TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
SOCIO-ECONOMIC	
The Developer is committed to observing the relevant economic measures of the Inuvialuit Final Agreement (IFA).	Design, Construction, Operations
The Developer is committed to preferential employment opportunities for qualified local residents and contractors.	Construction, Operations
The IFA guidelines for business operation will apply to this Project, giving priority hiring to companies included on the Inuvialuit Business List.	Construction, Operations
The Developer and on-site Project contractors will be responsible for the implementation of focused socio-economic measures, including recruitment and skills training.	Construction
The Developer will install educational signage related to harvesting, fishing, hunting, and responsible use of the Highway at appropriate and highly visible locations.	Operations
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).	Construction
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.	Construction
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.	Design, Construction
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.	Design, Construction, Operations
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.	Design
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).	Design, Construction, Operation
At this time, the Developer's policy is to not allow its employees or contractors to fish while engaged in their employment activities.	Construction
PLANNING AND DESIGN	
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.	Design, Construction, Operations
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.	Design, Construction
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	Design
Additional engineering studies for the proposed route alignment will be undertaken in 2012 including right of way surveying and bridge design	Design

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
The Developer will undertake further engineering, environmental and archaeological studies in areas scheduled for construction during that same year or prior to that year.	Design
Research authorizations will be obtained on an annual basis, as needed, prior to the conduct of seasonal field activities.	Construction
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.	Design
On approval of the Highway, the Developer commits to further consider Alternative 3 (2010 Minor Realignment) as the final alignment for the Highway.	Design
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: - 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.	Design, Construction
The ILA's *Pits and Quarries Guidelines* will be followed.	Design, Construction
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.	Design, Construction
As key project or regulatory activities/milestones change, the Developer commits to transmitting any future revised GANTT charts to EIRB.	Design
Supplemental geotechnical and biophysical studies will be conducted to fulfill the requirements of the land use and quarry applications.	Design
Areas presenting challenging terrain conditions will be investigated in the field in 2012 to better evaluate the necessary design mitigation.	Design

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
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.	Design
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. In addition, further field investigations (subsurface geotechnical investigations including ground temperature monitoring) to delineate transition zones between more and less sensitive terrain types will be carried out to support the detailed design work. In particular locations, specialized geotechnical techniques such as ground penetrating radar may be used to assist in mapping ground ice occurrence	Design
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	Design
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).	Design
During the detailed design stage, the embankment will be modelled 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 sideslopes on localized permafrost thaw will be predicted and mitigative measures adopted to minimize long-term performance risks.	Design
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	Design
Minimizing snow accumulation on the sideslope 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.	Design
The long-term position of the permafrost table below the core of the embankment and below the sideslopes has not been predicted (modelled) to date; however, it will be predicted (modelled) during the detailed design stage.	Design
Incorporating the appropriate cross section at the detailed design stage, based on the geothermal analyses and the route specific geotechnical data will provide a mitigative measure reducing the risk of shoulder rotation.	Design
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. - 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.	Design, Construction

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
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.	Design
A ground temperature cable will be installed at borrow source 312, for the purpose of collecting project specific ground temperature data.	Design
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.	Design, Construction
CONSTRUCTION	
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.	Construction
The ILA's *Pits and Quarries Guidelines* will be followed.	Design, Construction
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.	Construction
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	Construction
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.	Construction
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.	Design, Construction
The Developers and their contractors will meet the standards required for a safe work environment.	Design
The Developer commits to working towards achieving the Environmental Impact Review Board's goal statements for all phases of the proposed development.	Design, Construction, Operations
Blasting, if required, will occur only during winter borrow source development.	Construction
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.	Construction
The Developer is committed to building the roadway with 3:1 side slopes.	Construction
The Developer will use winter roads to access borrow sources; permanent all-weather access roads will not be required.	Construction
The Developer is committed to performing the majority of the construction activities during the winter months.	Construction
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.	Construction

