; - Minimizing vegetation removal and conducting progressive reclamation at the clear-span abutments, culvert installations and borrow sources; - Keeping ice bridge and ice road surfaces free from soils and fine gravel that may be tracked out by vehicles; - Avoiding the use of heavy equipment in streams or on stream banks during summer months, and the adherence to the DFO Operational Statement for Temporary Stream Crossings (DFO 2008), where this is deemed necessary; - Installing silt fencing and/or checking dams, and cross drainage culverts as necessary to minimize siltation in runoff near water bodies; and - Appropriately sizing and installing culverts, based on hydrological assessments and local experience, to avoid 	Ongoing	This is encompassed in the SEC manual on Buzzsaw.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational as it will no longer be a construction project. The ESC manual will be followed for the life of the highway and will be encompassed in the Operations and Maintenance plans.

	backwatering and washouts, and to ensure fish passage.			
109	The Developer will conform to Section 36(3) of the Fisheries Act, prohibiting the deposit of a deleterious substance through implementation of erosion and sediment control measures.	Ongoing	The mitigations found in the SEC manual are implemented and the manual can be found on buzzsaw.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational as it will no longer be a construction project. The ESC manual will be followed for the life of the highway and will be encompassed in the Operations and Maintenance plans.
110	The proposed Highway will be sited and designed to avoid or mitigate adverse effects on fish and fish habitat (i.e. HADD) for the various stream crossings. Where a HADD is unavoidable, the Developer will provide sufficient information for the purpose of the authorization and will develop suitable compensation strategies.	Ongoing		This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational as it will no longer be a construction project.
111	A Fishery Compensation Plan will be completed for all watercourses where crossings are likely to result in the harmful alteration, disruption or destruction of fish habitat	Ongoing	The Fisheries Management Plan is still in the works.	The responsible party has identified March 2017 for the completion of the plan.
112	Additional fish habitat assessments will be undertaken in 2012 for the proposed Highway alignment selected as required. This will be determined in discussions with DFO during the regulatory phase.	Complete	Completed. The report can be found in the attached link.	N/A.
113	No instream work will occur in fish bearing streams during critical time periods.	Ongoing	Instream work is not anticipated during April 1-July 15 and has not occurred.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
114	Where critical fish habitat cannot be avoided, mitigation will be incorporated into the design.	Ongoing		This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.

115	Individual site-specific circumstances might preclude complete adherence to DFO Operational statements. In such cases, DFO will be consulted in advance to discuss and approve of proposed plans, which will include mitigation measures necessary to prevent or minimize effects.	Ongoing	DFO has been consulted throughout the design and construction of the ITH.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
116	In accordance with DFO (2009a), the installation of culverts in fish bearing streams will not be permitted between April 1 and July 15 for watercourses that provide habitat for spring/summer spawners.	Ongoing	Instream work is not anticipated during April 1-July 15.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
117	Should the Developer require the use of explosives, any planned activities will be provided to DFO for review during the construction phase to ensure appropriate best practices are followed.	Ongoing	All planned uses for explosives have been provided to DFO.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
118	Where Authorizations may not be required, details on the use of Operational Statements and commitment to ensuring that they are being applied correctly will be provided to DFO.	Ongoing	All info has been provided to DFO.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
119	The Developer will consider, at a minimum, stream category when determining the type of structure to be placed at stream crossings.	Ongoing	This has been considered in the design files.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.

120	The installation of culverts and the construction of bridges will be guided by an Environmental Management Plan (EMP), which will include construction scheduling restrictions, environmental construction guidelines, methods to prevent spills of deleterious substances, erosion and sediment control plan, and monitoring plan. The implementation of the measures contained in the EMP is intended to avoid or minimize effects to aquatic resources.	Ongoing	FFHPP/ESC	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
121	Summer construction will not take place between April 1 and July 15, in accordance with the DFO timing window for spring spawning fish (i.e., grayling and northern pike, which are the only large-bodied fish species likely to use Project area streams for spawning).	Ongoing	Instream work is not anticipated during April 1-July 15 and has not occurred.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
122	Sediment inputs from drainage ditches will involve implementation of sediment controls such as ditch breaks, silt fences, or ditch rerouting, in conjunction with an investigation to determine the source of the sediment. Streambank erosion will require temporary stabilization with mats or longer term armoring.	Ongoing	These mitigations can be found in the ESCM on buzzsaw.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project. The ESCM will be followed throughout the life of the highway.
123	Training will be provided for environmental monitors to identify sources and causes of erosion and sedimentation, but these individuals will also have access to professional engineers and biologists who can assist in identifying and rectifying potential or actual erosion sources.	Ongoing	DOT has hosted 4 sediment and erosion control workshop in 2016, which the Environmental monitors were invited to.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
124	The Developer expects its primary construction phase mitigation plan, the Fish and Fish Habitat Action Plan, to be developed six months prior to the commencement of construction.	Complete	The Fish and Fish Habitat Protection Plan was completed.	N/A.

125	At this time, the Developer's policy is to not allow its employees or contractors to fish while engaged in their employment activities.	Ongoing	Although the attempt to finalize a Fisheries Management Plan is ongoing, and neither the Aquatic Effects Monitoring Plan nor the Fish and Fish Habitat Protection Plan explicitly mention no fishing, the Wildlife and Habitat Protection Plan explicitly says "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." As there are no site locations that would allow fishing activities, this implies that no fishing is permitted. A similar clause in the ILA Land Use Permit ILA13TE017 (#10) states "The Holder shall not conduct activities on any Inuvialuit Lands other than the Authorized Lands unless approved by the Administrator". This again precludes employees from seeking fishing sites.	This commitment will be ongoing through the life of the highway and is outlined in both the construction WWHPP and the drafted operational WWHPP.
126	Habitat conditions related to highway drainage and stream crossing structures will be monitored for a period of time following Highway completion, as determined in consultation with regulators, and, regular road, culvert, and bridge inspections will be conducted throughout the life of the Highway.	Operations	Monitoring will be determined before the operations stage along side the regulators. The AEMP/SNP monitors the quality of water, which is part of the habitat conditions related or highway drainage.	Monitoring will be determined before operations of the highway begin and will be followed throughout the life of the highway.
127	Erosion control and plans to control runoff from the borrow sites, including any stockpiles that may be developed, will be addressed in pit development plans. Site drainage controls, including localized ditching/swales within the borrow sites and silt fencing will be employed as necessary to ensure that sedimentation contained in meltwater from ground ice in the aggregate, or site runoff in general, are appropriately managed and are not released into the surrounding watershed.	Ongoing	These mitigation can be found in the ESCM on buzzasaw. The Erosion and Sediment control manual is followed during construction and will be followed during operations as well.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project. The ESCM will be followed throughout the life of the highway.

