



NUNAVUT WATER BOARD

WATER LICENCE NO: 2AM-BRP1831

**REASONS FOR DECISION
INCLUDING RECORD OF PROCEEDINGS**



NUNAVUT WATER BOARD

In the Matter of:

Applicant: Sabina Gold & Silver Corp.

Subject: Application for Amendments to Type “A” Water Licence No: 2AM-BRP1831 for Water Use and the Deposit of Waste

Date: August 31, 2021

Precedence: Where there is any inconsistency or conflict between the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada (Nunavut Agreement)* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSRTA)*, the *Agreement* prevails to the extent of the inconsistency or conflict. Where there is any inconsistency or conflict between the *NWNSRTA* and any other act of Parliament, except the *Nunavut Land Claims Agreement Act*, the *NWNSRTA* prevails to the extent of the inconsistency or conflict.



RECORD OF PROCEEDINGS

Applicant: Sabina Gold & Silver Corp.

Address: Suite 1800, 555 Burrard Street
Box 220
Vancouver, BC
V7X 1M7

Purpose: Application to Amend Water Licence
No: 2AM-BRP1831

Application Received on: October 13, 2020

Application Received from: Merle Keefe
Manager, Environmental Permitting
Sabina Gold & Silver Corp.

Date of Public Hearing: July 13 and 14, 2021

Public Hearing Record Closed: July 14, 2021



ATTENDEES:

NWB Representatives:

Nunavut Water Board Panel Members (Panel P19):	Chairman	L. Toomasie
	Member	S. Silou
	Member	S. Sowdlooapik

Nunavut Water Board Staff:	Director of Technical Services	K. Kharatyan
	Technical Advisor	S. Kuflevskiy
	Manager of Licencing	R. Dwyer
	Licencing Administrative Assistant	S. Ekelik
	Legal Counsel (Meadows Law)	T. Meadows

Interpreters:	Inuinnaqtun/English	J. Panioyak
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Court Reporter:	Dicta Court Reporting, Inc.	T. Huynh
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Sound Technician:	PIDO	C. Coomber
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Applicant:

Attending In Person

Sabina Gold & Silver Corp. (Sabina)	Manager – Environmental Permitting	M. Keefe
	Senior Indigenous Coordinator	J. Kadlun
	Community Liaison Officer	J. Kaiyogana

Attending Via Videoconference

Sabina	Vice President – Environment and Sustainability	M. Pickard
	Environmental and Engineering Consultant (Weymark Consulting Ltd.)	C. Paul
	Senior Regulatory Advisor / Project Manager (Golder Associates Ltd.)	D. Filiatrault



Water Quality Modeller (Golder Associates Ltd.)	S. Dayyani
Senior Water Quality Modeller (Golder Associates Ltd.)	A. Snow
Environmental Scientist (Golder Associates Ltd.)	K. Serben
Project Coordinator (Golder Associates Ltd.)	E. Salo
Senior Environmental Scientist (Golder Associates Ltd.)	E. Irving
Legal Counsel (Lawson Lundell)	C. Kowbel

Parties:**Attending In Person**

Kitikmeot Inuit Association (KIA)	Senior Project Officer	J. Roesch
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Attending Via Videoconference

KIA	Senior Aquatic Scientist (Hutchinson Environmental Sciences Ltd.)	R. Nesbitt
	Senior Geotechnical Engineer (BGC Engineering)	L. Arenson

Crown -Indigenous Relations and Northern Affairs (CIRNA)	Director – Resource Management	S. Dewar
	Water Management Specialist	S. Forté
	Water Resources Coordinator	A. Keim
	Arctic Environmental Expert (Tetra Tech)	R. Hoos
	Environmental Engineer	A. Hussey



(Tetra Tech)

Environment and Climate Change Canada (ECCC)	Head – Environmental Assessment, Prairie & Northern Region	J. Small
	Acting Senior Environmental Assessment Officer	O. O’Sullivan
	Water Quality Project Officer	M. Tobin
	Senior Mining Project Officer	R. Ejeckam

Written Record of Submissions:

<ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-BRP1831%20Sabina/2%20ADMIN/3%20SUBMISSIONS/>

Hearing Record (including Hearing Transcript):

<ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-BRP1831%20Sabina/2%20ADMIN/4%20HEARINGS/2%20HEARING/>



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ABBREVIATIONS

Short Form	Full Name
Sabina	Sabina Gold & Silver Corp.
CIRNA	Crown-Indigenous Relations and Northern Affairs (formerly INAC and AANDC) also referenced as CIRNAC
DWLF	Draft Water Licence Framework
ECCC	Environment and Climate Change Canada (formerly Environment Canada)
EQC	Effluent Quality Criteria
FCRP	Final Closure and Reclamation Plan
FWS	Final Written Submission
GN	Government of Nunavut
ICRP	Interim Closure and Reclamation Plan
IIBA	Inuit Impact and Benefit Agreement
INAC	Indigenous and Northern Affairs Canada (formerly AANDC and currently CIRNA)
IR	Information Request
KIA	Kitikmeot Inuit Association
km	Kilometer
m ³ /day	Cubic metres per day
<i>MDMER</i>	<i>Metal and Diamond Mining Effluent Regulations, SOR/2002-222</i>
MLA	Marine Laydown Area
NIRB	Nunavut Impact Review Board
NPC	Nunavut Planning Commission
<i>Nunavut Agreement</i>	<i>Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada</i>
<i>NuPPAA</i>	<i>Nunavut Planning and Project Assessment Act, S.C. 2013, c. 14, s. 2</i>
NWB	Nunavut Water Board
<i>NWNSRTA</i>	<i>Nunavut Waters and Nunavut Surface Rights Tribunal Act, S.C. 2002, c. 10</i>
NWT	Northwest Territories
PHC	Pre-Hearing Conference
PH	Public Hearing
SSWQO	Site-Specific Water Quality Objectives
TF	Tailings Facility (tailings deposit in a mined out pit)
TM	Technical Meeting
TSF	Tailings Storage Facility (tailings deposit in an above ground purpose-built facility)
WIR	Winter Ice Road
WRSA	Waste Rock Storage Area
WTP	Water Treatment Plant



REASONS FOR DECISION

Executive Summary

This decision is in relation to an application before the Nunavut Water Board (NWB or Board) filed by Sabina Gold & Silver Corp. (Sabina, Licensee or Applicant) for amendments to the existing Type “A” Water Licence No: 2AM-BRP1831 (the Licence) for the Back River Project, with the original application being received by the NWB on October 13, 2020. Following an initial completeness check and Information Request (IR) stage and supplementation of the original application materials, the application was deemed to be complete on December 17, 2020 (the Amendment Application or Application).

The Back River Project is located approximately 400 kilometres (km) southwest of Cambridge Bay and 95 km southeast of the southern end of Bathurst Inlet, within the Kitikmeot Region of Nunavut.

The NWB conducted a review of the Amendment Application, including a completeness check, technical review, and a Technical Meeting and a Pre-Hearing Conference (TM/PHC). The TM/PHC was held via video and audio conference on March 26, 2021, with the Applicant and Interveners, the Kitikmeot Inuit Association (KIA), Crown-Indigenous Relations and Northern Affairs Canada (CIRNA) and Environment and Climate Change Canada (ECCC), participating.

The TM, a Community Session, and PHC were originally planned to be conducted on March 2 and 3, 2021. However, on February 2, 2021, the Board rescheduled the TM/PHC to March 23 and 24, 2021, in order to allow parties an additional three weeks before the TM to review Hydrodynamic and Water Quality modelling results provided by Sabina in mid-February. On March 11, 2021, in response to a request from the Kitikmeot Inuit Association, the Board further modified the schedule of the TM/PHC and moved the meetings to March 26 (with the meetings to continue into the morning of March 27, 2021, if additional time was required to complete the agenda). Unfortunately, the community hall in Cambridge Bay was unavailable for the revised dates for the TM/PHC, so the community information session could not be held in the Hall on the evening of March 26. Consequently, to ensure that members of the public remained informed about the Amendment Application and the Public Hearing stage of the Board’s review of the Application, the Board used other mechanisms, such as social media outreach, to provide information to interested members of the community.

On April 19, 2021, the NWB provided notice that a combined in-person and audio/video linked Public Hearing would be conducted for the file in the nearest community, Cambridge Bay, during the week of July 12 – 15, 2021. On July 13 and 14, 2021 the Board held the Public Hearing in respect of the Application as planned. A Community



Session was hosted by the NWB on the evening of July 13, 2021. Due to public health restrictions in place at the time of the Public Hearing (specifically limits on the number of people who could attend indoor gatherings, travel restrictions and isolation requirements associated with travel into Nunavut), the Board made arrangements to support the remote participation of parties outside Nunavut via video or audio links. The Board closed the Public Hearing Record for the Application at the Public Hearing on July 14, 2021, and remitted the file to the Panel for decision-making.

To assess whether to grant Sabina's request for amendments as proposed in the Amendment Application, the Board considered:

- the information provided by Sabina with the Amendment Application;
- technical review comments in respect of the Application by the Board, Interveners and the public;
- the Applicant's commitments and responses to information requests from the parties during the technical review of the Application;
- the final written submissions filed with the Board in advance of and during the Public Hearing, and
- the information provided during the Public Hearing and Community Session.

On this basis, the three-member panel of the Board, Back River Panel (P19), duly appointed by the Board to consider the Amendment Application has, by way of Motion # 2021-05-P19-05, decided the following:

- To grant Sabina's request for amendments to the Type "A" Water Licence No: 2AM-BRP1831 (Water Licence), as set out in the attached amended Water Licence (Amendment No. 1);
- Specific terms and conditions of note in Amendment No. 1 to the Water Licence include the following:
 - the security required to be posted under Part C of amended Water Licence reflects the submissions of the parties that security should be updated to reflect the amended activities. As agreed to by Sabina, the Kitikmeot Inuit Association (KIA) and Crown Indigenous Relations and Northern Affairs (CIRNA), the updated global amount of **\$48,592,110** is required to reclaim the undertaking, but only 67.5% of the total global security amount (**\$32,775,415**) will be held under the Water Licence, with the remaining 32.5% (**\$15,816,695**) to be held under the land lease negotiated by Sabina and the KIA;
 - as requested by Sabina and agreed to by KIA and CIRNA, the security required to be posted under Part C of the Licence is apportioned into 12 segments that are linked to the increase in reclamation liability that would



occur as key project infrastructure associated with the undertaking is constructed; each segment is also apportioned to reflect the extent of the infrastructure located on Crown and Inuit Owned Lands so that the total amount of reclamation security for each segment is split between the amount held under the Licence by CIRNA and the amount expected to be held under the land lease by the KIA;

- Parts D and F of Amendment No. 1 to the Water Licence reflect amendments to the effluent quality limits that must not be exceeded during discharges to the receiving environment;
- Part E of Amendment No. 1 to the Water Licence sets out increases to the volume of water Sabina is authorized to use from various water sources and for various purposes, and specifies the following maximum quantities:
 - up to six hundred and eight thousand and seven hundred (608,700) cubic metres per year from Goose Lake;
 - up to two hundred and seventy-three thousand and seven hundred and fifty (273,750) cubic metres per year from Big Lake; and
 - up to two thousand and twenty-five (2,025) cubic metres per year per kilometre from water sources proximal to the Winter Ice Road (WIR) for the purposes of construction, maintenance, and operation of the WIR and WIR Service/Emergency Camps; and
- Parts I and J have been amended to align the requirements of Amendment No. 1 to the Water Licence with other NWB Licences and to include requirements for the Applicant to provide additional information if the amended Water Licence is approved by the Minister of Northern Affairs.