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
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).	Construction, Operations
The frozen granular fill will only be placed directly on geotextile on the permafrost after the permafrost has frozen back	Construction
The Highway will remain closed to public traffic during the construction phase.	Construction
BORROW SOURCES	
The Developer will follow all applicable legislation and guidelines when developing and operating the borrow source.	Construction, Operations
The Developer is committed to limiting the footprint of each borrow source and minimizing the number of borrow sources developed.	Construction.
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.	Construction, Operations, Reclamation
Pit Development Plans will conform to the approving authority's regulations and permitting requirements.	Design, Construction, Operations
The ILA's *Pits and Quarries Guidelines* will be followed.	Design, Construction
Supplemental geotechnical and biophysical studies will be conducted to fulfill the requirements of the land use and quarry applications.	Design
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 waterbody; - 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.	Construction
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.	Design
The Developer commits to ensuring that borrow source development is monitored by environmental monitors.	Construction
Developer is committed to conformance with the requirements of the *Explosives Use Act.*	Construction
Borrow sources will not be developed within 50 m of any watercourse or waterbody or within 1 km of the Husky Lakes.	Construction
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.	Construction
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.	Design, Construction

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
The borrow pits required for construction of the Highway will be developed, operated and decommissioned in full compliance with all regulatory requirements.	Design, Construction
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.	Design
Erosion control and plans to control runoff from the borrow sites, including any stockpiles that may be developed, will be addressed in pit development plant 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.	Design, Construction, Operations
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.	Construction
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.	Construction
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)	Construction
OPERATIONS	
The Developer, using local contractors, will be responsible for ongoing operation, maintenance, and safety of the Highway.	Operations
The Developer will construct and operate the Highway to GNWT DOT standards and guidelines for public highways.	Construction, Operations
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
For Highway maintenance operations, an annual application of gravel surfacing and spot gravelling will be required.	Operations
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.	Design, Construction
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).	Construction, Operations

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
MANAGEMENT PLANS	
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.	Construction
An Environmental Management Plan will be developed to provide broad guidance relating to maintaining existing stream channel, fish habitat, and water quality conditions.	Design, Construction
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.	Design, Construction
The EMP will contain the following types of plans: - Explosives management; - 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. Where necessary, the Developer and its contractor(s) will seek approval for the plans prior to use.	Design, Construction
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.	Design
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.	Design
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 to the ILA and AANDC. The HWMP will encompass all pre-construction and construction phases of the Project and will apply to the Developer and all Project contractors involved in receiving, transferring, and transporting hazardous waste for the Developer's activities.	Design

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
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.	Design
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.	Design
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.	Design
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.	Design
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.	Design
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 developments plans will be phased over three years ahead of each year of construction.	Design
The Developer and it 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.	Construction
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 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.	Design, Construction
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.	Construction
SPILL CONTINGENCY PLAN	
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).	Design, Construction

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
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: - 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.	
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).	
The Developer will ensure that the Project contractor has appropriate spill response equipment on-site.	Construction
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.	Construction
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.	Construction
The Developer commits to ensuring that any exposed areas will be suitably stabilized prior to the spring thaw period.	Construction
The Developer is committed to using heavy equipment during Highway embankment construction through the winter months when all watercourse crossing locations are frozen.	Construction
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.	Design

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
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: - 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 waterbodies; and - Appropriately sizing and installing culverts, based on hydrological assessments and local experience, to avoid backwatering and washouts, and to ensure fish passage.	Design, Construction
FISH AND FISH HABITAT	
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.	Design, Construction
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	Design
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	Design
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.	Design
No instream work will occur in fish bearing streams during critical time periods.	Construction
Where critical fish habitat cannot be avoided, mitigation will be incorporated into the design.	Construction
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.	Construction
In accordance with DFO (2009a), the installation of culverts in fish bearing streams will not permitted between April 1 and July 15 for watercourses that provide habitat for spring/summer spawners.	Construction
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.	Construction

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
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.	Design
The Developer will consider, at a minimum, stream category when determining the type of structure to be placed at stream crossings.	Construction
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.	Design, Construction
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)	Construction
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 armouring.	Construction
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.	Construction
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.	Design, Construction
At this time, the Developer's policy is to not allow its employees or contractors to fish while engaged in their employment activities.	Construction
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.	Construction, operations
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.	Design, Construction, Operations