128	<p>The Developer will develop and implement a fish and fish habitat protection plan in cooperation with DFO, FJMC and the Tuktoyaktuk-Inuvik Working Group that will include mitigation measures such as:</p> <ul style="list-style-type: none"> - Designing appropriate crossing structures based on site conditions; - Completing primary construction activities during winter months; - Applying erosion and sediment control measures and best practices; - Minimizing riparian disturbance (footprint); - Placing abutments at a sufficient distance from active stream channels; - Employing best management practices for culvert installation; - Annually monitoring for culvert subsidence or lifting; - Constructing in fish-bearing and non-fish bearing streams during winter; - Sizing culverts appropriately based on hydrological assessments and local experience; - Maintaining equipment away from waterbodies; - Having on-site spill containment equipment and operators trained to handle spills; - Reported spills will be contained by trained maintenance crews; - Maintaining a sufficient buffer of undisturbed land between borrow sources and waterbodies; - Following DFO-recommended Monitoring Explosive-Based Winter Seismic Exploration in Water Bodies NWT 2000-2002 (Cott and Hanna 2005), and in particular, that the maximum peak pressure not exceed 50 kPa; - Following DFO-recommended Discussion on Seismic Exploration in the Northwest Territories 2000-2003 (Cott, Hanna and Dahl 2003); - Following DFO-recommended Offshore Oil and Gas 	complete	FFHPP can be found on Buzzsaw.	N/A.
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<p>Environmental Effects Monitoring: Approaches and Technologies (Armsworthy et al. 2005);</p> <ul style="list-style-type: none">- Following DFO Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (Wright and Hopky 1998), where applicable;- Following DFO (2010) Protocol for Winter Water Withdrawal in the Northwest Territories;- Following the DFO Operational Statement for Clear-span Bridges (DFO 2009b) where appropriate;- Allowing filtration by natural vegetation;- Installing silt fences at each road-stream intersection;- Building regularly spaced cross-drainage culverts;- Applying spill response measures according to an approved spill contingency plan;- Posting signage at regular, visible intervals on Highway;- Constructing or installing stream crossing structures to avoid the impingement of active stream channels;- Effectively suppressing dust (i.e., through the use of water trucks) during the dry season; <p>and</p> <ul style="list-style-type: none">- Following the recommendations of the Water License (once approved).- Following the DFO Operational Statement for Culvert Maintenance (DFO 2009b) where applicable;- Following the DFO Operational Statement for Clear-span Bridges (DFO 2009b) where appropriate;- Allowing filtration by natural vegetation;- Installing silt fences at each road-stream intersection;- Building regularly spaced cross-drainage culverts;- Applying spill response measures according to an approved spill contingency plan;- Posting signage at regular, visible intervals on Highway;- Constructing or installing stream crossing structures to avoid the impingement of active stream channels;			
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	<ul style="list-style-type: none"> - Effectively suppressing dust (i.e., through the use of water trucks) during the dry season; and - Following the recommendations of the Water License (once approved). 			
129	<p>Prior to construction, the Developer will develop and implement species specific Wildlife Management Plans (WMP) that will include:</p> <ul style="list-style-type: none"> - specific mitigation measures for Species at Risk, caribou, grizzly bears, moose, furbearers, and birds; - mitigation measures described in Section 4.2.7 of the EIS; - camp safety design features; - wildlife detection and deterrent strategies; - critical periods for wildlife species; - periods when sensitive wildlife species are likely to be present in the Project area; - recommended setbacks; - structure design features that will reduce or limit their potential use as nesting structures; - triggers for adaptive management; - appropriate linkages to other mitigation plans for weed control, dust management and waste management; and - wildlife monitoring parameters. 	Complete	Addressed in a Wildlife and Wildlife Habitat Protection Plan (WWHPP).	N/A.
130	The Developer will require its construction Contractors to conform with the Wildlife Management Plan (WMP) that will be developed for the Inuvik to Tuktoyaktuk Highway construction project.	Ongoing	The WMP is now called the Wildlife and Wildlife Habitat Protection Plan (WWHPP).	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project. The operational WWHPP will be followed for the life of the highway.
131	The Developer or its contractor(s) will develop Bear Safety Guidelines and will educate staff accordingly.	Complete	ENR has developed Bear Response guidelines, which is included in the WWHPP.	N/A.
132	The Developer's contractor(s) will be responsible for educating and training staff on applicable practices contained within the Wildlife Management Plans and the Bear Safety Guidelines,	Complete	Predator defense training was held in the Fall of 2015 and was instructed by Arctic Response. The training covered topics such as using non-lethal	N/A.

	including the proper use of non-lethal wildlife deterrent materials (e.g., bear spray).		deterrents.	
133	The Developer's contractor(s) will document the education and training provided to staff and provide evidence of such to regulators and in monitoring reports.	Ongoing	Weekly Reports maintain all records of training initiated and carried out by the Contractor.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
134	Camps and associated infrastructure will be designed to incorporate features that ensure safety for both personnel and wildlife, including installing adequate lighting, implementing proper waste management, cleaning and maintaining the kitchen and dining area, and implementing appropriate wildlife detection and deterrent strategies.	Ongoing	WM are onsite all the time during construction activities that meet the thresholds. WM reports are included in the weekly reports.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
135	Pre-disturbance surveys for critical wildlife habitat features (e.g., dens, nests, muskrat push-up) will be conducted prior to construction, in cooperation with GNWT ENR, as required. Survey results will be distributed in monitoring reports and provided to applicable regulators and interested parties, and may include mitigative measures to reduce potential effects.	Complete	Pre-disturbance surveys have been carried out before the beginning of each construction seasons, with the latest one being in Fall 2016. The report will be sent out once it is finalized.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
136	All wildlife encounters and mortalities will be reported to the environmental monitor, Safety Advisor, and GNWT ENR.	Ongoing	Wildlife Monitoring reports are completed daily and uploaded to buzzsaw. They are then available for ENR to review.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project. Once the highway becomes operational the operations WWHPP will be followed which includes reporting all wildlife encounters to ENR.
137	The Developer will implement general wildlife protection measures along the proposed Highway as follows: - Minimizing loss of habitat and the reduction of habitat	Ongoing & Operations	A WWHPP for Operations is in the development stage. All other mitigations are found in the current WWHPP.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once