SECTION I: FILE BACKGROUND AND REGULATORY HISTORY

The Current Application

The application before the Board was filed by Sabina on October 13, 2020 and requests amendments to the existing Type “A” Water Licence No: 2AM-BRP1831 to reflect changes to the existing operations and Project infrastructure associated with the construction/operation of Sabina’s Back River Project (the Amendment Application). The Amendment Application seeks the NWB’s authorization for specific changes (described below) to the existing use of water and deposit of waste associated with the Mining undertaking¹.

¹ SOR/2013-69, Schedule 1, Item 2, Column 2, which describes a “Mining undertaking” as: Exploration or prospecting — including bulk sampling — for minerals other than petroleum or gas, the operation of a mine,



All documents filed in association with the Amendment Application, as well as all documents provided by the Applicant in support of the Application are listed in detail in [APPENDIX D: List of Submissions and Correspondence](#) that is attached to these Reasons for Decision. A list of documentation filed as Exhibits during the Public Hearing is provided in [APPENDIX B – Exhibit List](#). The listing below provides a summary of the key Application materials provided by Sabina from October 13, 2020 through July 14, 2021, and includes the following:

- Amendment Application Cover Letter (October 13, 2020);
- Modification Package with Summaries in English, Inuktitut and Inuinnaqtun;
- Completed Type “A” Water Licence Application Form (October 9, 2020);
- Management Plans and Drawings (various dates, reflecting the dates of updates, etc.);
- Applicant’s responses to Interveners’ submissions (including comments on completeness, technical review comment submissions and the Applicant’s commitments from the TM) (various dates);
- TM presentations in English and Inuktitut (November 23, 2020);
- Amendment Application summary materials presented at the Public Hearing (various dates).

All submissions in respect of the Application are available from the NWB’s public registry at the following link:

<ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-BRP1831%20Sabina/1%20APPLICATION/2020%20Amendment/>

All documentation associated with the Amendment Application and received from the Applicant, the Board, intervening parties and the public is available from the NWB’s public registry at the following link:

<ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-BRP1831%20Sabina/2%20ADMIN/4%20HEARINGS/2%20HEARING/>

the processing of minerals other than petroleum or gas, the restoration of the site of a mine and any other mining activity other than an industrial activity described in item 1, column 2 [of Schedule 1].



Scope of the Application

In the Amendment Application, Sabina is proposing changes to the approved project activities under Type “A” Water Licence No: 2AM-BRP1831 to support ongoing construction and operations at the Back River Project.² Specifically, Sabina is seeking approval for the following proposed changes under the Application³

- Extending Umwelt underground workings from 650 m depth to 900 m;
- Increasing the size of the Goose airstrip from 1,500 m by 47 m (5,000 by 150 feet) to 1,800 by 61 m (6,000 by 200 feet);
- Increasing the size of the Marine Laydown Area (MLA) airstrip from 915 m by 47 m (3,000 by 150 feet) to 1,500 m by 61 m (5,000 by 200 feet);
- Adding 500,000 litres (L) of fuel storage on a new pad at the Marine Laydown Area;
- Placing aggregate over approximately 15 kilometers (km) of rough terrain along the Winter Ice Road between the MLA and Goose site;
- Increasing water use at the Goose site from 468,000 m³ to 882,450 m³ annually;
- Increasing water use for ice road construction and maintenance from 675 m³ per km to 2,025 m³ per km;
- Increasing the volume of waste rock in the Waste Rock Storage Facility (WRSF) from 59 to 86.6 Mt located with no change to the total footprint of the WRSF;
- Adding the use of mined-out open pits for tailings storage;
- Replacing three (3) temporary emergency shelters along the Winter Ice Road with permanent emergency camps;
- Adding two (2) years to the Operations Phase of Project;
- Reducing process plant throughput from 7,000 tonnes per day to between 3,000 - 4,000 tonnes per day;
- Using small diameter flexible pipe for MLA desalination plant intake and discharge instead of approved permanent pipes; and
- Extending the MLA shoreline pad approximately to 41 m long, 9.5 m wide and 2 m in depth.

² Mathew Pickard (Sabina) to Richard Dwyer (NWB), RE: Application for Amendment to Type A Water Licence for Sabina Gold & Silver Corp. Back River Project (NWB File No. 2AM-BRP1831), dated October 13, 2020.

³ Sabina Gold & Silver Corp., The Back River Project, Modification Package, Version 2, dated October 2020.



Licensing History

The original Type “A” Water Licence No: 2AM-BRP1831 (Water Licence) was issued to Sabina on September 21, 2018 and authorized the use of water and deposit of waste associated with the construction and operation of a Mining undertaking at the Back River Project. The Minister of Crown-Indigenous Relations subsequently approved the issuance of the Water Licence on November 6, 2018.

Regulatory and Procedural History of the Application

Pre-Licensing Regulatory History of the Application

The Nunavut Planning Commission (NPC)

With respect to this Amendment Application, the following pre-licensing requirements associated with the Nunavut Planning Commission’s (NPC) land use planning conformity determination for the Application were completed:

On **June 9, 2020**, the NPC issued its land use planning conformity determination for the Amendment Application,⁴ which stated that:

- the Amendment Application is for a Project that remains outside the area of an applicable regional land use plan;
- the activities associated with the Amendment Application (Project Proposal) were previously screened by the Nunavut Impact Review Board (NIRB) (NIRB File No: 12MN036);
- the Project Proposal is a significant modification to the previously approved activities, “*because it is for a component or activity that was not part of the original proposal and its inclusion is a significant modification of the Project*”. On this basis, and because the modification does not belong to a class of works or activities that are exempt from screening by the NIRB, as set out in Schedule 12-1 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)*, the NPC determined that a screening level assessment of the Project Proposal by the NIRB was required; and
- on this basis, the NPC forwarded the Project Proposal to the NIRB for further assessment under Article 12 of the *Nunavut Agreement* and Part 3 of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*).

⁴ Peter Scholz (NPC) to Richard Dwyer (NWB) and others, RE: “NPC file # 149378 [Back River 2020 Modification Package], dated June 9, 2020.



The Nunavut Impact Review Board (NIRB)

Following the NIRB's receipt of the referral of the Amendment Application (Project Proposal) from the NPC, the NIRB reviewed the modification of activities proposed in the Project Proposal. On August 11, 2020, the NIRB issued the NIRB's direction regarding the Application, which stated that a further assessment of the Project Proposal is not required under Article 12 of the *Nunavut Agreement* and s. 92(1)(a) of the *NuPPAA*. Specifically, the NIRB noted that:

...the Back River Project 2020 Modification Package would not constitute a significant modification that requires further assessment by the NIRB if Sabina implements the updates to management and monitoring plans and enhancements to the existing reporting program to reflect the activities in the Back River Project 2020 Modification Package.

...the potential for ecosystemic effects associated with the changes to the Back River Project as proposed in the Back River Project 2020 Modification Package can be addressed via the implementation of updated management and mitigation plans, and enhanced monitoring and reporting.⁵

On this basis, the NWB concluded that the applicable pre-licensing conformity and impact assessment requirements for the Amendment Application as set out under:

- Articles 11, 12 and 13 of the *Nunavut Agreement*;
- Part 3 of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*); and
- ss. 38 and 39 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, S.C. 2002, c. 10 (*NWNSRTA*)

have been met, and the Application could be processed by the NWB.

⁵ Kaviq Kaluraq (NIRB) to Matthew Pickard (Sabina), RE: Nunavut Impact Review Board Direction Regarding the "Back River Project 2020 Modification Package" submitted by Sabina Gold & Silver Corp. in relation to the Back River Project, dated August 11, 2020.



Key Steps in the NWB's Procedural History for the Application

The following listing summarizes only selected key steps in the procedural history of the NWB's processing of the Amendment Application. Complete information related to the procedural history of the Application and all information received in support of the file can be accessed from the NWB's FTP site and Public Registry using the following link:

[ftp://ftp.nwb-oen.ca/registry/2_MINING_MILLING/2A/2AM - Mining/2AM-BRP1831 Sabina/1 APPLICATION/2020 Amendment/](ftp://ftp.nwb-oen.ca/registry/2_MINING_MILLING/2A/2AM_-_Mining/2AM-BRP1831_Sabina/1_APPLICATION/2020_Amendment/)

October 13, 2020

NWB received an application from Sabina to amend the existing Type "A" Water Licence No: 2AM-BRP1831 that governs the Back River Project (the Amendment Application or Application).

October 15, 2020

NWB distributed the Amendment Application for an initial four-week preliminary technical assessment and completeness check with the deadline for submission of comments set for November 13, 2020.

November 12, 2020

NWB received submission from ECCC regarding their preliminary technical assessment and completeness check of the Application.

November 13, 2020

NWB received submissions from the KIA and CIRNA regarding their preliminary technical assessment and completeness check of the Application.

November 16, 2020

NWB requested Sabina to address the comments received from the Interveners during the preliminary technical assessment and completeness check of the Application with a deadline set for November 30, 2020.

November 30, 2020

The Applicant provided responses to the comments submitted by the Interveners, and NWB forwarded Sabina's responses to the parties, asking Interveners to indicate whether the responses satisfied the Intervener's request.

December 4, 2020

ECCC confirmed their satisfaction with Sabina's responses and deemed the Amendment Application sufficient to move forward to the full technical review stage of the process.

December 4, 2020

KIA and CIRNA confirmed their satisfaction with Sabina's responses and deemed the Amendment Application sufficient



March 1-2, 2021

NWB received and distributed the Interveners' comments on the Hydrodynamic and Water Quality Modelling of Goose Lake.

March 11, 2021

In response to a request by the KIA to move the Technical Meeting and Pre-Hearing Conference (TM/PHC) for the file to later in the week of March 22-26, the NWB provided notice to the parties that the TM/PHC was moved to March 26-27, 2021.