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
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: - 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 Environmental Effects Monitoring: Approaches and Technologies* (Armsworthy et al. 2005); - Following DFO G*uidelines for the Use of Explosives In or Near Canadian Fisheries Waters* (Wright and Hopky 1998), where applicable; - Following DFO (2010) P*rotocol for Winter Water Withdrawal in the Northwest Territories*; - 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; - 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).	Design, Construction, Operation

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
WILDLIFE AND WILDLIFE HABITAT	
General	
Prior to construction, the Developer will develop and implement species specific Wildlife Management Plans (WMP) that will include: - 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.	Design, Construction
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.	Design, Construction
The Developer or its contractor(s) will develop Bear Safety Guidelines and will educate staff accordingly.	Design, Construction
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, including the proper use of non-lethal wildlife deterrent materials (e.g., bear spray).	Construction
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	Construction
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.	Design, Construction
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.	Design, Construction
All wildlife encounters and mortalities will be reported to the environmental monitor, Safety Advisor, and GNWT ENR.	Design, Construction, Operations

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
The Developer will implement general wildlife protection measures along the proposed Highway as follows: - Minimizing loss of habitat and the reduction of habitat effectiveness through Project design; - 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 pre-determined setback distances from key wildlife habitat features; - Implementing a "no hunting" policy for Highway construction and maintenance workers; and - Working with agencies such as the HTCs, WMAC, Environment Canada and GNWT ENR to develop guidelines and conditions for Highway usage and follow-up with monitoring of harvesting activities.	Design, Construction, Operations
The Developer is committed to working with agencies and other interested stakeholders such as the HTCs 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.	Design, Construction, Operations
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.	Construction, Operations
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.	Construction
Wildlife data collected will be provided to GNWT ENR for entry into WMIS or to Environment Canada, Yellowknife.	Design

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
Types of Mitigation for Caribou	
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: - 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 HTCs, 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.	Design, Construction, Operation
Types of Mitigation Measures for Grizzly Bears and Furbearers	
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	Design, Construction
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: - 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); and - 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.	Construction

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
Types of Mitigation Measures for Birds	
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: - 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.	Design, Construction
Types of Mitigation Measures for Peregrine Falcons	
If a peregrine falcon nest is found in the future GNWT ENR will be contacted to determine any appropriate management actions required.	Design, Construction
Types of Mitigation Measures for Bird Species At Risk	
The Developer will incorporate additional mitigation measures for bird Species at Risk including: - 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.	Construction
WASTE MANAGEMENT	
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.	Design, Construction
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.	Construction
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 and will apply to the Developer and all Project contractors involved in receiving, transferring, and transporting hazardous waste for the Developer's activities on land, water, and air.	Construction

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
FUEL MANAGEMENT	
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*.	Construction
All vehicles and equipment will be refueled at least 100 m from water bodies following INAC (DIAND) fuel storage guidelines.	Construction
WATER QUALITY AND QUANTITY	
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.	Design, Construction
The Developer will ensure that the DFO water withdrawal protocol criteria are followed.	Construction
The Developer is committed to carrying out bathymetric surveys on all lakes proposed for water extraction.	Construction
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.	Design, Construction
The Developer is committed to completing hydrological assessments prior to bridge design to determine suitable span widths and abutment placement.	Design, Construction
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.	Design
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.	Construction, Operations
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.	Construction
The Developer will provide a copy of the Erosion and Sediment Control Plan to Environment Canada for review.	Design
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	Design, Construction, Operations

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
Some of the mitigation measures for water quality and quantity effects the Developer will follow include: - 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. - 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.	Construction
STREAM CROSSINGS	
Commitment by the Developer to conduct consultations (after Public Hearings) with the Inuvik and Tuktoyaktuk Hunter and Trapper Committees, Inuvialuit Game Council, DFO and Transport Canada regarding: - Selection criteria for crossings; - Use of waterbodies; and - Types of vessels. Consultation dates are to be determined.	Design
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.	Design, Construction
The Developer will provide a copy of the Erosion and Sediment Control Plan to Environment Canada for review.	Design
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.	Design, Construction
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.	Design, Construction

