

REASONS FOR DECISION
WATER USE APPLICATION MS04-225
GOVERNMENT OF YUKON
YUKON RIVER BRIDGE AT DAWSON CITY

The Yukon Water Board (“the board”) has concluded deliberations pertaining to this application for a type B water use licence for miscellaneous undertaking and has, with the approval of the Minister, issued water use licence MS04-225. A chronology of this decision is attached as Appendix 1.

The Government of Yukon intends to construct a five span bridge, with four instream piers, across the Yukon River at Dawson City, Yukon.

Notice of application was provided in accordance with the requirements of the *Waters Act*. In response, the board received interventions from

Government of Yukon, Environment (“GY Environment”),
Tr’ondëk Hwëch’in,
Stephen Johnson,
Parks Canada, and
Hank Barencke

Public Hearing

In their interventions, Stephen Johnson and Tr’ondëk Hwëch’in requested a public hearing. The board considered those interventions, and the applicant’s response, and determined that a hearing should be held. The board issued reasons for the decision to hold a public hearing, and these are included in the water use register as exhibit 10.1.

Notice of public hearing was provided in accordance with the requirements of the *Waters Act* and, in response, the board received an intervention from Fisheries and Oceans Canada, as well as supplemental information from existing parties.

The board determined that the public hearing should be held in Dawson, as that was the community which would be most likely affected by the project. The hearing took place in Dawson in October, 2005. With the exception of Mr. Barencke, who did not respond to correspondence, all of the parties attended and participated. The board also provided an opportunity for members of the public who had not provided notice of intent to intervene, and therefore could not participate as a party to the hearing, to make statements towards the end of the hearing, but no persons came forward.

Potential Increased Flooding at Tr’ochek Heritage Site

Tr’ondëk Hwëch’in noted a concern that construction of the bridge could increase flood levels at the Tr’ochek site by 0.25 metres during a fully developed ice jam. The Tr’ochek site is located upstream of the proposed bridge, at the confluence of the Klondike and Yukon Rivers. At the

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hearing, the board heard evidence that, without the bridge, flooding during a fully developed ice jam would be up to 2 metres. The extent of horizontal flooding was not clearly evident. Air photos in the water use register indicate that the area is within a flood plain.

The board accepted that, if the bridge is constructed, then there is a potential, at a fully developed ice jam, for an increase in flooding at Tr'ochek of up to 0.25 metres. The board then examined whether this increase would constitute a significant alteration. The board concluded that, since a fully developed ice jam is not a common occurrence, and without the bridge such a jam would likely result in a flood of up to 2 metres, an additional maximum of 0.25, in the unlikely event of a fully developed ice jam, does not constitute a significant affect.

Potential Increased Flooding at C-4

Tr'ondëk Hwëch'in were also concerned that construction of the bridge could increase flooding at the housing development at settlement land block C-4, adjacent to the Klondike River and upstream of the proposed bridge.

The applicant argued that the C-4 site is already vulnerable to ice jam flooding, related to the Klondike River, and that construction of the bridge at the Yukon River will not aggravate that issue, because the stream bed elevation of the Klondike River at C-4 is sufficiently above that of the Yukon River. As a result, there is no significant backwater effect and, therefore, flooding at C-4 is influenced by events on the Klondike River, rather than the Yukon River.

The board also heard evidence that the C-4 subdivision has been designed for a 1:100 year return period flood.

The board concluded that the evidence presented did not support a conclusion that construction of the bridge is likely to result in an increase in flooding at C-4.

Umbrella Final Agreement

The Umbrella Final Agreement requires that, subject to the laws of general application, a First Nation has the right to have water which is on or flowing through or adjacent to its settlement land remain substantially unaltered as to quantity, quality and rate of flow, including seasonal flow.

If the board determines that a project will result in substantial alteration, then, before issuing a licence, the board must be satisfied that there is no alternative that could reasonably satisfy the applicant, and that there are no reasonable measures whereby the applicant could avoid the interference.

As described above, the board is satisfied that the project will not result in a substantial alteration to water flowing on, through, or adjacent to settlement land.

Downstream Sedimentation and Water Quality

Tr'ondëk Hwëch'in were concerned that construction of the bridge could result in downstream sedimentation and in a concentration of sewage flows from the City of Dawson.

The licence requires that material placed in the Yukon River must be placed in such a manner as to comply with a suspended solids standard. The Licensee will also be required to develop and comply with a detailed plan for monitoring sediment discharges during construction, and a plan for monitoring sedimentation and erosion of the bed and banks of the Yukon River during the life of the project.

GY Environment advised the board that the City of Dawson is required to deal with their wastewater facility by 2008. The board notes that the City of Dawson applied for, and received, a licence to construct a mechanical plant, and that it has not been constructed. To date, no application for a different system has been received.