March 12, 2021

NWB distributed Sabina's Responses to the Interveners' comments on the Hydrodynamic and Water Quality Model. NWB distributed correspondence including the draft agendas for the TM/PHC.

March 15-17, 2021

NWB received confirmation of participation at the TM/PHC and presentation materials from Sabina, KIA, CIRNA and ECCC, and the NWB distributed these submissions.

March 19, 2021

NWB distributed the final Agenda for the TM/PHC.

March 26, 2021

NWB conducted the TM/PHC via video and audio conference.

April 19, 2021

The NWB issued the Pre-Hearing Conference Decision for the file; including providing a list of commitments, identifying issues to be addressed at the Public Hearing and proposing tentative timelines as the Amendment Application proceeded to a Public Hearing.

NWB published a Notice of Public Hearing to be held in Cambridge Bay in the week of July 12, 2021.

May 27, 2021

NWB received and distributed Sabina's updated Hydrodynamic Model.

June 15-25, 2021

NWB received the Final Written Submissions from the parties and the Applicant.

July 13-14, 2021

The NWB conducted the in-person Public Hearing in Cambridge Bay (with audio and video links for remote participants) for the Amendment Application, including hosting a Community Information Session on the evening of July 13, 2021.



NWB Timeline for Processing the Application

As set out under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, S.C. 2002, c. 10 (*NWNSRTA*), s. 55.2, the NWB is required to process Amendment Applications in relation to Type “A” Water Licences within nine (9) months from the receipt of a complete application. However, as expressly noted in the *NWNSRTA*, s. 55.31⁶ this nine-month time period does not commence until the Nunavut Planning Commission’s conformity determination and (if required) the Nunavut Impact Review Board’s assessment has been completed and the Board considers an application to be complete and provides public notice of the application. In addition, under s. 55.4 of the *NWNSRTA*, when the Board requires an applicant to provide information or additional studies to advance the Board’s processing of their application, the time taken by the applicant to provide the additional information is not included in the calculation of the nine-month time limit under s. 55.2.

Applying these provisions to determine the timeline for the NWB’s processing of the Amendment Application, the Board notes the following:

- As set out in the key procedural steps outlined above, although Sabina submitted a preliminary version of the Amendment Application to the Board on October 13, 2020, the NWB indicated that all materials required by the NWB to consider the Application to be complete were not submitted until December 2020;
- On December 17, 2020 the NWB deemed the Amendment Application to be complete and issued Public Notice of the Application (as required under s. 55(1) of the *NWNSRTA*) and commenced the technical review period for the Application;
- The full technical review of the Amendment Application by Interveners was extended from the end of January into March, 2021 to allow sufficient time for Sabina to file a Hydrodynamic and Water Quality Modelling of Goose Lake in mid-February, followed by time for Interveners to provide comments on the Hydrodynamic Model prior to the Technical Meeting; and
- During the technical review of the Application, Sabina also committed to provide specific updated Hydrodynamic modelling results in a Technical Memo filed with the Board in May 2021 to address the technical review comments of Interveners.

Consequently, the Board has determined that since December 2020 when the Notice of the Amendment Application was provided, there was a period of approximately 6-8 weeks in 2021 when the NWB awaited the submission of additional information from Sabina in relation to the Hydrodynamic and Water Quality Modelling of Goose Lake and associated

⁶ As stated in s. 55.31:

If the Board is cooperating and coordinating with the Nunavut Planning Commission...or with the Nunavut Impact Review Board, the time limit referred to in section 55.2 does not begin to run until the Nunavut Planning Commission, Nunavut Impact Review Board...has completed its screening or review of the project.



updated information. As set out in s. 55.4 of the *NWNSRTA*, the NWB has not included this approximately two-month period in the calculation of the nine-month timeline applicable to the Board’s consideration of the Application.

Considering these factors, the Board has determined that, when the period of “waiting time” is excluded from the calculation of the NWB’s timeline for consideration of the completed Amendment Application and issuance of these Reasons for Decision, the NWB has taken approximately seven (7) months to process the Amendment Application. Consequently, the NWB has concluded that the NWB’s decision-making has been completed and provided to the Minister of Northern Affairs within the nine-month timeline for processing the Application mandated under s. 55.2 of the *NWNSRTA*.

SECTION II: SUMMARY OF FINAL SUBMISSIONS OF THE PARTIES

Kitikmeot Inuit Association (KIA)

The Kitikmeot Inuit Association (KIA) is a Designated Inuit Organization under the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada (Nunavut Agreement)*, representing the rights and values of the Inuit within the Kitikmeot Region of Nunavut. The specific focus of the KIA’s review of the Amendment Application relates to Inuit rights to water and wildlife compensation, landowner rights (including requirements associated with the Applicant posting security for reclamation of the components of the undertaking on Inuit Owned Lands) and negotiation of an Inuit Impact and Benefit Agreement (IIBA), (including water user compensation).

In its technical review prior to the Technical Meeting, the KIA raised a number of issues, with a focus on the following topics:

- Winter Ice Road (WIR) subbase upgrade;
- Upgraded WIR summer water and dust management;
- WIR Service/Emergency camps;
- Barriers to fish passage after mine decommissioning;
- Shoreline Pad extension at the Marine Laydown Area (MLA);
- Goose Property and MLA airstrip extension;
- Umwelt Underground extension;
- Total water use increase at the Goose Property;
- Temperature and precipitation predictions in the Hydrodynamic Model;



- Updates to the deleterious substance list under the *Metal and Diamond Mining Effluent Regulations*⁷ (MDMER);
- Defined closure period;
- Additional meromictic lake storage as part of saline water management;
- Man-made surface containment ponds as part of saline water management;
- Transport and disposal of saline water to Bathurst Inlet as part of saline water management;
- Background water quality inputs to Water and Load Balance Model;
- Divergence from Final Environmental Impact Statement (FEIS) predicted impacts to Goose Lake;
- Change in discharge period to include two years of the Operational Phase;
- Water quality predictions and defining the mixing zone within the receiving environment;
- Water quality inputs into the Hydrodynamic Model;
- Hydrodynamic Model calibration;
- Warm-up period⁸ for the Hydrodynamic Model; and
- Updated reclamation security estimate.

Specifically, the KIA provided the Board with the following requests resulting in the commitments outlined in the List of Commitments provided within the Pre-Hearing Conference Decision:⁹

- Sabina to provide additional Hydrodynamic Model results for years 1 through 10, to assess water quality in Goose Lake including at discharge and other reference stations (e.g. at approximately 100 m, 200m from each inflow into Goose Lake);
- Sabina to provide proposed effluent quality criteria for parameters of concern identified in the Hydrodynamic Model update, with associated rationale;
- Sabina to convene a teleconference with KIA, ECCC, CIRNA and other interested stakeholders to provide an overview of the planned updates to the Hydrodynamic Model;

⁷ SOR/2002-222

⁸ As indicated in Sabina's responses to Technical Comments on the Hydrodynamic Model, dated March 12, 2021, "*a warm-up period was included to provide sufficient time for the Model to reach dynamic equilibrium before simulation results were used for comparison against measured data or for future predictions.*"

⁹ NWB, Pre-Hearing Conference Decision Regarding an Amendment Application for Amendment to the existing Type "A" Water Licence No: 2AM-BRP1831, April 19, 2021.



- Sabina to include into the updated Hydrodynamic Model the mixing zone design for all discharges into Goose Lake, taking into account additional field data;
- Sabina to provide an explanation of how the groundwater inflow estimates have been reduced, information on the effectiveness of grouting and an evaluation of the available saline groundwater storage, including a discussion regarding estimated time to reach capacity;
- Sabina to update all applicable management plans following the completion of the updated Hydrodynamic Model, specifically:
 - The Water Management Plan;
 - The Tailings Management Plan; and
 - The Waste Rock Management Plan.

In addition to the above comments, as set out in detail in [APPENDIX D: List of Submissions and Correspondence](#), on March 17, 2021, the KIA provided their final written submission¹⁰ to the NWB summarizing the KIA’s comments on the Amendment Application received throughout the NWB’s process. The KIA also attended the in-person Public Hearing for the Amendment Application in Cambridge Bay on July 13 and 14, 2021, and engaged in further discussion of outstanding issues at that time.¹¹

In their final written submission, the KIA stated that all of their seventeen Information Requests and four out of six Technical Comments had been resolved through discussions during the Technical Meeting and through Sabina’s submissions of new supporting documentation, including the updated Hydrodynamic Model. Additionally, the KIA indicated that the two outstanding technical issues pertaining to the divergence from the FEIS predicted impacts to Goose Lake and Water quality predictions and the mixing zone definition had been tentatively resolved subject to Sabina providing additional information on these topics.

At the Public Hearing, the KIA presented¹² the following outstanding concerns and recommended that the NWB add new or modify existing terms and conditions in the amended Water Licence as follows:

- Sabina to provide the Site-Specific Water Quality Objectives (SSWQO) derivation document and the basis for nitrate SSWQO for Goose Lake;

¹⁰ Kitikmeot Inuit Association, “Final Submission for Water Licence No: 2AM-BRP1831; Amendment Application by Sabina Gold & Silver Corp.; Back River Project”, dated June 15, 2021.

¹¹ KIA, Exhibit #14, NWB Public Hearing File No: Water Licence 2AM-BRP1831; Electronic copy of the PowerPoint Presentation (*English*), filed on July 13, 2021.

¹² NWB Public Hearing, File No: 2AM-BRP1831, Transcript, Public Hearing, Volume 1 – July 13, 2021, pp. 67-77.



- Sabina to provide the Total Phosphorus Equilibrium Criterion Model incorporating nitrogen as a contributor to eutrophication of Goose Lake;
- Sabina to provide more information on the Ekati Diamond Mine hardness equation used in the model to substantiate its use for Goose Lake;
- Sabina to clarify the one discharge location of Effluent for Goose Lake, which is Location B in the modelling, and to adopt one discharge rate of 1,900 m³/day;
- Sabina to provide a sensitivity analysis in the next iteration of the Hydrodynamic Model;
- Sabina to update the *Aquatic Effects Management Plan (AEMP)* to reflect additional monitoring of cryoconcentrated¹³ conditions in the shallow area of the neck of Goose Lake, as well as monitoring at the discharge Location B in Goose Lake; and
- Assessment of ammonia toxicity in effluent to be provided for the full *Metal and Diamond Mining Effluent Regulations (MDMER)*¹⁴ range of pH.

Additionally, at the Public Hearing, the KIA confirmed that the KIA and Sabina have resolved all issues associated with security, including the breakdown of the stages, the split per stage and the security amount per stage, stating as follows:

... we accept the table [Draft Water Licence Framework Addendum Part C, Item 1 - Table 1, filed as Exhibit 25 in the Public Hearing] as presented by Sabina, both in terms of the overall quantum, the breakdown of the stages, the quantity per stage, the split per stage, and the overall split between land and water. [...] What KIA is concerned with is receiving our money as soon as possible, our security, and this proposal does that. And, in fact, it's slightly better than what we had in 2018.¹⁵

¹³ “Cryoconcentration” means the increased concentration of solutes due to exclusion by ice overlying the water body.

