



May 19, 2017

Sean Joseph
Senior Technical Advisor, NWB
P.O. Box 119
Gjoa Haven, NU X0B 1J0

RE: Baffinland Iron Mines Corporation's (Baffinland) response to INAC comments regarding Baffinland's modification request for expanding the Mine Site Crusher Pad under Type "A" Water Licence 2AM-MRY1325 – Amend. No. 1

Dear Mr. Joseph,

Baffinland Iron Mines Corporation (Baffinland) has reviewed Indigenous and Northern Affairs Canada's (INAC) comments regarding Baffinland's modification request for expanding the Mine Site Crusher Pad at the Mary River Project.

Baffinland has contracted Golder Associates (Golder) to review INAC's comments and the crusher pad's surface water management infrastructure. Golder has proposed a temporary solution to manage water in the short term and a permanent solution, which can be implemented once the ground has thawed, to address INAC's comments. Details are provided as Attachment 1 of this letter.

Baffinland agrees with the solutions proposed by Golder and commits to implementing the temporary solution at the time of expansion of the crusher ore pad and the permanent solution before frozen site conditions (mid-September 2017). In accordance with Baffinland's Type "A" Water Licence (2AM-MRY1325 – Amend. 1), Baffinland will provide to the Nunavut Water Board (NWB) issued-for-construction (IFC) drawings for the permanent engineered solution 60 days prior to the start of construction.

We trust that this letter addresses INAC's comments and concerns regarding Baffinland's modification request for the expansion of the Mine Site Crusher Pad. Please do not hesitate to contact the undersigned, or Laura Taylor, should you have any questions or comments.

Regards,

A handwritten signature in dark ink, appearing to read "Bill Bowden".

William Bowden,
Environmental Superintendent



Attachments:

Attachment 1: Golder Associates – Response to INAC's Letter Dated May 9, 2017 Regarding Baffinland's Proposed Crusher Pad Expansion, Mary River Project

cc. Wayne McPhee, Adam Gryzgorczyk, Laura Taylor, Andrew Vermeer (Baffinland),
Manager of Licensing, David Hohnstein (NWB)
Sarah Forte, Justin Hack (INAC)

References:

Hatch (Hatch Ltd.) 2013. Civil Design Criteria. Hatch Project No. H349000. Issued to Baffinland. 28 August 2013.



Attachment #1

**Golder Associates – Response to INAC’s Letter Dated May 9, 2017 Regarding Baffinland’s
Proposed Crusher Pad Expansion, Mary River Project**

May 19, 2017

Project No. 1775699- Rev0

Rodney Fagan and Steven Dew
Baffinland Iron Mine Corp.
2275 Upper Middle Road East, Suite 300
Oakville Ontario
Canada L6H 0C3

**RESPONSE TO INAC'S LETTER DATED MAY 9, 2017 REGARDING BAFFINLAND'S PROPOSED
CRUSHER PAD EXPANSION, MARY RIVER PROJECT**

Dear Rodney and Steven,

As requested by Baffinland Iron Mines Corp. (Baffinland), Golder Associates Ltd. (Golder) has prepared this letter in response to Indigenous and Northern Affairs Canada (INAC)'s letter dated May 9, 2017 with regards to the "Crusher Pad Expansion Detailed Design Brief" (Golder, 2017) that was prepared for Baffinland's Mary River Project. INAC reviewed the design brief and provided comments and recommendations regarding the existing sedimentation pond containment and spillway capacity and the existing perimeter ditch capacity. The following paragraphs provide supplementary information to address these comments.

Design criteria (Hatch, 2013) require Project sedimentation ponds be able to contain volumes associated with a 1:10 year, 24 hour design storm event (1.7 mm/hr). The required capacity for the Crusher Pad Sedimentation Pond to contain the 1:10 year design storm event following the 10% pad expansion is approximately 3,980 m³ (approximately 490 m³ more than the existing pond capacity).

To provide the required volume of 490 m³, it is proposed to raise the high water level (HWL) by 0.20 metres to an elevation of 192.08 metres above sea level (masl). To raise the HWL to 192.08 masl, a low permeability barrier up to this elevation is required. The existing elevations of the pond berm walls are above the proposed HWL elevation with the exception of the area in the vicinity of the spillway where the top of the liner is at the level of the existing HWL (191.88 m).

It is proposed to construct a low permeability barrier across the spillway up to elevation 192.08 m to provide sufficient capacity within the pond to contain the 1:10 year design storm event. A two-part solution is proposed to increase the HWL. The first part is a temporary/immediate solution and will involve constructing the low permeability barrier using sand bags wrapped in geotextile on the existing spillway. The second part of the solution will be a permanent engineered solution that will replace the sand bags with construction of a raised berm consistent with the existing sedimentation pond construction that meets design criteria. Due to the current frozen ground conditions, work required by the permanent engineered solution will need to be completed during summer months and before frozen site conditions (mid-September 2017).

In the event there is a forecasted large storm event (greater than 1:25 year return period) the sand bags will be temporarily removed from the spillway to reinstate the spillway's capacity during the large storm event and increased flows. Once the permanent solution is in place the spillway will have sufficient capacity to convey the 1:200 year design storm event as described in the design criteria.

In addition, the perimeter ditch capacity was checked for the 1:10 year design flow in the design brief (Golder, 2017). As noted by INAC, the design criteria for the ditch is the 1:25 year storm event (Hatch, 2013). Golder has checked the perimeter ditch capacity for the 1:25 year event and has confirmed the existing perimeter ditch has sufficient capacity to convey the flows developed from the 1:25 year storm event. The pad expansion will increase the peak flow during the storm event from 0.37 m³/s to 0.41 m³/s in the perimeter ditch. This corresponds to a water level raise of approximately 0.02 m during the peak flow in the existing ditch. The existing ditch will have a 0.5 m freeboard during the 1:25 year storm event after the crusher pad expansion. Therefore, no perimeter ditch upgrade is recommended.

GOLDER ASSOCIATES LTD.



Michelle Tyldesley, P.Eng (ON)
Project Manager



Marc Rougier, P.Eng (NWT/NU)
Principal

MJT/sk

CC: Andrew Vermeer, William Bowden, Adam Gyorffy, Marc Rougier

[https://golderassociates.sharepoint.com/sites/11387g/shared documents/phase 5000 response to inac/rev 0/1775699 letter to address inac comments_19may2017.docx](https://golderassociates.sharepoint.com/sites/11387g/shared%20documents/phase%205000%20response%20to%20inac/rev%200/1775699%20letter%20to%20address%20inac%20comments_19may2017.docx)

References:

Golder (Golder Associates Ltd.) 2017. Crusher Pad Expansion Detailed Design Brief. Issued to Baffinland. Golder Project No. 1775699. 17 April 2017.

Hatch (Hatch Ltd.) 2013. Civil Design Criteria. Hatch Project No. H349000. Issued to Baffinland. 28 August 2013.