	<p>effectiveness through Project design;</p> <ul style="list-style-type: none"> - Educating users of the Highway that wildlife have the right-of-way at all times; - Posting signage along the Highway, emphasizing areas of high wildlife use; - Implementing a policy whereby Project personnel and contractors will not disturb any wildlife or critical habitat features such as dens or nests; - Implementing a system during the construction phase that serves to notify workers of wildlife presence in or near construction areas; - Hiring environmental monitors during construction to watch for wildlife; - Adhering to spill contingency plans, as required, in a timely manner; - Conducting follow-up monitoring of spill sites to verify effectiveness; - Utilizing clean equipment, particularly when deployed in or near water; - Implementing appropriate dust control measures to minimize effects to habitat and forage quality; - Adhering to waste management plans and procedures to avoid attracting wildlife; - Timing construction activities to avoid critical periods; - Applying and conforming with 			<p>the highway becomes operational and is no longer a construction project. Once the highway becomes operational the operations WWHPP will be followed which includes reporting all wildlife encounters to ENR.</p>
138	<p>The Developer is committed to working with agencies and other interested stakeholders such as the HTC's to develop appropriate management restrictions and tools to ensure that the environment of the area remains protected. The types of measures that the Developer can implement directly include the provision of educational and informative signage at key points along the Highway.</p>	Ongoing & Operations	<p>DOT will continue to work with the responsible wildlife co-managers.</p>	<p>This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project. Once the highway becomes operational the operations WWHPP will be followed which includes reporting all wildlife encounters to ENR.</p>

139	The construction and/or operations phase Wildlife Mitigation and Monitoring Plan(s) will be reviewed with co-management groups such as the Hunter and Trapper Committees and the Wildlife Management Advisory Committee as the development of the plans proceeds.	Ongoing & Operations	The WMMP is now called the Wildlife and Wildlife Habitat Protection Plan (WWHPP). The plan was reviewed by co management groups before being finalized.	The operations WWHPP is being drafted with co-management groups.
140	An annual construction monitoring report will be provided to applicable regulators and interested parties that will include: - Encounters and mortalities; - Notifications provided to workers regarding wildlife presence; - Waste management practices; - Measures used to reduce disturbance to any nesting birds; - Dust control effectiveness; - Conformance with the Wildlife Management Plan, Environmental Management Plan, Erosion and Sediment Control Plan, and other plans; - Adaptive management measures that were implemented, if any.	Ongoing	Weekly reports are uploaded to buzz saw. The most recent annual report is from April 2015 and can be found on the ITH website.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
141	Wildlife data collected will be provided to GNWT ENR for entry into WMIS or to Environment Canada, Yellowknife.	Ongoing	Wildlife data is uploaded onto Buzzsaw and ENR has the opportunity to review the data.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project. Once the highway becomes operational the operations WWHPP will be followed which includes reporting all wildlife encounters to ENR.

142	<p>Types of mitigation measures that the Developer will integrate into the Project design, construction, and anticipated future operational practices to reduce or minimize potential impacts of the proposed Highway on caribou are:</p> <ul style="list-style-type: none"> - Limiting blasting activities, if required, to borrow sites and will only occur when caribou are >500 m from the blast site; - Working with agencies such as the HTC's, WMAC, and GNWT ENR to develop guidelines for periodic Highway closures, if required, as a way of minimizing the disruption of migration patterns to barren-ground caribou; - All sightings of caribou will be reported to environmental staff on-site; - Caribou sightings will be recorded (including a GPS location if possible) and be submitted to the GNWT DOT Planning, Policy and Environmental Division and GNWT ENR upon completion of construction; and - Caribou crossing signs will be placed along the Highway, as needed. 	Ongoing &Operations	Wildlife mitigation addressed in WWHPP.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project. Once the highway becomes operational the operations WWHPP will be followed which includes reporting all wildlife encounters to ENR.
143	<p>In October 2011, GWNT ENR and GNWT DOT will undertake a grizzly bear den survey for the proposed Highway alignment and key potential borrow sources. This survey will be repeated in fall 2012 as a pre-construction denning survey.</p>	Complete	Before every construction season ENR has carried out denning surveys, with the latest one being Fall 2016. Once the report is finalized it will be sent out.	N/A.

144	<p>Types of mitigation measures that the Developer will integrate into the Project design, construction, and anticipated future operational practices to reduce or minimize potential impacts of the proposed Highway on grizzly bears and furbearers include:</p> <ul style="list-style-type: none"> - Freshly dug dens will be mapped such that construction activities will avoid active dens during the hibernation period; - If possible, no activities will occur within 500 m of an active den during the denning period (October 15 to May 25); - No blasting will occur if active bear dens are confirmed within 500 m of a proposed blasting area; - Maintaining a minimum distance of 500 m between identified grizzly bear/wolverine den sites and personnel during construction; - Dens (grizzly bear, wolverine) discovered within 500 m of the Highway after the pre- construction survey will be reported immediately to GNWT ENR to determine the appropriate course of action; - Providing the wildlife monitor and designated, trained staff access to non-lethal deterrent materials (e.g., bear spray). The use of any deterrent method on wildlife will be reported to GNWT ENR; - Minimizing and properly disposing of wildlife attractants such as garbage, food wastes, and other edible and aromatic substances; - Storing all food, grease, oils, fuels, and garbage in bear/wolverine-proof containers and/or areas; and - Transporting waste to Tuktoyaktuk and/or Inuvik municipal solid waste facilities for disposal. Disposal of wastes at these facilities will follow the specified terms and conditions for use. 	Ongoing	Wildlife mitigations are addressed in the approved WWHPP, as well as the waste management plan.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project. Once the highway becomes operational the operations WWHPP will be followed which includes these commitments.
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145	<p>Types of mitigation measures that the Developer will integrate into the Project design, construction, and anticipated future operational practices to reduce or minimize potential impacts of the proposed Highway on birds include:</p> <ul style="list-style-type: none"> - Conducting pre-disturbance bird nest surveys from May-September to document use by nesting birds; - Avoiding conducting Project activities within 500 m of an active raptor nest during nesting season; - Designing structures in a way that limits or prevents their potential use as nesting structures; and - Allowing nesting birds who have utilized structures to remain in place. 	Ongoing	Wildlife mitigations are addressed in the approved WWHPP.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project. Once the highway becomes operational the operations WWHPP will be followed which includes these commitments.
146	<p>If a peregrine falcon nest is found in the future GNWT ENR will be contacted to determine any appropriate management actions required.</p>	Ongoing	No nests have been found to date as there has been no summer construction due to weather issues.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project. Once the highway becomes operational the operations WWHPP will be followed which includes these commitments.
147	<p>The Developer will incorporate additional mitigation measures for bird Species at Risk including:</p> <ul style="list-style-type: none"> - Immediately contacting appropriate federal (CWS) and territorial (GNWT ENR) authorities if a nest of a key bird species is identified within predetermined set-back distances (as determined through consultation with CWS/ENR). - Recording observations of species at risk that occur outside of the predetermined setback, and providing the observations in the annual construction monitoring report. 	Ongoing	Wildlife mitigations are addressed in the approved WWHPP.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project. Once the highway becomes operational the operations WWHPP will be followed which includes these commitments.