¹⁴ SOR 2002/222.

¹⁵ NWB Public Hearing, File No: 2AM-BRP1831, Transcript, Public Hearing, Volume 2 – July 14, 2021, pp. 167-168.



Crown-Indigenous Relations and Northern Affairs (CIRNA/CIRNAC)

Crown-Indigenous Relations and Northern Affairs (CIRNA) administers Crown land and resources and enforces regulatory permits affecting land and water resources in Nunavut, under the following Acts and associated regulations:

- *Department of Crown-Indigenous Relations and Northern Affairs Act*;¹⁶
- *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada (Nunavut Agreement)*;
- *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSTRA)*;¹⁷
- *Territorial Lands Act*;¹⁸ and
- *Arctic Waters Pollution Prevention Act*.¹⁹

As set out under the *NWNSTRA*, CIRNA is responsible for enforcing the provisions of water licences issued by the NWB, and specifically, the terms and conditions of the Applicant's existing Water Licence No: 2AM-BRP1831.

CIRNA participated in all phases of the Amendment Application process, providing specialist advice, expert information and knowledge in accordance with the *Nunavut Agreement*. Reflecting CIRNA's responsibilities and jurisdiction, the following key issues were highlighted in CIRNA's initial comment submissions on the completeness of the Amendment Application, in their full technical review comment submissions, and in their submissions at the Technical Meeting (TM):

- Groundwater inflow parameters;
- Methodology for extrapolated water quantity and quality predictions;
- Unanticipated groundwater quantities;
- Treated sewage attenuation;
- Active layer groundwater monitoring;
- Design criteria for event ponds;
- Design criteria for diversion berms and culverts;
- Water and Load Balance Model 2020 Update;
- Water and Load Balance Model limitations and climate change adjustments;
- Hydrodynamic Model;

¹⁶ S.C. 2019, c. 29, s. 337.

¹⁷ S.C. 2002, c. 10.

¹⁸ R.S.C. 1985, c. T-7.

¹⁹ R.S.C. 1985, c. A-12.



- Saline Water Pond balance;
- Saline Water Pond permafrost;
- Lake mixing model;
- Goose Property waste and water management;
- Goose Property waste rock management;
- Mass balance assessment;
- Reclamation Plan and Cost Estimate;
- Arsenic concentration in tailings beach sediments;
- Criteria for segregating potentially acid generating (PAG) and non-PAG rocks;
- Use of containment ponds as tailings facilities;
- Temporary PAG rock stockpiles;
- Quarry site development plans; and
- Additional approved infrastructure in the *Tailings Management Plan*.

Specifically, CIRNA provided the Board with the following requests, resulting in the commitments outlined in the List of Commitments provided within the Pre-Hearing Conference Decision:²⁰

- Sabina to provide an updated Hydrodynamic Model;
- Sabina to include annual comparison of measured and modelled groundwater inflow rates in annual reports;
- Sabina to ensure that only ponds designed to contain tailings are used as tailings facilities, and that any additional facilities will be captured in updated reclamation plans and updates to reclamation costs and security;
- Sabina to include the approved infrastructure section into the *Tailings Management Plan*;
- Sabina to update the *Interim Closure Reclamation Plan* and Security Estimate; and
- Sabina to update the Draft Water Licence Security Framework.

²⁰ NWB, Pre-Hearing Conference Decision Regarding an Amendment Application for Amendment to the existing Type “A” Water Licence No: 2AM-BRP1831, April 19, 2021.



In addition to the above comments, as set out in detail in [APPENDIX D: List of Submissions and Correspondence](#), on June 15, 2021, the NWB received CIRNA’s final written submission²¹ summarizing CIRNA’s comments on the Amendment Application received throughout the NWB’s process. Unfortunately, due to departmental restrictions on travel, CIRNA personnel were not able to attend the Public Hearing in person, and CIRNA participated by videoconference only. During the Public Hearing, despite these limits on their participation, CIRNA engaged in further discussion of outstanding issues via their presentation, asking and answering questions.²²

In their final written submission, CIRNA summarized its previous recommendations and the Applicant’s responses as follows:

CIRNAC submitted nineteen Information Requests (IRs) and nine Technical Review Comments (TCs). Exchanges and discussion with Sabina during the water licence amendment process so far have allowed CIRNAC to clarify most of the issues we identified. CIRNAC has outstanding concerns on two topics: water quality in Goose Lake and reclamation security. Ongoing discussions with Sabina and the Kitikmeot Inuit Association should allow us to resolve the second concern, at which time a further submission would be made to the Board.

At the Public Hearing, CIRNA presented²³ their outstanding concerns and recommended that the NWB add new or modify existing terms and conditions to the Water Licence as follows:

- Provide an annual comparison of measured groundwater inflow rates to model predictions in all future Annual Reports;
- Provide discussion on progressive reclamation and whether it is proceeding as planned within all future Annual Reports;
- Update the *Water Management Plan* to integrate changes to water management on site that are being proposed based on Hydrodynamic Model findings;
- Provide projected water quality data in Goose Lake during closure and post-closure;

²¹ CIRNA, “Final Submission for Amendment of Water Licence 2AM-BRP1831, Back River Project (Sabina Gold & Silver Limited)”, dated June 15, 2021.

²² CIRNA, Exhibit #16, NWB Public Hearing File No: Water Licence 2AM-BRP1831; Electronic Copy of the PowerPoint Presentation (*Inuinnaqtun/English*), filed on July 13, 2021.

²³ NWB Public Hearing, File No: 2AM-BRP1831, Transcript, Public Hearing, Volume 1 – July 13, 2021, pp. 89-99.



- The next update to the Hydrodynamic Model, should be provided within 90 days of the Minister’s approval of an amended licence and the update should incorporate more detailed inputs, including field data to be collected in 2021, and the forecast period covering operations, closure and post-closure;
- Update the *Waste Rock Management Plan* to correct the inconsistencies in the definitions of the PAG rock;
- Update the *Borrow Pit and Quarry Management Plan* to clarify that temporary PAG stockpiles will be within quarry footprints, runoff from the quarries will be monitored, and piles will be in place a shorter period of time than the time for onset of acidic conditions from the rock;
- Update the *Tailings Management Plan* to include a section for “other approved infrastructure”; and
- Correct the inconsistency in the title above the table of contents of the Saline Water Management Plan.

At the Public Hearing, CIRNA recommended²⁴ that the total global reclamation security amount be increased to \$48,592,111 in order for the Crown and the KIA to be fully secured for the reclamation of the Undertaking, recognizing the changes to the activities and infrastructure associated with the Back River Project included within the scope of the Amendment Application. CIRNA also confirmed that the updated allocation of security as proposed by Sabina in Exhibit 25,²⁵ is acceptable to CIRNA: “So we're all aligned with the submission that was made.”²⁶

²⁴ NWB Public Hearing, File No: 2AM-BRP1831, Transcript, Public Hearing, Volume 1 – July 13, 2021, p. 97.

²⁵ Sabina, Exhibit #25, NWB Public Hearing File No: Water Licence 2AM-BRP1831; Electronic Copy of the Draft Water Licence Framework Addendum Part C, Item 1 - Table 1 filed on July 14, 2021.

²⁶ S. Dewar, CIRNA, NWB Public Hearing, File No: 2AM-BRP1831, Transcript, Public Hearing, Volume 2 – July 14, 2021, p.169, line 2.



Environment and Climate Change Canada (ECCC)

The focus of Environment and Climate Change Canada's (ECCC) involvement in respect of the Amendment Application is based on their jurisdiction under

- *Department of the Environment Act*,²⁷
- *Canadian Environmental Protection Act*,²⁸
- *Fisheries Act*,²⁹
- *Migratory Birds Convention Act*,³⁰ and
- *Species at Risk Act*.³¹

ECCC has general responsibility for environmental management and protection; preservation and enhancement of water, air and soil quality; conservation and protection of migratory birds, species at risk, flora and fauna; the gathering and provision of meteorological information; coordination of various specific environmental policies and programs; and enforcement of the pollution prevention provisions of the *Fisheries Act*.

ECCC participated in all phases of the Amendment Application process, providing specialist advice, expert information and knowledge in accordance with the *Nunavut Agreement*. The following key issues were highlighted in ECCC's initial comment submissions on the completeness of the Application, in their full technical review comment submissions, and in their submissions at the Technical Meeting (TM):

- Saline water management;
- Groundwater inflows into the underground mines;
- Establishment of meromixis within Umwelt mined-out pit or Umwelt reservoir;
- Updated Water and Load Balance (inconsistencies);
- Updated modelling predictions and comparison to Water Quality Guidelines;
- Hydraulic conductivity of fractured zone near the Tailings Storage Facility Dam;
- Tailings production and storage;
- Waste Rock Storage Area design;
- Hydrodynamic Modelling and Water Quality in Goose Lake; and
- Air quality.

²⁷ R.S.C. 1985, c. E-10

²⁸ S.C. 1999, c. 33.

²⁹ R.S.C. 1985, c. F-14.

³⁰ S.C. 1994, c. 22.

³¹ S.C. 2002, c. 29.



As part of the Technical Meeting, ECCC provided the following recommendations to be considered by Sabina to resolve technical issues and to be included as commitments within the Pre-Hearing Conference Decision:

- Sabina to provide a comparison of changes in outputs from the Water and Load Balance as a result of the changes to the Hydrodynamic Model assumptions;
- Sabina to provide a discussion of how the changes to the initial conditions and reduced annual freshwater inputs may impact the development of meromixis in Umwelt Pit, as compared to Llama Pit;
- Sabina to provide information on the final ratio of freshwater to saline water in Umwelt Pit, as compared to Llama Pit.
- Sabina to review the outputs of the Water and Load Balance in the Hydrodynamic Model to eliminate inconsistencies in the data presented;
- Sabina to model nodes intended to meet specific criteria (Canadian Council of Ministers of the Environment (CCME), *Site-specific Water Quality Objectives* (SSWQO), the *Metal and Diamond Mining Effluent Regulations*, SOR/2002-222 (*MDMER*), etc.) and provide a comparison of modelled water quality to guidelines and criteria;
- Sabina to discuss sources of exceedances of the *CCME Water Quality Guidelines for the Protection of Aquatic Life* and whether assumptions used in the Hydrodynamic Model have resulted in accurate predictions for water quality;
- Sabina to discuss modelled exceedances of *CCME Water Quality Guidelines for the Protection of Aquatic Life* at PN03 and other relevant nodes, and potential impacts to aquatic life if these concentrations are realized;
- Sabina to provide a discussion of the potential impacts to aquatic life within Goose Lake given the modelling predictions and predicted exceedances;
- Sabina to provide a discussion on the extent of the mixing zones from PN04 and PN05 and provide modelled concentrations at the edge of the proposed mixing zones;
- Sabina to provide a discussion of the minimal data used to calibrate the Hydrodynamic and Water Quality Model and how outcomes of the Model have been impacted, and may be impacted in future iterations;



- Sabina to include additional sensitivity scenarios into the Hydrodynamic and Water Quality Model updates to reduce Model uncertainty;
- Sabina to provide a comparison of modelled water quality in Goose Lake to natural background concentrations in order to detect changes to water quality conditions in Goose Lake; and
- Sabina to provide further clarification on the potential for exceedances of chromium water quality benchmarks at PN03 as per Hydrodynamic and Water Quality Model.