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
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).	Construction
The Developer will install appropriately sized culverts to minimize changes in water flow pattern and timing.	Construction
The Developer will not install culverts in critical aquatic habitats.	Construction
The Developer will carry out routine monitoring and inspections at watercourse crossings and culverts, including reporting on culvert performance and maintenance requirements.	Construction, Operations
The Developer will ensure that maintenance requirements for culverts will adhere to the DFO *Culvert Maintenance Operational Statement* (DFO 2010).	Operations
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.	Construction
Site specific navigable waters information will be finalized as part of the NWPA applications.	Design
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.	Design
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).	Design
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.	Design
The majority of the stream crossings will involve the installation of culverts, which will follow appropriate guidelines to prevent the obstruction of fish passage.	Construction
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	Construction
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.	Construction
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.	Construction
Single span structures will be used where fish habitat has been identified as present. No binwalls will be used for abutments.	Design, Construction
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*.	Construction

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
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	Construction
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.	Construction, Operations
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.	Construction, Operations (up to three years only)
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.	Construction, Operations
Turbidity monitoring will occur at the time of highest runoff, which typically occurs during spring freshet.	Construction, Operations
Provide alignment sheets showing stream crossings and structure type to interested parties.	Design
VEGETATION	
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.	Design, Construction
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.	Construction
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.	Construction
A rare plant survey will be conducted in 2012.	Design
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).	Construction
The Developer commits to using appropriate northern, native plant species for any deliberate re-vegetation efforts of borrow sources.	Construction, Operations
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 with the spill contingency plans.	Design, Construction

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
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.	Design
AIR QUALITY	
The Developer will conform to applicable ambient air quality objectives by using pollution prevention measures and best management practices.	Construction
Mitigation measures for air quality during the construction phase will include: - 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.	Construction
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
LAND USE	
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 snowmachines.	Construction
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
The Developer is committed to working with agencies and other interested stakeholders such as the HTCs 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.	Design, Construction, Operations
Supplemental geotechnical and biophysical studies will be conducted to fulfill the requirements of the land use and quarry applications.	Design
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 snowmachines.	Construction

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
NOISE	
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.	Construction
The Developer will use appropriate design, scheduling, logistics, and maintenance measures to reduce the effects of noise.	Design, Construction
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.	Construction
Blasting activities, if required, will be timed to avoid periods when sensitive wildlife species are in the area.	Construction
ARCHAEOLOGY	
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.	Design, Construction
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.	Design
Additional archaeological assessments will be undertaken as required in 2012. This will be determined in discussion with the Prince of Wales Northern Heritage Centre	Design
Mitigation measures will be designed on an individual basis, and require prior approval by the Prince of Wales Northern Heritage Centre.	Construction
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.	Construction
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.	Construction
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.	Construction

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
MONITORING	
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.	Construction
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.	Construction
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.	Construction
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.	Construction, Operations
The Developer will prepare an effects 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.	Design, Construction
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).	Construction
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
The Developer will require that Project contractors work closely with the environmental and wildlife monitors during construction.	Construction
The Developer is committed to participating with other parties in a cumulative effects monitoring program.	Construction, Operations
The Developer commits to the development of a compliance monitoring table prior to commencement of construction.	Design
Site specific monitoring and contingency plans will be developed in conjunction with the detailed construction design phase of the Project.	Design, Construction
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.	Construction, Operations

TABLE F: SUMMARY OF DEVELOPER COMMITMENTS (SEPTEMBER 28, 2012)	
COMMITMENTS	**PROJECT PHASE**
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 that will be issued for the Highway construction project.	Design, Construction
To monitor the effects of stream crossings: - The following parameters will be measured: turbidity (Nephelometric Turbidity Units (NTU); pH; dissolved oxygen; conductivity; temperature. - 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: • 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.	Construction