148	The Developer will develop a waste management plan for all wastes associated with pre- construction and construction activities. The waste management plan will apply to the Developer and all associated Project contractors involved in the generation, treatment, transferring, receiving, and disposal of waste materials for the Project.	Complete	The waste management plan has been completed and has been followed throughout the construction seasons.	N/A.
149	The Developer commits to the following steps prior to disposal of waste: - Obtaining approval from the Town of Inuvik and Hamlet of Tuktoyaktuk to use their sewage lagoon and solid waste disposal facilities; - Providing an estimate of the amount and type of domestic waste generated by the Project compared to the facility's available capacity; - Following all applicable Licence, Permits, and/or municipal bylaws regarding the use of the facility in Inuvik and Tuktoyaktuk; and - Recording the amount of domestic waste shipped to the landfills.	Ongoing	The Developer has provided the necessary information, in accordance with the water licence application. The following item was not required for the application: Providing an estimate of the amount and type of domestic waste generated by the Project compared to the facility's available capacity;	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
150	The Developer will develop and implement a hazardous waste management plan (HWMP). The HWMP will encompass all pre-construction and construction phases of the Project	Complete	Hazardous waste management is included in the approved Waste Management Plan.	N/A.
151	The Developer commits to storing fuel used for borrow source and Highway construction activities in double-walled fuel storage tanks, and in accordance with CCME guidelines and the CEPA Storage Tank System for Petroleum Products and Allied Petroleum Products Regulations.	Ongoing	Should be modified to remove the "and" from "and in accordance with CCME..." – as small containers (such as jerry cans) will not be double-walled. Also, could be modified to include secondary containment if not double-walled. This is ongoing as identified in the LUPs/WLs, and the fuel equipment and handling petroleum plans are followed.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
152	All vehicles and equipment will be refueled at least 100 m from water bodies following	Ongoing	When the DOT-ITH team is out doing weekly inspections this is one thing they look out for.	This commitment will be ongoing for the life of the highway, as identified in the ESCM.

153	The Developer will conform to Section 36(3) of the Fisheries Act, prohibiting the deposit of a deleterious substance through implementation of erosion and sediment control measures.	Ongoing	Ongoing/being met. The ESC manual is implemented and can be found on buzzsaw.	This commitment will be ongoing for the life of the highway as it is a federal regulation.
154	The Developer will ensure that the DFO water withdrawal protocol criteria are followed.	Ongoing	Ex. screens are installed on the pumps.	This commitment will be ongoing for the life of the highway as it is a federal regulation.
155	The Developer is committed to carrying out bathymetric surveys on all lakes proposed for water extraction.	Complete	Studies have been completed on all lakes proposed for water extraction.	N/A.
156	The Developer will minimize effects to water quality and quantity as a result of Highway design: - through the design and use of crossing structures that are appropriate for site-specific flow conditions; - by employing erosion and sediment control best management practices and DFO Operational Statements (where possible) as per approved Environmental Management Plans; - installing appropriately sized culverts to divert and manage Highway and surface drainage flows; and - undertaking primary Highway embankment construction activities during the winter months.	Ongoing	Ongoing/being met. Designs for water crossings can be found in the design report and ESC mitigations are followed from the ESC manual.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project. The ESCM will be followed throughout the life of the highway.
157	The Developer is committed to completing hydrological assessments prior to bridge design to determine suitable span widths and abutment placement.	Complete		N/A.
158	During the bridge design of the Project, should individual site-specific circumstances preclude complete adherence to the DFO Operational Statements, the Developer will consult with DFO in advance to discuss and approve of proposed plans.	Complete	Bridge designs have been completed with DFOs authorization.	N/A.
159	All water withdrawals from designated lakes or waterbodies along the Inuvik to Tuktoyaktuk Highway will be conducted in conformance with the DFO Protocol for Winter Water Withdrawal in the Northwest Territories.	Ongoing	Ex. screens are installed on the pumps.	This commitment will be ongoing for the life of the highway as it is a federal regulation.

160	Surface water flows (overland flows) will be managed through effective drainage designs that include the installation of appropriately sized cross culverts to divert and effectively manage Highway and surface drainage and to minimize possible ponding of water against the Highway embankment.	Ongoing	This is covered in the design report.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
161	The Developer will provide a copy of the Erosion and Sediment Control Plan to Environment Canada for review.	Complete	Provided as part of water license application.	N/A.
162	The Developer is committed to submitting the necessary formal applications to the NWPP, and to inform the NWPP of any related design, construction or operational changes related to such applications.	Ongoing	All Correspondence with NAV waters can be found in the link attached.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
163	Some of the mitigation measures for water quality and quantity effects the Developer will follow include: <ul style="list-style-type: none"> - Limiting the use of construction equipment to the immediate footprint of the Highway or borrow source; - Minimizing vegetation removal and conducting progressive reclamation at the clear-span abutments, culvert installations, and borrow sources; - Keeping ice bridge and ice road surfaces free from soils and fine gravel that may be tracked out by vehicles; - Avoiding the use of heavy equipment in streams or on stream banks during summer months, and the adherence to the DFO Operational Statement for Temporary Stream Crossings (DFO 2008), where this is deemed necessary; - Implementing the erosion and sediment control plan to be developed as part of the overall EMP; - Appropriately sizing and installing culverts based on hydrological assessments and local experience, to avoid backwatering and washouts, and to ensure fish passage; 	Ongoing	Mitigations are addressed in the Sedimentation and Erosion Control Plan, the Fish and Fish Habitat Protection Plan, and Spill Contingency Management Plan.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project. The ESCM and SCP will be followed throughout the life of the highway.