In addition to the above comments, as set out in detail in [APPENDIX D: List of Submissions and Correspondence](#), on June 15, 2021, the NWB received ECCC’s final written submission³², summarizing their comments on the Amendment Application received throughout the NWB’s process.

Unfortunately, due to departmental and public health restrictions on travel into Nunavut, ECCC personnel were not able to attend the Public Hearing in person, and ECCC participated by videoconference only. During the Public Hearing, despite these limits on their participation, ECCC engaged in further discussion of outstanding issues via their presentation, asking and answering questions.³³

In their final written submission, ECCC identified concerns and provided recommendations with regard to water quality and bedrock fractured zones, and in particular, with respect to the updated Hydrodynamic Model and the preliminary Effluent Quality Criteria (EQC) for parameters of concern.

At the Public Hearing, ECCC presented³⁴ the Department’s outstanding concerns, recommending that the Board consider the following revisions (additions and modifications) to the existing terms and conditions of the Water Licence to reflect the following:

- Undertake an infill geotechnical characterization at the Tailings Storage Facility (TSF) and further testing including percolation testing and hydraulic conductivity testing prior to construction of the TSF;

³² ECCC, “Environment and Climate Change Canada’s Final Written Submission to the Nunavut Water Board Respecting the Type A Water Licence Amendment Application for the Back River Project proposed by Sabina Gold & Silver Corp.,” dated June 15, 2021.

³³ ECCC, Exhibit #18, NWB Public Hearing File No: Water Licence 2AM-BRP1831; PowerPoint Presentation (*English*), filed on July 13, 2021.

³⁴ NWB Public Hearing, File No: 2AM-BRP1831, Transcript, Public Hearing, Volume 1 – July 13, 2021, pp. 119-125.



- Predicted total phosphorus and nitrogen inputs be reviewed and the potential for eutrophication in Goose Lake evaluated in the context of increasing nitrogen and total phosphorus loadings;
- Provide additional information on candidate treatment technologies, which would achieve the proposed Effluent Quality Criteria (EQC), and the timelines for implementing treatment;
- Establish water quality action levels for Goose Lake to detect changes to receiving environment water quality, which would serve as an early warning system for detecting any changes occurring in Goose Lake;
- Complete model validation upon commencing discharge into Goose Lake, which should include comparison of measured effluent and water quality data to model predictions such that the model may be adjusted accordingly;
- Include the aforementioned comparisons and analyses, including any model updates, in the annual report; and
- Provide additional information on how the United States Environmental Protection Agency (US EPA) aluminum water quality guideline has been modified to create a Site-Specific Water Quality Objective (SSWQO) for the Back River Project.

Sabina Gold & Silver Corp. (Sabina, Applicant or Licensee)

Responses to Issues Raised by Interveners

During the licensing process, Sabina was fully engaged and provided discussions and clarifications, which were requested by parties during different review stages of the Amendment Application. Additionally, Sabina attended the in-person Public Hearing for the Amendment Application in Cambridge Bay on July 13 and 14, 2021, where they engaged in further discussion of outstanding issues via their presentation³⁵, answering and asking questions.³⁶ The information provided by Sabina throughout the entire licensing process, including the Public Hearing, is summarized below.

Winter Ice Road (WIR) Upgrade

In response to the KIA's enquiries regarding the WIR Subbase upgrade, Sabina committed to inspect each WIR Subbase Upgrade section (via helicopter, satellite or drone imagery) during the snow free months for any potential degradation and drainage concerns (sedimentation or erosion) to determine whether corrective actions are needed, and to

³⁵ Sabina, Exhibit #10, NWB Public Hearing File No: Water Licence 2AM-BRP1831; PowerPoint Presentation (*English*), filed on July 13, 2021.

³⁶ NWB Public Hearing, File No: 2AM-BRP1831, Transcript, Public Hearing, Volume 1 – July 13, 2021, pp. 33-44.



mitigate any identified degradation to reduce environmental risks from the sub-base placement and to limit any potential long-term effects on permafrost. Sabina also clarified that *“during the Closure Phase, fill placed in WIR Subbase Upgrade areas [would] be scarified if required, but [would] otherwise remain intact to ensure preservation of permafrost, as removing this material may cause more degradation than leaving in place.”*

³⁷ Additionally, Sabina confirmed that no portion of the WIR would be suitable for all-season road traffic, and that Sabina did not intend to use any portion of the WIR year-around.

In response to the KIA’s concerns regarding the development of permanent, impassable barriers in the upstream areas, Sabina clarified that: *“the intention of the proposed barrier at the mouth of Goose Inflow East [was] to avoid upstream risks from planned mining activities that may affect fish health during Operations and Closure.”* ³⁸ Accordingly, Sabina committed to removing the barriers to fish passage and restoring access to upstream spawning and rearing habitats, *“when conditions are suitable for aquatic life during Post-Closure,”* in accordance with the *Fish Offsetting Plan*.³⁹

Marine Laydown Area (MLA) Shoreline Pad Extension

In response to the KIA’s concerns regarding potential effects to fish and fish habitat during the MLA Shoreline Pad extension, Sabina clarified that although they currently had no plans for underwater blasting or pile driving, they committed to using bubble curtains as mitigation measures during relevant work windows, if such works were required. Sabina also clarified that *“the natural habitat features of the affected shoreline and intertidal zone [would] be restored to the extent possible upon decommissioning of the shoreline pad in Closure”* and that *“Sabina’s assessment of the shoreline pad extension and commitment to fish habitat protection [would] be summarized and submitted to DFO for their review through the DFO Request for Review application process.”*⁴⁰

Water Use Increase

In response to CIRNA’s enquiry regarding the proposed nearly two-fold increase in freshwater consumption for the Goose Property and a potential proportionate increase of the wastewater to be discharged to the environment, Sabina provided the following answer:

³⁷ Sabina Gold & Silver Corp., “Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment”, dated November 30, 2020

³⁸ Sabina Gold & Silver Corp., “Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment”, dated November 30, 2020

³⁹ Sabina Gold & Silver Corp., “Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment”, dated November 30, 2020

⁴⁰ Sabina Gold & Silver Corp., “Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment”, dated November 30, 2020



Sabina has learned through Detailed Engineering that additional freshwater is required for the Process Plant than originally anticipated and identified during the Feasibility Study; [...] Sabina is requesting additional water at this time as a proactive measure to ensure that, during Operations, Sabina does not need to make an emergency request.

Sabina clarifies that the increase in additional freshwater required, if utilized, will not have a reciprocal increase in wastewater at the Project. Wastewater volumes may marginally increase; however Sabina is now maximizing the available reclaim water and most of the freshwater will be utilized within the system and therefore will not generate much additional wastewater.

Sabina notes that all wastewater generated at the Project must be managed as per the Terms and Conditions of the NWB approved Type A Water Licence (i.e., treatment, discharge, and closure objectives are all set and will apply).⁴¹

In response to the KIA's question about the increase in total water use and its potential effects on surface hydrology and fish habitat, Sabina clarified that the Goose Lake water withdrawals were assessed for the seasonal withdrawal schedule "for both an average flow scenario and an extreme dry 1-in-20 year condition" and that this assessment concluded that "the surface water hydrology impact classification in the FEIS would not change from the additional 400 m³/day during the months of June to October from Goose Lake and the additional 750 m³/day of year-round water withdrawal from Big Lake, specifically for effects to hydrological indicators (streamflows and lake volumes) at assessed waterbodies." Sabina further clarified that "all hydrological indicators had a low magnitude category for effects" and that "the predicted changes remained within environmental guidelines [...] for the protection of fish and fish habitat within the Local Study Area boundaries." To demonstrate low risk to fish habitat at the Goose Lake outflow, Sabina committed to "submit additional information on potential changes to fish habitat from the increased withdrawals in Goose Lake to DFO for their review through the DFO Request for Review application process." Additionally, Sabina proposed to "use an adaptive management approach for mitigating the potential effects to surface hydrology (fish habitat) under future climate change scenarios." Sabina also confirmed that "proposed water withdrawals for the WIR, which are anticipated from December to April, [would] meet all applicable guidelines for the protection of fish and fish habitat and that field verification plans, including water depth measurements and water use monitoring

⁴¹ Sabina Gold & Silver Corp., "Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment", dated November 30, 2020



[...] would be completed during WIR construction and operation to confirm waterbody suitability for the proposed withdrawals.”⁴²

Waste Management

In response to CIRNA’s enquiry as to where and how the additional 27 million tonnes (Mt) of waste rock will be placed and stored, Sabina clarified that *“the originally permitted WRSAs [Waste Rock Storage Area] footprints [continued] to provide sufficient storage capacity for waste rock, and the waste rock ratio of NPAG to PAG [remained] unchanged.”* Additionally, Sabina noted that *“while some individual WRSAs had changed footprints slightly, the overall total WRSA footprint [had] only increased by approximately 5 ha (i.e., approximate 2% increase)”*, which was accommodated by *“increasing the overall height of some facilities”*, which were still within the previously approved Geotechnical Design Parameters.⁴³

In response to the KIA’s question regarding additional non-potentially acid generating (NPAG) waste rock resulting from the Umwelt Underground Extension to be utilized for a greater depth of tailings capping on closure and road enhancements, Sabina clarified that although *“thermal modelling completed during the Environmental Assessment determined that a 5-m cover of NPAG material on all WRSAs, including the TSF WRSA [Tailings Storage Facility, Waste Rock Storage Area], would be sufficient to achieve closure objectives”*, Sabina committed to *“implement appropriate adaptive management measures, which could include increasing the thickness of the 5-m NPAG waste rock cover, should the [Ground Temperature Cables (GTCs)] monitoring data identify that the permafrost [was] not aggrading into the WRSAs at the rate anticipated.”* Additionally, Sabina clarified that *“for the WIR Subbase Upgrades, Sabina intended to use geochemically suitable material that would be sourced from borrow pits and/or quarries located along the WIR road alignment and at the MLA and the Goose Property, Sabina intended to use NPAG material sourced from open pits to construct site roads as much as feasible.”*⁴⁴