However, the board accepts GY Environment's assurances that a project is "moving along" and that, by the time the bridge is constructed, the City of Dawson will have adequate sewage treatment, so that concentration of sewage flows will not be an issue.

Expected Life Span of Design

Prior to the hearing, construction of the bridge was postponed. During the hearing, the board asked the applicant to submit additional information regarding the expected life span of the bridge design. That information (exhibit 8.1) was distributed to all parties, who were given an opportunity for comment, and the applicant was invited to respond to those comments.

In exhibit 8.1, the applicant noted that bridge designs in Canada must conform to the Canadian Highway Bridge Design Code, which recently underwent a review, and that the changes that are expected as a result of that review have no impact on this project. The next major review of the code is scheduled for 2016. The applicant advised that, although the project has been delayed, there is still an intention to construct the bridge, and confirmed their request for a 25 year licence.

Mr. Johnson recommended that the expiry date of the licence should be 2016, because by that time it would be reasonable to expect that additional data and science would be available to enable a better assessment of the project.

The board is satisfied that sufficient data and science has been available to assess the impact of this project. The board acknowledges, though, that with an uncertain construction date, it is possible that technology may be developed that would result in a new bridge design. However, this licence is issued for this project. If the applicant decides that a different bridge design would be more appropriate, then the applicant would need to apply for an amendment, or a new licence.

Therefore, the board has issued a licence for a 25 year term.

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Bridge Location

In his intervention and presentation, Mr. Johnson argued that the bridge should be constructed at another location. The applicant provided information about alternative locations that were considered and why this location was chosen.

The record is clear that the application before the board was for this bridge at this location, and the board did not consider other locations in its deliberations.

Approach/Foundation/Pier Construction

The applicant proposed that material excavated from within the cofferdams used for foundation excavation would be used to construct the bridge approaches or would be side cast into the Yukon River.

The licence permits the Licensee to side cast granular material obtained from the interior of each cofferdam during foundation excavation into the Yukon River. However, the Licensee will only be able to side cast granular material and discharge water into the Yukon River that is in compliance with the effluent standard identified in the licence.

The application included several proposals for gaining access to construct the instream piers. The board did not authorize the construction or use of causeways in the licence but did authorize the construction, use and eventual removal of a temporary bridge with support piles to facilitate construction, or to use water to construct an ice bridge. The Licensee will also be able to use barges to facilitate the construction of the piers, but the use of barges does not require authorization under the licence.

Effluent Quality Standards

An effluent quality standard for suspended solids is included in the licence for the placement or deposit of materials into the Yukon River, and for water discharged from within cofferdams, or from any other location, during dewatering activities. These conditions are consistent with the proposal included in the application and with the mitigation identified in the Environmental Assessment, and compliance will minimize impacts to the quality of water downstream of the bridge during construction.

Parties to the hearing did not provide recommendations as to where the suspended solids background concentrations should be measured. The Board determined that an appropriate location would be immediately upstream of the proposed temporary ferry landing, on the east side of the river.

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Operation of Heavy Equipment

The project will include the operation of heavy equipment either from a floating barge or from the frozen surface of the Yukon River, and this is authorized in the licence.

With regard to noise that will occur during construction activities, including pile driving, blasting and use of heavy equipment, the applicant agreed to comply with the City of Dawson noise bylaw, and advised that work will be done during normal work hours, outside of the peak tourist season. Residents will be notified of the blasting schedule. The licence also requires noise baffling apparatus to be installed and maintained on all heavy equipment.

Environmental Assessment ("EA")

As a Responsible Authority for an application for type B water use licence, the board initiated an environmental assessment under the *Environmental Assessment Act*, and in accordance with the Canada/Yukon Harmonization Agreement on Environmental Assessment. The other Responsible Authorities were Fisheries and Oceans Canada and Transport Canada. When a decision was made to hold a public hearing, the board was no longer a Responsible Authority.

Government of Yukon, Executive Council Office, submitted an unsigned screening report prior to the public hearing, and indicated that the final version would be available at the hearing.

At the hearing, the board was advised that the EA could not be completed until Parks Canada completed a report to examine the effect of a bridge on cultural heritage, and that would be accomplished within six months.

The final EA was received on May 30, 2006. It did not differ significantly from the report that was available at the hearing, and the revisions did not relate to water licencing issues.

The board has considered the mitigation included in the EA in it's deliberations, and is satisfied that appropriate mitigation has been incorporated into the water use licence.

Conclusion

Water Use Licence MS04-225 was approved by the Minister on July 20, 2006 and issued by the Yukon Water Board on July 21, 2006.

The board appreciates the participation of the applicant and the interveners in the public process, particularly the patience and endurance of Mr. Johnson over a long period of time.

Bruce Willis, Chairperson

July 27, 2006