	<ul style="list-style-type: none"> - Completing Highway embankment construction during winter months; - Adhering to the DFO Operational Statement for Clear-Span Bridges for all applicable activities; - Implementing appropriate dust control measures to minimize effects to waterbodies and aquatic habitat; - Following the DFO Operational Statement for Culvert Maintenance (DFO 2010) where necessary; - Maintaining equipment away from waterbodies; and - Adhering to spill contingency plans, as required, in a timely manner. 			
164	<p>Commitment by the Developer to conduct consultations (after EIRB Public Hearings) with the Inuvik and Tuktoyaktuk Hunter and Trapper Committees, Inuvialuit Game Council, DFO and Transport Canada regarding:</p> <ul style="list-style-type: none"> - Selection criteria for crossings; - Use of waterbodies; and - Types of vessels. <p>Consultation dates are to be determined.</p>	Complete	All consultations can be found in their respective groups in the attached link.	N/A.
165	The Developer will conform to Section 36(3) of the Fisheries Act, prohibiting the deposit of a deleterious substance through implementation of erosion and sediment control measures.	Ongoing	Mitigations are described in the FFHPP and the SEC manual.	This commitment will be ongoing for the life of the highway as it is a federal regulation.
166	The Developer will provide a copy of the Erosion and Sediment Control Plan to Environment Canada for review.	Complete	This document would have been provided as part of the review of the WL and LUPs applications.	N/A.
167	The Developer (under appropriate seasonal conditions), will conduct further assessments of the proposed water crossing locations and will provide information about watercourse characteristics and proposed crossing structure designs sufficient to meet the requirements of the Northwest Territories Waters Regulations.	Complete	Hydrotechnical assessment of stream crossings was provided in 2012.	N/A.
168	The Developer is committed to working closely with DFO to design appropriate crossing structures for each stream and to obtain Fisheries Authorizations, if determined to be required.	Complete		N/A.

169	The Developer will install culverts according to established guidelines and will follow culvert installation guidelines such as those contained within the DFO Land Development Guidelines (1993), the TAC Development and Management of Transportation Infrastructure in Permafrost Regions (2010), and the INAC Northern Land Use Guidelines for Roads and Trails (INAC 2010).	Ongoing		This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
170	The Developer will install appropriately sized culverts to minimize changes in water flow pattern and timing.	Ongoing	This is covered in the water crossing baseline report.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
171	The Developer will not install culverts in critical aquatic habitats.	Ongoing	Bridges have been used in all major fish passage waterways. This is identified in the hydro reports or design reports.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational and is no longer a construction project.
172	The Developer will carry out routine monitoring and inspections at watercourse crossings and culverts, including reporting on culvert performance and maintenance requirements.	Ongoing & Operations	Monitoring requirements are followed as identified in the permit/ licence terms and conditions. The field environmental technician and field environmental coordinator are out there in the winter and summer doing inspections.	Monitoring for the operations of the highway will be determined and included in the operations and maintenance plans.
173	The Developer will ensure that maintenance requirements for culverts will adhere to the DFO Culvert Maintenance Operational Statement (DFO 2010).	Operations	Culvert maintenance will adhere to the DFO standards and this will be included in the operation and maintenance plans.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational as it will no longer be a construction project. Monitoring for the operations of the highway will be determined and included in the operations and maintenance plans.

174	The Developer will ensure that when crossings are completed, disturbed materials will be replaced with similar-sized substrates and the bed and banks of the watercourse are stabilized and restored.	Ongoing & Operations	For all completed crossings disturbed materials have been replaced with similar-sized substrates and the bed and banks of the watercourse are stabilized and restored. This is the standard for the remaining crossings that need to be completed.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational as it will no longer be a construction project. Monitoring for the operations of the highway will be determined and included in the operations and maintenance plans.
175	Site specific navigable waters information will be finalized as part of the NWPA applications	Complete		N/A.
176	Hydrological assessments will be conducted prior to bridge design to determine suitable span widths and abutment placement, including identification of suitable water withdrawal sources (lakes and streams); bathymetric mapping of proposed water sources; and assessment of allowable withdrawal quantities per source, unique source identification, and water withdrawal volume tracking.	Complete	Hydrotechnical assessment of stream crossings was provided in 2012.	N/A.
177	Individual stream crossing structures will be oversized (two to three times the size used in non-permafrost areas) to prevent flow restrictions and to compensate for design uncertainties, such as settlement and ice or snow blockages (TAC 2010).	complete	See Design Report – September 5, 2013.	N/A.
178	During the detailed design stage, flow data using regional flow gauge information will be used to model stream flows to permit suitable culvert and bridge sizing.	Complete	Hydrotechnical assessment of stream crossings was provided in 2012.	N/A.
179	The majority of the stream crossings will involve the installation of culverts, which will follow appropriate guidelines to prevent the obstruction of fish passage.	Ongoing	Stream crossing designs are based on the findings of the water crossing baseline report.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational as it will no longer be a construction project.

180	Culvert installation during winter will follow procedures that include the application of bed and bank stabilization prior to snow melt to reduce erosion and downstream sedimentation at the onset of freshet flows.	Ongoing	Mitigations are identified in the Sedimentation and Erosion Control Plan.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational as it will no longer be a construction project.
181	Where it is deemed preferable to install culverts in summer, construction will adhere to appropriate guidelines, such as those identified in Dane (1978) and in the DFO Land Development Guidelines for the Protection of Aquatic Habitats, to avoid or minimize the potential for erosion, sedimentation or channel effects.	Ongoing	Culvert installation has adhered to the Sedimentation and Erosion Control Plan and appropriate DFO guidelines.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational as it will no longer be a construction project.
182	Short span bridges will be constructed bank to bank to eliminate instream activities, thus preserving natural stream flows and fish passage. Temporary erosion and sediment control measures will be utilized to protect the streams during construction, and site-specific preventive measures will be employed for each crossing as appropriate.	Ongoing	The ESCM is followed at all times.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational as it will no longer be a construction project. The ESC manual will be followed for the life of the
183	Single span structures will be used where fish habitat has been identified as present. No binwalls will be used for abutments.	Ongoing	Stream crossing designs are based on the findings of the water crossing baseline report.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational as it will no longer be a construction project.
184	The Developer confirms that the bridges required to cross the larger streams will be designed to span the stream widths (ranging from 10 m to 25 m in width), consistent with the specifications of the DFO Clear-Span Bridge Operational Statement.	Complete	See Design Report – September 5, 2013.	N/A.
185	To minimize ponding along the roadway during melt, equalization culverts will be placed regularly to allow water to run away from the road edge, and not sit trapped against the embankment.	Ongoing	See Design Report – September 5, 2013.	This commitment will be ongoing until the highway construction project is completed in 2017. Commitment will be closed once the highway becomes operational as it will no longer be a construction project.