In response to ECCC’s concern regarding the bedrock fractured zone at the proposed Tailings Storage Facility (TSF), Sabina noted that *“geotechnical drilling completed to date at the TSF suggested that there were no continuous potential flow pathways, but committed to complete an infill geotechnical characterization program at the TSF... to ensure that the design meets the required intent of managing seepage through both the foundation and the*

⁴² Sabina Gold & Silver Corp., “Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment”, dated November 30, 2020

⁴³ Sabina Gold & Silver Corp., “Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment”, dated November 30, 2020

⁴⁴ Sabina Gold & Silver Corp., “Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment”, dated November 30, 2020



body of the TSF Dam.” Furthermore, Sabina noted that they would “conduct percolation testing immediately prior to TSF Dam construction prior to excavating the key trench for the TSF Containment Dam” to evaluate bedrock hydraulic conductivity.⁴⁵

Defined Closure Period

In response to the KIA’s concern regarding the closure period and potential 14 to 20 year lag time in exhibiting acidic drainage, Sabina clarified that all “*potentially acid generating (PAG) waste rock within the WRSAs, including the TSF WRSA, [would] be progressively capped [with at least 5 m of] non-potentially acid generating (NPAG) waste rock and overburden*”, such that “*the Llama and Umwelt WRSAs [would] be fully constructed and covered with NPAG material by the end of Year 5*”, and the TSF WRSA would be reclaimed in the following stages: “*the majority of NPAG waste rock cover [would be] placed by Year 6, and then waste rock placement [would] pause until the TSF supernatant [was] fully reclaimed through the Process Plant in Year 12; [t]he small outstanding portion of NPAG waste rock cover [would] be placed at the TSF WRSA during Year 12 and 13.*” Sabina also highlighted that “*while PAG material might lead to acidic drainage after a lag time of 14 to 20 years, this lag time [was] expected to be longer than the amount of time required for the PAG waste rock ... to freeze.*” To summarize their response, Sabina provided the following conclusion:

By the end of the Closure Phase (Year 20), the Llama and Umwelt WRSAs will have been fully closed and monitored for 15 years, and most of TSF WRSA will have been closed and monitoring for 14 years, with except of a small area that will have 7 years of monitoring by that time.

Should the above monitoring identify that water quality from the WRSAs would not meet discharge criteria, Sabina would implement contingencies as outlined in Section 8 of the approved Waste Rock Management Plan. The adaptive management measures could include a longer closure period, additional cover material or alternative covers, or additional water treatment.⁴⁶

Saline Water Management

In response to the KIA’s and ECCC’s enquiry regarding the potential for stratification within Llama Reservoir, Umwelt Reservoir and Goose Main pit, and whether these facilities can support meromixis and be utilized as a temporary or permanent saline water storage, Sabina noted that “*meromixis in Llama Pit was presented, technically reviewed,*

⁴⁵ Sabina Gold & Silver Corp., “Back River Project, Responses to Technical Comments for Water Licence (2AM-BRP1831) Amendment”, dated February 12, 2021

⁴⁶ Sabina Gold & Silver Corp., “Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment”, dated November 30, 2020



and approved” in the mine plan, which was submitted as part of the original application for the current Water Licence. Sabina further discussed that “the establishment of meromixis [was] dependent on the ability of the salinity gradient to resist mixing.” Sabina also clarified that meromixis [would] initially develop in [any exhausted open] pit in the spring after ice melt produced a freshwater cap” and that “the groundwater [was] expected to be very saline (similar to seawater), which would create a large density difference between the freshwater cap and the underlying saline layer.” Sabina further clarified that “Umwelt Reservoir [would] have a similar ice thickness and similar surface area to Llama Reservoir” and continued that “[t]he saline water at the Project [had] a much greater level of salinity (10x higher) when compared to other northerly meromictic pit lakes (Pieters and Lawrence 2014); as such, this increased density between the saline and freshwater [was] expected to resist mixing.”⁴⁷

With respect to the exhausted Goose Main Pit being used for the permanent storage of saline water, Sabina stated the following:

*[T]he opportunity would not be available until at least Year 9 of Operations. As such, there would be sufficient time to observe and verify the success of meromixis at other flooded pits at the Project to ensure meromixis could be achieved at Goose Main Pit.*⁴⁸

With respect to the contingency use of man-made surface containment ponds for saline water storage, Sabina clarified that such storage options “are not anticipated as part of the 2020 Modification Package mine plan” and reaffirmed the following commitment:

*[S]hould contingency measures for saline water storage be required (other than those currently captured in the mine plan), Sabina is committed to provide the NWB at least 60 days’ notice prior to implementation with the following: water disposal volumes, disposal timing, maximum pit/storage capacity, water quality effects from pit closure, and appropriate mitigation and monitoring plans. This commitment would apply to any man-made surface containment ponds.*⁴⁹

In response to CIRNA’s inquiry as to how the final salinity might vary in the Saline Water Pond (SWP) under the present mine plan and in a situation where operations paused for a period of time, Sabina clarified that the SWP Total Dissolved Solids (TDS) concentration at the time of filling the Umwelt Reservoir would be approximately 18,000 mg/L and

⁴⁷ Sabina Gold & Silver Corp., “Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment”, dated November 30, 2020

⁴⁸ Sabina Gold & Silver Corp., “Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment”, dated November 30, 2020

⁴⁹ Sabina Gold & Silver Corp., “Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment”, dated November 30, 2020



would “*stay relatively constant as Umwelt Reservoir was filled.*” With respect to the “pause” scenario, Sabina provided the following response:

In the case of a pause in operation, saline water inflows would also be paused, and inflows would consist of freshwater from direct precipitation. This could dilute the TDS concentrations in the SWP; however, it is not anticipated that this dilution would be sufficient to alter the meromictic conditions of the ultimate deposition location within Umwelt Reservoir. To manage additional inflow volumes into the SWP during a temporary care and maintenance period, pumping systems could be put in place to temporarily store water in the Goose Main Pit or Llama Pit.⁵⁰

In response to CIRNA’s inquiry about the SWP balance, Sabina committed to provide an annual comparison of measured groundwater inflow rates to model predictions in all future Annual Reports.

Extrapolated Water Quantity and Quality Predictions

In response to CIRNA’s and ECCC’s question regarding the methodology for extrapolated water quantity and quality predictions for the Umwelt Underground Extension, Sabina clarified that the mine plan for the extension portion was still under development and that the scaling approach was used to estimate the saline water inflows in the Water and Load Balance model included within the 2020 Modification Package, with an assumption that the volume of groundwater inflow to the individual workings in the 2020 model was the same as in the initial groundwater model completed as part of the original application for the current Water Licence. “*Specifically, the highest TDS concentrations were used for the Umwelt extension area in the mine schedule (i.e., a quarterly inflow volume of 74,376 m³ at a rate of 808 m³/day was used for the inflow between Y2Q2 and Y3Q3). A TDS concentration of 59,011 mg/L was used in the 2020 Modification Package Water and Load Balance model.*”⁵¹

With respect to CIRNA’s request for Standard Operating Procedure (SOP) for when unanticipated groundwater inflows resulting from the exploration holes drilled from frozen lakes are encountered during mining, Sabina reassured that they “*maintained an accurate drillhole database and 3-D model of historic exploration drillholes,*” and committed to “*incorporate the locations of these drillholes into the future development of a Standard*

⁵⁰ Sabina Gold & Silver Corp., “Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment”, dated November 30, 2020

⁵¹ Sabina Gold & Silver Corp., “Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment”, dated November 30, 2020



Operating Procedure (SOP) used as a contingency in managing unanticipated quantities of groundwater.”⁵²

To address the KIA’s inquiry regarding the Goose Lake modeling scenarios, Sabina clarified that *“the proposed [Effluent Quality Criteria (EQC)] were developed for a discharge rate of 1,900 m³/day, a discharge location in the main basin of Goose Lake (i.e., Location B), and an annual discharge time period from July 1 to September 30.”* Sabina further noted that *“a diffuser was not included in the Hydrodynamic Model of Goose Lake, because engineering designs for a diffuser have not been completed”* and emphasized that *“adding a diffuser to the Hydrodynamic Model would not change the proposed EQC for the Project.”⁵³* Additionally, Sabina committed to providing sensitivity analysis in the next update to the Hydrodynamic Model, due on March 31, 2022.

With respect to the KIA’s question regarding the increase in parameter concentrations further from the point of discharge (i.e., 1000 m), Sabina clarified that *“parameter concentrations at locations further from the point of discharge were greater than parameter concentrations at the point of discharge during the ice-cover period”* and noted that there would be no discharges under ice. Sabina further explained this phenomenon by the fact that *“Goose Lake had a unique shape with a narrow and relatively shallow neck, and therefore, the location further from the discharge point (i.e., 1,000 m) was shallower than where the discharge point was located.”* Sabina further reassured that *“although concentrations at 1,000 m were higher than the other assessment nodes, the elevated concentrations were limited to under ice conditions and [would] remain protective of aquatic life.”⁵⁴* Additionally, Sabina committed to undertake additional monitoring of cryoconcentrated⁵⁵ conditions in the shallow area of the neck of Goose Lake and to update the *Aquatic Effect Management Plan (AEMP)* program to reflect this additional monitoring, as well as the monitoring at the discharge Location B in Goose Lake.

With respect to the KIA’s comment regarding the Effluent Quality Criteria (EQC) for total ammonia, Sabina clarified that the proposed pH range between 6.0 and 7.3 for calculating the total ammonia EQC was sourced from the baseline pH range for Goose Lake (Golder, 2019) and that this range was *“not required to meet the Metal and Diamond Mining Effluent Regulations (MDMER) limit for unionized [sic un-ionized] ammonia in the*

⁵² Sabina Gold & Silver Corp., “Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment”, dated November 30, 2020

⁵³ Sabina Gold & Silver Corp., “Back River Project, Final Submission Responses for Water Licence (2AM-BRP1831) Amendment”, dated June 25, 2021.

⁵⁴ Sabina Gold & Silver Corp., “Back River Project, Final Submission Responses for Water Licence (2AM-BRP1831) Amendment”, dated June 25, 2021.

⁵⁵ Cryoconcentration means the increased concentration of solutes due to exclusion by ice overlying the water body.



*discharge to Goose Lake.*⁵⁶ To satisfy the request of the KIA, Sabina provided the full MDMER range of pH in their Final Written Submission.

