

Ms. Heather Rasmussen, MEnv-EA
Technical Advisor
Nunavut Impact Review Board

Dear Ms. Rasmussen,

Hamlet of Gjoa Haven, NU, Swan Lake River Bridge Construction, Additional Information Required by NIRB

On behalf of Hamlet of Gjoa Haven, NU we provide Additional Information on the above specified Project as requested in your letter dated July 30, 2015:

Construction of Road related to the Bridge Project

We confirm that no road construction is contemplated and budgeted for this project. The bridge will be located on an existing trail. The community was granted limited funding for the construction of the Bridge only. Upgrading of the trail would be subject to different project in future, if and when funding becomes available.

Spill Contingency Plan during construction and operation, including proposed mitigation measures during the transfer of fuel to equipment (e.g., use of drip pans and spill pads)

• Spill during Construction

As specified in our previous submission, excavator, loader and two dump trucks will be working on site for duration of about 15 productive working days. None of this equipment will be deployed in the water for work. However, the equipment will cross several times the river for work on the south abutment.

Spill prevention and spill control measures in place on the construction site will include:

- No fuel and or lubricants will be stored on site.
- No oil changes will be carried out on site.
- Re-fueling of the equipment will be done at a distance of more than 100' from the river using specialised Fuel Truck equipped with automatic shut-off Fueling Hose.
- No Gerry cans or other containers will be used for direct transfer of fuel.
- All equipment will be thoroughly inspected for leaks of oils and lubricants on a daily basis by the Engineer on site. Equipment will be allowed to proceed with Work after repair of all deficiencies and successful re-inspection.
- Only experienced equipment operators will be employed for the work.
- In a daily briefs the construction crew will be instructed on details of the daily work. Work safety, spill prevention and spill control issues will be also discussed.
- The Contractor will have readily available on-site fuel absorbing pads, large drip pans, fire extinguishers, buckets, picks and shovels to be used in case of spill.

In spite of all preventive measures a minimal risk of spill into, or near the river during construction still exists. Such spill could be caused due to malfunctioning of the fuel transferring equipment, or unexpected failure in the fuel system of an individual construction equipment. The maximum amount of spilled fuel would be limited to the volume of the equipment's fuel tank.

In case of fuel spill, the Equipment Owner, as Responsible Organisation, will immediately undertake the following actions:

- Safety for the working personnel will be established
- Injured people will be transported to the local Nursing Station
- Fire, if any, will be extinguished

- Attempt to stop and contain the leak will be made using absorbing pads, pans, picks and shovels. Heavy equipment available on site may be also be used to build a containing dyke if needed.
- Hamlet Office will be notified on details of any spill related accidents.
- Hamlet Office will report the spill to the NWT/NU Spill Line (867-920-8130) and forward a completed Spill Report Form obtained from the Government of Canada web site named Guidelines for Spill Contingency Planning

After containment of the spill the Hamlet will organise removal from the site of any contaminated soil and dispose of it in a designated area. In case of significant spill the Hamlet may decide to retain an expert consultant to assess the accident and provide appropriate advice.

Emergency Response Plan for bridge/road use.

We confirm again that the Project does not include road construction or road upgrading component.

The bridge deck is 4.2 m wide and can accommodate only single lane traffic. Types of accidents that may occur on the bridge include:

- Collision of two oncoming vehicles
- Collision of vehicle with pedestrian
- Single vehicle accident with damage on the guard rail
- Single vehicle accident with vehicle damaging the guard rail and falling into the river

Responsible organisations for dealing with accidents on the bridge are the Hamlet Office and the RCMP. The Hamlet Office will assign and instruct a person to deal with potential accidents on the bridge.

Both the Hamlet and the RCMP would rely mainly on notification for accidents provided by the travelling public and on shared communication. The Emergency Response will include, as deemed appropriate some or all of the below listed measures:

- In case of any serious accident, both the Hamlet and the RCMP would send representative on site.
- In case of accident involving personal injury the Hamlet would send a vehicle on site to transport the injured person to the Nursing Station.
- In case of serious damage of a vehicle the Hamlet would send road maintenance equipment to remove the vehicle and take it to town.
- In case of fuel spill and/or fire caused by vehicle accident, the Hamlet would mobilise its Volunteer Fire Crew to deal with the matter. Potential fuel spills will be dealt with as indicated in the Fuel Spill Contingency Plan.
- In case of serious damage on the bridge deck, rail or structure the Hamlet might decide to close the bridge for traffic and retain a qualified engineer to assess the damage and recommend appropriate action.