186	All culvert crossings will be regularly inspected for signs of erosion or damage, which would likely result in increased turbidity downstream. In addition, exceedances of turbidity levels at a significant number (>10%) of the monitored streams would trigger the requirement to carry out monitoring at all stream crossings.	Ongoing & Operations	This requirement is being fulfilled through the field environmental technician and field environmental coordinator. Monitoring schedules for operations of the highway will be determined once construction is completed.	This commitment will be ongoing for the time determined in the monitoring plans (AEMP/SNP) and the monitoring plans for the operations and maintenance of the highway which are to be determined.
187	Culverts installed in fish bearing streams will be assessed annually for three years to verify that they continue to provide free access to fish passage, particularly during migration periods.	Operations	This requirement is being fulfilled through the field environmental technician and field environmental coordinator. Monitoring schedules for operations of the highway will be determined once construction is completed.	This commitment will be closed after three years of monitoring the culverts once the highway becomes operational.
188	Turbidity sampling will occur at all crossing sites during construction. Sampling will follow the general guidance provided in Birtwell et al. (2008) as follows: - Sampling will occur at three locations: upstream (true baseline control) of the crossing structure, at the point of, and immediately downstream of, the structure. - Environmental monitors will visually identify potential inputs of sediment and determine suitable sampling locations accordingly.	Ongoing	Monitoring requirements are followed as identified in the permit/ licence terms and conditions. The field environmental technician and field environmental coordinator are out there in the winter and summer doing inspections.	This commitment will be ongoing for the time determined in the monitoring plans (AEMP/SNP).
189	Turbidity monitoring will occur at the time of highest runoff, which typically occurs during spring freshet.	Ongoing & Operations	Monitoring requirements will be as per permit/ licence terms and conditions. The field environmental technician and field environmental coordinator are out there in the winter and summer doing inspections. The AEMP/SNP outlines sampling requirements, which include turbidity monitoring.	This commitment will be ongoing for the time determined in the monitoring plans (AEMP/SNP).
190	Provide alignment sheets showing stream crossings and structure type to interested parties.	Complete	This was submitted during EIRB process and can be found on the public registry.	N/A.

191	The Developer commits to surveying borrow sources prior to construction for the presence of Yukon stitchwort and other rare plant species. Should rare plants be identified, they will be avoided where possible. If avoidance is not an option specimens will be collected, transferred to another suitable location, and/or donated to local herbaria for educational purposes.	Complete	Surveys at all borrow sources has been completed. A mitigation plan for borrow sources with rare plants was to be developed with ENR in 2014, but to date nothing has been prepared.	N/A.
192	The Developer commits to minimize direct effects to vegetation cover by limiting construction activities, to the extent possible, to the planned footprint of the Highway.	Ongoing	This is covered in the WWHPP.	This commitment will be ongoing until the highway is completed and is no longer a construction project.
193	Surveys ahead of construction in the vicinity of Holmes Creek and Hans Creek will be carried out to verify the location of the road alignment and stream crossings with respect to the unique Riparian Black Spruce/Shrub vegetation type.	Ongoing	No record of these surveys can be found.	N/A.
194	A rare plant survey will be conducted in 2012.	Complete	This survey was completed and is part of the EMP.	N/A.
195	Controlling the effects of dust during construction and operation of the Highway will include applying water as needed, as per the GNWT Guideline for Dust Suppression (GNWT 1998).	Ongoing & operations	Dust control will follow the GNWT Guidelines for Dust Suppression.	this commitment will be ongoing for the life of the highway as it is a standard part of operations and maintenance.
196	The Developer commits to using appropriate northern, native plant species for any deliberate re-vegetation efforts of borrow sources.	Ongoing	This is identified in the approved PDPs.	N/A.
197	The Developer or contractor(s) will apply strategies for mitigating potential effects to the vegetation types in the vicinity of the Highway and associated borrow operations such as: - Restricting off-site activities (e.g., ATV use) to the footprint area; - Ensuring machinery and equipment is clean prior to use on site; - Periodically monitoring roadsides for invasive species establishment; - Designing and engineering roadbed and drainage structures appropriately to accommodate unique environmental conditions; and - Containing and cleaning-up spills immediately in accordance	Ongoing	Mitigations are in the EMP.	This commitment will be ongoing until the highway is completed and is no longer a construction project.

	with the spill contingency plans.			
198	Surveys ahead of construction in the vicinity of Holmes Creek and Hans Creek will be carried out to verify the location of the road alignment and stream crossings with respect to the unique Riparian Black Spruce/Shrub vegetation type.	Ongoing	No record of these surveys can be found.	N/A.
199	The Developer will conform to applicable ambient air quality objectives by using pollution prevention measures and best management practices.	Ongoing	Emission sources and control measures are covered in the Environmental Impact Statement.	This commitment will be ongoing until the highway is operational and is no longer a construction project.
200	Mitigation measures for air quality during the construction phase will include: <ul style="list-style-type: none"> - Applying water as per the GNWT's Guideline for Dust Suppression (GNWT 1998) during summer months; - To the extent possible, aggregate stockpiling activities will be conducted well downwind of potentially sensitive receptors (based on prevailing winds); - Closing and progressively reclaiming borrow pits as soon as they are no longer required to reduce potential fugitive dust; - Ensuring proper maintenance of heavy equipment to minimize air emissions; and - Restricting speed limits along the access roads and Highway during construction to minimize dust production. 	Ongoing	Dust and noise mitigation measures are described in the Sediment and Erosion Control EMP.	This commitment will be ongoing until the highway is completed and is no longer a construction project. Dust suppression will be carried out as it is a standard part of operations and maintenance.

201	The Developer will be responsible for the ongoing maintenance of the Highway during the operations phase and will conform to the GNWT's Guideline for Dust Suppression (GNWT 1998)	Operations	Dust control will follow the GNWT Guidelines for Dust Suppression.	this commitment will be ongoing for the life of the highway. Dust suppression will be carried out as it is a standard part of operations and maintenance.
202	The Developer will implement mitigation measures to minimize potential land use effects such as: - Ensuring that construction vehicles stay on access roads or the construction site at all times; and - Prohibiting the recreational use of the Highway by Project staff during construction, including the use of ATVs and snow machines.	Ongoing	Mitigations are in the land use permit terms and conditions and are continued to be followed.	This commitment will be ongoing until the highway is operational and is no longer a construction project.
203	During the operations phase, the Developer will work with appropriate parties to install signage and/or develop educational materials to encourage users to stay on the Highway and not adjacent areas.	Operations	ITI is coordinating the signage requirements and are including key stakeholders.	This commitment will be closed once the signage is installed on the highway and it becomes operational.
204	The Developer is committed to working with agencies and other interested stakeholders such as the HTC's to develop appropriate management restrictions and tools to ensure that the environment of the area remains protected. The types of measures that the Developer can implement directly include the provision of educational and informative signage at key points along the Highway.	Ongoing & Operations	ITI is coordinating the signage requirements and are including key stakeholders.	This commitment will be ongoing until the highway is operational and is no longer a construction project.
205	Supplemental geotechnical and biophysical studies will be conducted to fulfill the requirements of the land use and quarry applications.	Ongoing	Permits have been granted and are only administered if they fulfill all requirements.	This commitment will be ongoing until land use permits and quarry permits are not needed.
206	The Developer will implement mitigation measures to minimize potential land use effects such as: - Ensuring that construction vehicles stay on access roads or the construction site at all times; and - Prohibiting the recreational use of the Highway by Project staff during construction, including the use of ATVs and snow machines.	Ongoing	Mitigations are in the land use permit terms and conditions as well as the WWHPP.	This commitment will be ongoing until the highway is operational and is no longer a construction project.