In response to ECCC’s recommendation for potential treatment of effluent in the Primary Pond and Llama Tailings Facility, Sabina acknowledged that treatment “*would be required for parameters that exceed the proposed EQC (nitrate, nitrite, total ammonia, total aluminium, total arsenic, total copper, total iron, total selenium, total cyanide, and total phosphorus)*” and confirmed that “*effluent treatment would be implemented in advance of discharge to meet all EQC.*”⁵⁵

With respect to Interveners’ recommendation for the updated Hydrodynamic Model to incorporate more detailed inputs, including field data acquired during the 2021 field season, and the forecast period covering Operations, Closure and Post-Closure, Sabina provided the following commitment in their Final Written Submission:⁵⁷

Extending the simulations period beyond Operations to include Closure and Post-Closure will be provided in the updated hydrodynamic model, which will be completed 90 days following approval of the Licence. This model update will incorporate inflow rates and chemistry for the Closure and Post-Closure periods to Goose Lake that will be different than the Operations period; this update will also include commitments made during the technical review phase.

To address the KIA’s and CIRNA’s questions regarding the Water and Load Balance Model update and incorporation of climate change scenarios, Sabina provided a table that clearly identified the changes between the 2017 and 2020 versions of the model and confirmed that climate change predictions had been incorporated when designing berms, culverts and ponds.

In response to the KIA’s concern regarding the use of the median water quality values as inputs to the Water and Load Balance Model, Sabina committed “*that the future revision of the Water and Load Balance Model [would] evaluate base case and upper case source terms, including the 75th or 95th percentile for water quality.*”⁵⁸

⁵⁶ Sabina Gold & Silver Corp., “Back River Project, Final Submission Responses for Water Licence (2AM-BRP1831) Amendment”, dated June 25, 2021.

⁵⁷ Sabina Gold & Silver Corp., “Back River Project, Final Submission Responses for Water Licence (2AM-BRP1831) Amendment”, dated June 25, 2021

⁵⁸ Sabina Gold & Silver Corp., “Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment”, dated November 30, 2020



Site Specific Water Quality Objective (SSWQO) for Nitrate

In response to the KIA's question as to why the nitrate Site Specific Water Quality Objective (SSWQO) is required for Goose Lake, Sabina provided the following response in their Final Written Submission:⁵⁹

A nitrate SSWQO is required for Goose Lake because at a constant nitrate discharge concentration of 60 mg-N/L, which is the proposed maximum authorized monthly mean concentration, nitrate concentrations are predicted to exceed the [Canadian Council of Ministers of the Environment (CCME) water quality guideline (WQG)] of 2.93 mg-N/L during ice-cover periods.

With a proposed maximum authorized monthly mean concentration of 60 mg-N/L, the Project may require treatment of effluent before discharge to Goose Lake. The maximum nitrate concentration in the Primary Pond is predicted to be 97 mg-N/L and in Llama Tailings Facility is predicted to be 48 mg-N/L. The opportunity to use a SSWQO for nitrate in Goose Lake will reduce the level of effluent treatment required for the Project, while maintaining protection of aquatic life in Goose Lake.

Additionally, Sabina proposed to use the generic CCME WQG for the protection of aquatic life of 2.93 mg-N/L for nitrate as the SSWQO, “*if the hardness concentration in the sample was less than 26.4 mg/L as CaCO₃, and if the hardness concentration in the sample was greater than or equal to 26.4 mg/L as CaCO₃, then Sabina [proposes] to use the hardness-dependent SSWQO equation to calculate the SSWQO for nitrate.*” Sabina further noted the following:

The use of the Ekati Diamond Mine hardness dependent equation for nitrate in this way for Goose Lake is appropriate because receiving environment characteristics are comparable between Leslie Lake at the Ekati Mine and Goose Lake at the Back River Project, and there is no scientific basis to conclude that this equation would not be applicable to Goose Lake. In addition, the hardness-based equation developed for Ekati Mine has been used and validated at other mine sites in sub-Arctic environments.⁶⁰

⁵⁹ Sabina Gold & Silver Corp., “Back River Project, Final Submission Responses for Water Licence (2AM-BRP1831) Amendment”, dated June 25, 2021.

⁶⁰ Sabina Gold & Silver Corp., “Back River Project, Final Submission Responses for Water Licence (2AM-BRP1831) Amendment”, dated June 25, 2021.



Effluent Quality Criteria (EQC) for Total Phosphorus

In response to the KIA's and ECCC's requests to provide the EQC for total phosphorus, protective of trophic changes to Goose Lake, Sabina provided the following response in their Final Written Submission:⁶¹

Total phosphorus EQC were calculated for the discharge location in the main body of the lake at a discharge rate of 1,900 m³/day, and an annual discharge period from 1 July to 30 September. The maximum authorized monthly mean EQC for total phosphorus was determined using the Goose Lake Model to identify a constant concentration of total phosphorus that the Project could discharge from tailings facilities or reservoirs to Goose Lake such that average concentrations of total phosphorus in Goose Lake remain below 0.010 mg-P/L during the open-water season.

The proposed maximum authorized monthly mean concentration for total phosphorus is 0.25 mg-P/L and the proposed maximum authorized concentration in a grab sample for total phosphorus is 0.50 mg-P/L. At a maximum authorized monthly mean concentration of 0.25 mg-P/L, average total phosphorus concentrations in Goose Lake are predicted to remain below 0.010 mg-P/L during the open-water season.

In their Final Written Submission, Sabina also emphasized that “*the trigger level of 0.010 mg-P/L for total phosphorus is not toxicity-based...but is associated with generic trophic levels established for Canadian lakes and rivers (CCME 2004, Environment Canada 2004)*” and further continued as follows:

For lake environments subject to snow and ice cover conditions that limit productivity due to cold temperatures and limited light penetration into the lake during winter, such as Goose Lake, spring or mean annual open water phosphorus concentrations are considered more appropriate in determining the trophic status in these lakes and therefore more appropriate in determining chlorophyll/algal biomass potential in these lakes (Schindler 1978). Under these conditions, the average total phosphorus concentrations remain well below the upper boundary concentration for oligotrophic conditions.⁶²

⁶¹ Sabina Gold & Silver Corp., “Back River Project, Final Submission Responses for Water Licence (2AM-BRP1831) Amendment”, dated June 25, 2021.

⁶² Sabina Gold & Silver Corp., “Back River Project, Final Submission Responses for Water Licence (2AM-BRP1831) Amendment”, dated June 25, 2021.



Site Specific Water Quality Objective (SSWQO) for Aluminum

In response to ECCC’s question regarding the modified United States Environmental Protection Agency (US EPA) Guideline to create SSWQO for aluminum, Sabina clarified that the US EPA “*derivation method was modified to be compatible with standard approaches to SSWQO development in Canada, while still being focused on the influence of the most important exposure and toxicity modifying factors (EMTFs) on aluminum toxicity.*”⁶³

Permafrost Stability

At the Technical Meeting, Sabina noted that they had a very good understanding of the geological conditions in the area, including the depth of permafrost ranging from 490 to 570 m below ground and the tight bedrock, both providing confidence of low inflows, with the exception of fractures, which were extensively reviewed in the geotechnical study and for which grouting could be done in order to control seepage. Sabina further explained that the salinity of the groundwater was predicted to be between 15,000 and 30,000 ppm and that the water management infrastructure they have in place would be able to manage the higher end of the predicted inflows. Sabina also noted that they currently operated a desalination plant, which regularly treats saline water to about 5,000 ppm.⁶⁴

In response to CIRNA’s comment regarding the current state of permafrost underneath a future Saline Water Pond (SWP), Sabina clarified that according to the Hydrological Characterization Report (Sabina 2017, Appendix F-5), “*there was a high likelihood that an open (through) talik existed under Umwelt Lake*”, which would be converted into the Saline Water Pond (SWP) in the future. However, Sabina demonstrated that “*permafrost thaw beneath the SWP over the life of the facility [was] estimated to be 19 m at the end of 11.2 years*” and highlighted that, as part of the current Amendment Application, “*the SWP would be utilized for approximately 4 years (approximately 60% less time), and as such it was expected that the talik formation would be notably less.*” Additionally, Sabina committed to “*complete routine water sampling within this pond to confirm salinity levels.*”⁶⁵

In response to the NWB’s Technical Meeting inquiry regarding the potential for development of taliks underneath the mined out pits, Sabina confirmed that thermal modelling was done as part of the geotechnical study, which determined that open taliks

⁶³ Sabina Gold & Silver Corp., “Back River Project, Final Submission Responses for Water Licence (2AM-BRP1831) Amendment”, dated June 25, 2021.

⁶⁴ NWB, Pre-Hearing Conference Decision Regarding an Amendment Application for Amendment to the existing Type “A” Water Licence No: 2AM-BRP1831, April 19, 2021.

⁶⁵ Sabina Gold & Silver Corp., “Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment”, dated November 30, 2020



would develop underneath the open pits at a timeline of 85 to 200 years and would eventually connect with the regional groundwater system. This modelling also showed that the predicted travel time between the flooded open pits and Goose Lake through the regional groundwater system under the base of permafrost, or through open taliks, was over 1,000 years. Sabina also clarified that the active layer within the Goose Main Pit, which is 130 m away from Goose Lake, was modelled to reach 10 to 15 m. Sabina emphasized that they currently had 4 thermistors installed between the Goose Main Pit and Goose Lake, and that these locations were fully frozen forming a permafrost wall. However, Sabina agreed to install additional thermistors if required.⁶⁶

Management Plans

Sabina committed to update all applicable management plans prior to March 31, 2022 to take into account commitments made with respect to the submissions received during the technical review of the Amendment Application, as well as final submissions and issues raised during the Public Hearing process.

With respect to the *Water Management Plan*, Sabina committed to incorporate the changes to water management on site in accordance with the Hydrodynamic Model findings. Additionally, Sabina will update Appendix D of the Water and Load Balance Report and Table 6.1-2 to address the KIA's recommendations. Sabina will also update the parameter group G to include total Ammonia as Nitrogen, as well as pH and water temperature, to calculate un-ionized Ammonia as Nitrogen. To address ECCC's recommendations about the Saline Water Pond, Sabina committed to update Section 8.2.3.

In response to CIRNA's comment regarding the inconsistency with how PAG rock was defined in the *Waste Rock Management Plan* and the *Borrow Pit and Quarry Management Plan*, Sabina clarified that PAG rock was defined as having a neutralization potential ratio (NPR) <3 and total sulphur (S) >0.15%, and committed "*to address the inconsistency in the next revision of the Mine Waste Rock Management Plan to be included with the 2021 Annual Report.*"⁶⁷

To address CIRNA's recommendation to include the additional approved infrastructure into the *Tailings Management Plan*, Sabina committed to update the Plan and provide it as an addendum within the next Annual Report.

⁶⁶ NWB, Pre-Hearing Conference Decision Regarding an Application for Amendment to the existing Type "A" Water Licence No: 2AM-BRP1831, April 19, 2021.