Proposed mitigation and monitoring as relates to:

- Potential bird nesting on the bridge**

The bridge structure is fabricated of steel. The bird droppings are highly corrosive and could dramatically reduce the lifespan of the bridge. This is particularly so, if birds nest on the bridge in large colonies. The issue will be mitigated by organising daily bridge inspections in the beginning of the nesting season to discourage potential nest building activities.

In the last two years we conducted bridge inspections on:

- Three bridges we built in Coral harbour in the mid nineties
- One bridge we built on the Prince River in Baker Lake in 1998
- Two bridges we built on the road to FOL site in Kugaaruk in 2001-2002



- Three bridges we built on the road to the Meliadine Mining Property in Rankin Inlet in 2012.

All of the inspected bridges are of design and material similar to the Gjoa Haven Bridge. The inspection included deck, rail, girders, undersides and abutments of the bridges. All of the bridges were in good operational condition. We didn't find any evidence of bird nesting activities on the inspected bridges. In addition, no bird nests were found on the more than 50 year old Freshwater Creek Bailey Bridge in Cambridge Bay which we inspected and repaired from washout in 2011. It appears, bare-land nesting birds are adapted to build nests in the grass or between rocks at ground level.

- **Potential impacts to wildlife including those resulting from potential collisions**

The bridge will contribute to improvement of the fish habitat in the river. We consider, it will have minor, if any effect on the terrestrial wild life. It is unlikely wild life would choose to cross the river on the bridge and create hazard for collision.

Collision of low flying migrating birds in fog with the bridge is possible but highly unlikely. This could be mitigated by installing appropriate lights on the bridge. Although desirable, the cost of constructing and maintaining power line from town and light posts on the bridge is unaffordable to the Hamlet.

Map with location of Proposed Staging Area

The original intention of the community was to construct a Staging Area downstream of the north abutment immediately adjacent to the shoreline. The construction crew would have used this area for assembly of bridge-abutment elements, storage of timber for the deck, tools, etc... After completion of the bridge construction the Area would have been used by local residents as Picnic Area.

Due to funding shortage, the community decided to cancel the construction of Staging-Picnic Area. The abutment elements will be assembled on an existing firm ground located some 200m to the north-west of the bridge site. The area is fairly levelled and no additional gravel or other material will be placed for improvement purposes. After completion of the bridge works the area will be cleaned from debris and restored to its original condition. If required we could provide a Google map depicting the subject area.

Method to be used for bridge users to report any spills and/or damage or deterioration of the bridge to the Hamlet

Deteriorations of the Bridge will be recorded and reported to Hamlet with the proposed seasonal inspections conducted by the Hamlet Foreman.

The Hamlet would rely on local travelers to report traffic accidents and spills in the Bridge area. Local travellers will be periodically remained on the local radio to report to Hamlet any such occurrences.

Expectations for communicating to the public any operational, spill, or emergency plan;

The Spill Contingency Plan and the Emergency Response Plan will be posted in Hamlet Office. The Hamlet Office will prepare and occasionally broadcast on the local radio messages for spill and accidents awareness of the local residents.

Public consultation undertaken to date: dates, methods, location, and attendance/level of participation

Public consultations took place in 2007 and 2008 when the bridge was in design phase. At that time we made a presentation to the community council. Around 10 local stakeholders and interested residents attended the meeting. Two site visits with community stakeholders took place for the selection of the bridge site. Main organisers of the consultations and the site visits were Sarah Kamimalik of the GN and Enuk Pauloosie who was SAO at that time. The



proposed design was accepted on the meeting, but Hamlet didn't issue the requested Letter of Approval.

At present time the Hamlet is organising advertisements on the local radio that the bridge construction is forthcoming and the public is encouraged to drop by in Hamlet Office for comments and opinions. Drop by visits would be kept on record. Also, Hamlet and HTO are preparing separate Letters of Support for the bridge construction.

Potential impacts to humans, birds and wildlife resulting from noise and dust

The vehicle traffic on the trail in the vicinity of the bridge consists mostly of ATV's and occasional pickup trucks. Some heavy construction equipment occasionally crosses the river to extract gravel from a deposit on the south side of the river near the crossing. Bulldozers and excavators mounted on tracks would not be allowed to use the bridge since they would damage the timber deck. If needed, such equipment would have to ford the river as they presently do.

It is not anticipated that the construction of the bridge would be a reason for increasing the traffic on the trail, except for a few weeks during freshet every year. The operation of the bridge itself does not generate any noise or dust that might affect wild life and people.

It is our opinion that, after the construction of the bridge the noise and dust in the area would remain basically at current levels. We see the bridge construction as a positive step in reducing the damage continuously inflicted to the fish habitat in the river and improving the quality of life of the local residents.

Prepared by:

A handwritten signature in black ink, appearing to read "Jivko Jivkov".

Jivko Jivkov, P. Eng.

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