207	The Developer will consult with experts and appropriate regulatory agencies, as needed, to minimize noise effects on wildlife, migratory birds, and species at risk, particularly during blasting activities.	Complete	Mitigations are found in the construction WWHPP.	N/A.
208	The Developer will use appropriate design, scheduling, logistics, and maintenance measures to reduce the effects of noise.	Ongoing	Dust and noise mitigation measures are described in the Sediment and Erosion Control EMP and the WWHPP.	This commitment will be ongoing until the highway is operational and is no longer a construction project.
209	Project contractors will be directed to apply reasonable mitigation measures to reduce possible effects associated with construction noise, including adequate maintenance of construction equipment and provision of appropriate mufflers for all internal combustion engines.	Ongoing	Dust and noise mitigation measures are described in the Sediment and Erosion Control EMP and the WWHPP.	This commitment will be ongoing until the highway is operational and is no longer a construction project.
210	Blasting activities, if required, will be timed to avoid periods when sensitive wildlife species are in the area.	Ongoing	Mitigations are found in the WWHPP.	This commitment will be ongoing until the highway is operational and is no longer a construction project. Once it becomes operational the operations WWHPP will be followed which includes this commitment.
211	The Developer will hire a qualified archaeologist to perform a final Archaeological Impact Assessment within a 100 m wide corridor along the alignment and all associated components such as borrow sources, work staging areas, and construction camps. All types of terrain will be sampled, including those with limited archaeological potential.	Complete	The AIA was completed.	N/A.
212	Field work will be conducted in 2011 for areas of high and moderate archaeological potential and extended areas around known and potential archaeological sites along the proposed Highway alignment. Potential borrow sites investigated in 2011 will also be surveyed. Potential impacts to archaeological resources will be identified. An assessment of archaeological sites potentially impacted will be provided to the Prince of Wales Northern Heritage Centre to determine adequacy of mitigation measures.	Complete	Preliminary archaeological studies are documented in the Environmental Impact Statement from May 2011.	N/A.
213	Additional archaeological assessments will be undertaken as required in 2012. This will be determined in discussion with the	Complete	The AIA was completed.	N/A.

	Prince of Wales Northern Heritage Centre.			
214	Mitigation measures will be designed on an individual basis, and require prior approval by the Prince of Wales Northern Heritage Centre.	Ongoing	Mitigation measures were determined based on the Archaeological Impact Assessment.	N/A.
215	The Developer will, on recommendation from the contract archaeologist or Prince of Wales Northern Heritage Centre, implement avoidance or mitigation measures to protect archaeological sites or to salvage the information they contain through excavation, analysis, and report writing.	Ongoing	This was considered in the highway design. The AIA was reviewed and any mitigation measures needed were implemented.	This commitment will be ongoing until the highway is operational and is no longer a construction project.
216	The Developer will prepare an archaeological site(s) protection plan to facilitate the continued protection and management of archaeological resources during the construction phase of the Project.	Ongoing	No plan was created, however the AIA provided insight into the areas to avoid and mitigation measures were implemented when needed.	N/A.
217	The Developer and its Project contractors will make every effort to avoid and protect recorded and unrecorded archaeological and heritage resources in accordance with the terms and conditions of the Northwest Territories archaeological regulations during the Project.	Ongoing	The AIA identifies the areas that need to be avoided and the contractor is aware of these areas.	This commitment will be ongoing until the highway is operational and is no longer a construction project.
218	An annual construction monitoring report will be provided to applicable regulators and interested parties that will include: - Encounters and mortalities; - Notifications provided to workers regarding wildlife presence; - Waste management practices; - Measures used to reduce disturbance to any nesting birds; - Dust control effectiveness; - Conformance with the Wildlife Management Plan, Environmental Management Plan, Erosion and Sediment Control Plan, and other plans; - Adaptive management measures that were implemented, if any.	Ongoing	The latest report is from April 2015 and can be found on the ITH website.	This commitment will be ongoing until the highway is operational and is no longer a construction project.

219	<p>The Developer will invite interested agencies, organizations, and co-management groups to participate in an Inuvik to Tuktoyaktuk Highway Corridor Working Group facilitated by the Department of Transportation and guided by a collaboratively developed Terms of Reference. The Group could meet on a bi-annual basis during the construction and early operations phases to discuss the following:</p> <ul style="list-style-type: none"> - Review construction progress and performance relative to commitments; - Review outcomes of monitoring described in the various management plans (e.g., WEMP and others); - Provide advice to the Developer and other organizations supporting the management plans on remediation or modification to activities; - New observations and issues that could develop in the operation of the Highway. 	Ongoing	Initial meeting of the ITHCWG was held in Inuvik November 5, 2013 and has been occurring twice annually since then.	This commitment will be ongoing for up to 2 years after the highway has become operational.
220	The Developer requires that Project contractors employ an adaptive management approach to ensuring sensitive species/ species at risk are adequately protected during all phases of construction.	Ongoing	If any SAR are observed during construction the mitigations in the WWHPP are implemented. This is also covered in the Fish Habitat Protection Plan.	This commitment will be ongoing until the highway is operational and is no longer a construction project.
221	The Developer is committed to hiring environmental monitors to ensure the application of prescribed mitigation, identify unforeseen and potential erosion sites that could lead to the discharge of sediment to surface or groundwater, and prevent erosion and subsequent sedimentation.	Ongoing	Environmental monitors and wildlife monitors have been and will continue to be present during all construction activities that meet the thresholds.	This commitment will be ongoing until the highway is operational and is no longer a construction project.
222	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.	Ongoing	This condition is being met by having a field environmental coordinators inspecting and reporting on the conditions. Pit compliance checklist and an embankment compliance checklist are completed while out in the field.	This commitment will be ongoing until the highway is operational and is no longer a construction project.

223	The Developer will prepare an effective monitoring table and an inspection table prior to construction. The effects monitoring table will describe the indicators and parameters to be monitored and the target or management goal. The inspections table will describe the types of inspections required, the frequency of the inspections, and which phase of the Project the inspection will occur.	Ongoing		This commitment will be ongoing until the highway is operational and is no longer a construction project.
224	Environmental and wildlife monitoring will be carried out by third party monitors supplied by the ILA (environmental monitors) and the HTC (wildlife monitors), and will be funded by the Developer and/or Developer's contractor(s).	Ongoing	Environmental monitors and wildlife monitors have been and will continue to be present during all construction activities that meet the thresholds.	This commitment will be ongoing until the highway is operational and is no longer a construction project.
225	The Developer will conduct post-construction monitoring according to the extent, frequency and duration required by regulators to evaluate the success of mitigation measures and to identify required modifications, repairs, or maintenance.	Operations	Post construction monitoring is being discussed and will be determined prior to operations.	Operational monitoring will be determined and will be included in the operations and maintenance plans.
226	The Developer will require that Project contractors work closely with the environmental and wildlife monitors during construction.	Ongoing	Environmental monitors and wildlife monitors have been and will continue to be present during all construction activities that meet the thresholds.	This commitment will be ongoing until the highway is operational and is no longer a construction project.
227	The Developer is committed to participating with other parties in a cumulative effects monitoring program.	Ongoing	DOT participates in cumulative effects monitoring programs where applicable.	N/A.
228	The Developer commits to the development of a compliance monitoring table prior to commencement of construction.	Ongoing		This commitment will be closed once the highway is operational and is no longer a construction project.
229	Site specific monitoring and contingency plans will be developed in conjunction with the detailed construction design phase of the Project.	Ongoing	Site specific Pit checklists have been created to increase monitoring effectiveness. Each pit has its own site specific explosives management plan and spill contingency plan.	This commitment will be closed once the highway is operational and is no longer a construction project.
230	The Developer is committed to ensuring that any "lessons learned" will be effectively communicated to the responsible management agencies to support adaptive management over the longer-term life of the Highway.	Ongoing & Operations	The Adaptive Management Plan is carried out and lessons learned are communicated at each ITHCWG meeting.	N/A.

231	<p>The Developer is committed to work closely with the ILA, the Tuktoyaktuk and Inuvik Hunters and Trappers Committees (HTCs); the Wildlife Management Advisory Committee (WMAC), the Fisheries Joint Management Committee (FJMC), the GNWT Department of Environment and Natural Resources (ENR), and selected environmental consultants to monitor environmental conditions and to validate conformance with the mitigation measures contained in the various environmental protection plans, licenses and permits</p>	Ongoing	<p>Monthly satellite meetings include members of relevant groups to air their grievances and/or comment on ongoing issues.</p>	<p>This commitment will be ongoing until the highway is operational and is no longer a construction project.</p>
232	<p>To monitor the effects of stream crossings: - The following parameters will be measured: turbidity (Nephelometric Turbidity Units (NTU); pH; dissolved oxygen; conductivity; temperature.</p> <ul style="list-style-type: none"> - Sampling will be conducted within 50 metres upstream of each crossing site and 50 and 100 metres downstream of each crossing site (i.e. three measurement sites per stream). - Sampling will occur in spring, following ice-out, which is the time of freshet when there is the greatest risk of erosion and sediment transport. - The threshold turbidity levels that will be followed for the implementation of remediation are based on the BC Ministry of Environment Ambient Water Quality Guidelines, as follows: <ul style="list-style-type: none"> • During clear flow periods: background levels should not be exceeded by more than 8 NTU. • During turbid flow periods: background levels should not be exceeded by more than 5 NTU at any time when background turbidity is between 8 and 50 NTU. When background exceeds 50 NTU, turbidity should not be increased by more than 10% of the measured background level at any one time. 	Ongoing	<p>The ITH environmental project technician undertakes the AEMP/SNP that covers these sampling requirements.</p>	<p>This commitment will be ongoing for the time determined in the monitoring plans (AEMP/SNP).</p>

233	<p>Developer commitments made at the IGC meeting includes: - For culvert design, the Developer will use best lessons learned from the Tuktoyaktuk to Source 177 Access Road, the Dempster Highway, and Russia.</p> <ul style="list-style-type: none"> - The Developer will follow DFO guidelines for Culvert design. - The Developer will not use reclaimed borrow sources (gravel pits) again. - There will be gravel stockpiles for surfacing. - Climate change is being considered for Highway construction. 	Ongoing	<p>Lessons learned on the development of the Tuktoyaktuk to Source 177 Access Road have been incorporated in the design. DFO guidelines have been applied for culvert installation. Reclaimed borrow sources have not been used. The gravel stockpiles for surfacing have been developed in the summer of 2016 and will continue to be developed through to summer 2017. Climate change has been considered for highway construction and can be found in the EIRB final statement found on the EIRB public registry.</p>	N/A.
234	<p>Developer commitments made at the FJMC meeting includes: - The Developer will provide a PDF copy of the final Hydrotechnical Report to FJMC next week, after it is submitted to EIRB on October 5, 2012.</p> <ul style="list-style-type: none"> - The Developer will set up meetings with TIWG in October-November 2012. - The Developer will be meeting with Tuktoyaktuk and Inuvik HTC's in October or November 2012. - The Developer wants to develop a framework for the fisheries management plan and fill in agency responsibilities. - The Developer can, in principle, give a commitment for funding monitoring, but currently does not have funding. This will be better defined as we go forward. - The Developer will report back to FJMC November 1, 2012 regarding the status of management plan work. - The Developer will collect the draft Husky Lakes Management Plan and Modeling Report from DFO. - The Developer will send joint minutes (ITH proponent and FJMC) of this meeting to EIRB. 	Complete	<p>All documents relating to the EIRB can be found on the EIRB public registry.</p>	N/A.
235	<p>Developer commitments made at the WMAC (NWT) meeting includes: - The Developer will submit a Wildlife and Wildlife Habitat Protection Plan before there is a final decision from the EIRB. The plan will not be final until after the EIRB has reached a</p>	Complete	<p>The WWHPP identified in this commitment is completed and was done with input from the HTC's and WMAC.</p>	N/A.

	<p>decision as there may be recommendations for the plan.</p> <ul style="list-style-type: none">- The Developer will engage the HTC in Inuvik and Tuktoyaktuk.- The Developer will engage the WMAC resource person on an ongoing basis and the WMAC resource person will determine how to engage the WMAC members.- The Developer will develop draft plans for review by WMAC.- The Developer will present the draft plans to WMAC at their December meeting.			
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