⁶⁷ Sabina Gold & Silver Corp., "Back River Project, Responses to Technical Comments for Water Licence (2AM-BRP1831) Amendment", dated February 12, 2021



In addition, Sabina committed to update the *Saline Water Management Plan* to correct the inconsistencies identified by CIRNA during the review.

Additionally, Sabina reconfirmed its intention to develop quarry development plans specific to each rock quarry.

In response to ECCC’s comment regarding water quality action levels, Sabina committed to “*establishing water quality action levels for Goose Lake within an Adaptive Management Response Framework*” and also committed to “*updating the AEMP to include Low Action Levels for Goose Lake that would serve as an early-warning indication of the potential for adverse effects on water quality.*”⁶⁸

Security Requirements under the Licence

At the Public Hearing, Sabina summarized their discussions with the KIA and CIRNA with respect to the updated security for closure and staged phases, as follows:

... we believe we have agreement between the three parties with respect to the closure security, for presentation to the Board...in the current Type "A" Water Licence, ... there is a \$43 million security estimate on the Project. As a result of these discussions on the modification package, that number is increased to 48.5, almost 48.6 million...Originally, there were 9 stages proposed; that has now increased to 12 stages. And what this does is allow Sabina the opportunity to place security on activities in large clumps or groupings 60 days prior to a trigger. In most cases, the trigger is, if we're going to mine an open pit, we put the money up 60 days before we start construction, so that way both the Minister and the KIA remain fully secured. We don't put security money up for things that haven't started yet...The other point to mention is that the split agreed upon by the parties remains the same, overall. KIA will hold 32.5 percent of the security, once all of these stages are paid, while CIRNAC will hold 67.5 percent of the security, once all stages are paid.⁶⁹

Draft Water Licence Framework

As is becoming a standard practice, Sabina filed an initial Draft Water Licence Framework (DWLF), which was modified twice during the Board’s consideration of the Amendment Application. In the versions of the DWLF provided, Sabina made recommendations regarding amendments to the existing Licence that they consider to be appropriate and

⁶⁸ Sabina Gold & Silver Corp., “Back River Project, Final Submission Responses for Water Licence (2AM-BRP1831) Amendment”, dated June 25, 2021

⁶⁹ M. Pickard, Sabina, NWB Public Hearing, File No: 2AM-BRP1831, Transcript, Public Hearing, Volume 2 – July 14, 2021, pp. 160-162.



necessary to reflect the proposed changes to the Project.⁷⁰ During the Public Hearing for the Application, the Board’s legal counsel provided the following clarification with regards to how the Board treats these submissions and whether the Board consider themselves bound to adopt the wording proposed by Sabina in the Draft Water Licence Framework:

...the Board considers those revisions, but is not bound to adopt any of the wording that is suggested by the parties. For some terms and conditions, the Board has standard wording, so we may not adopt all the changes that are suggested. But the Board certainly does consider the Draft Water Licence Framework to help focus the discussion of all the parties, with respect to amendments to the licence that may be necessary or may be opportune to engage in at this time.⁷¹

The Board also recognizes that...there are times when parties have come to agreement about wording. But the Board still has jurisdiction to determine what is the appropriate way to convey that understanding and agreement under the licence, recognizing that sometimes there are standardized terms that the Board uses in other licences or that the Board has ... project-specific approaches for different regions, or different watersheds, or different licensees. And so the fact that the Board doesn't necessarily just accept the version of the suggested amendments does not mean that the Board does not value or hear what the parties are saying or what the agreement is, in respect of those terms and conditions. It is simply a function of the regulator doing their job to regulate, as they see fit.⁷²

The Board included its discussion of the items provided by Sabina for the Board’s consideration and inclusion into Amendment No. 1 of the Water Licence, along with the summary of comments provided by the Interveners, in [SECTION VII](#) of this document.

SECTION III: SUBMISSIONS BY OTHER INTERVENING PARTIES OR MEMBERS OF THE PUBLIC

There were no written submissions provided to the NWB by any other intervening party or members of the public throughout the Board’s consideration of the Amendment Application. As required under ss. 55(1) and 55(2) of the *NWNSRTA*, Notice of the Application and Notice of the Public Hearing were published and posted on December 17,

⁷⁰ Versions of the Draft Water Licence Frameworks were filed on March 16, 2021, June 25, 2021, and July 14, 2021.

⁷¹ T. Meadows, Nunavut Water Board, NWB Public Hearing, File No: 2AM-BRP1831, Transcript, Public Hearing, Volume 1 – July 13, 2021, p. 64

⁷² T. Meadows, Nunavut Water Board, NWB Public Hearing, File No: 2AM-BRP1831, Transcript, Public Hearing, Volume 1 – July 13, 2021, p. 144.



2020 and April 19, 2021, respectively. These notices invited any intervening parties or interested members of the public to make representations to the NWB about the Amendment Application. Additionally, the Board used social media outreach over a two-week period prior to the Public Hearing to inform the residents of the community of Cambridge Bay about the upcoming in-person Public Hearing and a Community Information Session, which was planned for the evening of July 13, 2021. The Board was looking forward to the participation of interested community members in the Public Hearing. Additionally, to accommodate the remote participation of any interested members of the public, the Board made arrangements to facilitate participation in the Public Hearing and Community Session via audio and videoconference, with an option for simultaneous interpretation into Inuinnaqtun.

Unfortunately, there were no public participants that came to the in-person Community Information Session or connected via audio or videoconference. While the Board notes that the restrictions on travel into Nunavut due to the COVID-19 pandemic have necessitated some changes to the Board’s normal processes for conducting in-person proceedings, the Board is confident that the Applicant and the NWB nevertheless provided opportunities for interested members of the public to ask questions and share their comments or concerns about the Amendment Application throughout the modified proceedings. The Board appreciates all parties working together to accommodate the modifications to the Board’s planned schedules and processes that were required to comply with the directions of public health authorities in response to the COVID-19 pandemic. The cooperation and flexibility of all parties, including the community of Cambridge Bay greatly assisted the Board in ensuring that all participants in the Board’s consideration of the Amendment Application could remain safe and healthy while participating fully in the licensing process from the venue of their choice.

SECTION IV: JURISDICTION OF THE NWB

Under Division 2⁷³ of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, S.C. 2002, c. 10 (*NWNSRTA*) the NWB has jurisdiction to issue a licence,⁷⁴ amend a licence,⁷⁵ or in certain circumstances, cancel a licence.⁷⁶ In exercising the Board’s statutory functions under the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada (Nunavut Agreement)* and the statutory regime

⁷³ Sections 42-81 of the *NWNSRTA*.

⁷⁴ See ss. 42, 48, 55, 56, and 70 of the *NWNSRTA*.

⁷⁵ See s. 43(1)(b) of the *NWNSRTA*.

⁷⁶ See s. 43(1)(c) of the *NWNSRTA*.



governing the Board (the *NWNSRTA* and the *Nunavut Waters Regulations*⁷⁷), the NWB must be guided by the following objects:

*... to provide for the conservation and utilization of waters in Nunavut, except in a national park, in a manner that will provide the optimum benefit from those waters for the residents of Nunavut in particular and Canadians in general.*⁷⁸

In setting the terms and conditions of a licence, the NWB is guided by these objects and the NWB's statutory duty to make *all* reasonable efforts to minimize *any* adverse effects on aquatic ecosystems. Reading several of the Articles of the *Nunavut Agreement* together,⁷⁹ the NWB relies on the broad definition of "ecosystemic" found in Article 12, Section 12.1.1. of the *Nunavut Agreement*, requiring not only the Nunavut Impact Review Board (NIRB) but also the NWB to ensure that all components of the freshwater ecosystem, such as fish and fish habitat, are protected within the parameters of s. 71 of the *NWNSRTA*.

In accordance with Article 13, Section 13.3.6 of the *Nunavut Agreement* and s. 29 of the *NWNSRTA*,⁸⁰ the Board delegated the power to dispose of all matters related to the Amendment Application that sought changes to the existing Type "A" Water Licence No: 2AM-BRP1831, including the conduct of the Public Hearing, to a Panel of the Board (which is referred to as Panel P19 or the Back River Panel).

As with any applications considered by the NWB, the burden of proof rests with the Applicant, Sabina, to demonstrate that their request for an amended Type "A" Water Licence should be granted, and that the proposed terms and conditions should be granted. In addition, the NWB Rules of Practice state: "[a]ny party offering evidence before the NWB shall have the burden of introducing sufficient and appropriate evidence to support its position."⁸¹ When the Board's objects and mandate are considered in the context of the evidence provided by the Applicant, the Back River Panel has concluded that the Applicant has discharged the burden of proof and provided the Board with sufficient evidence to make a decision in respect of the Amendment Application.

⁷⁷ SOR/2013-69.

⁷⁸ See s. 35 of the *NWNSRTA*.

⁷⁹ This approach is consistent with the direction provided in Article 2, Section 2.9.1 of the *Nunavut Agreement*.

⁸⁰ S.C. 2002, c. 10.

⁸¹ Section 23.1 of the Nunavut Water Board "Rules of Practice and Procedure for Public Hearing" (May 11, 2005).



SECTION V: REQUIREMENTS OF THE NWNSRTA, THE NUNAVUT AGREEMENT AND NUPPAA

Objects of the NWB and its Relationship to other Bodies

As established under the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada (Nunavut Agreement)* and Part 3 of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*), prior to the NWB's consideration of the Application, the Applicant must meet the pre-licensing requirements of the Nunavut Planning Commission (land use planning) and the Nunavut Impact Review Board (impact assessment). As outlined under the [Pre-Licensing Regulatory History of the Application](#) section of this Decision, the Amendment Application was considered by the Nunavut Planning Commission, and referred to the Nunavut Impact Review Board for further impact assessment.

Land Use Planning

On **June 9, 2020**, the NPC issued its land use planning conformity determination for the Amendment Application⁸² and concluded that a land use planning conformity determination was not necessary because the proposed activity is for a Project that is outside the area of an approved land use plan. However, because the activities associated with the Amendment Application were considered by the NPC to be a significant modification to the Project as previously screened by the Nunavut Impact Review Board (NIRB) (NIRB File No: 12MN036), and the activities were not in a category exempted from screening under Schedule 12-1 of the *Nunavut Agreement*, the NPC forwarded the Amendment Application to the NIRB for further assessment under Article 12 of the *Nunavut Agreement* and Part 3 of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*).

Impact Assessment

Following the NIRB's receipt of the referral of the Amendment Application from the NPC, the NIRB reviewed the modification of activities proposed in the Amendment Application. On August 11, 2020, the NIRB issued the NIRB's direction regarding the Amendment Application, which stated that a further assessment of the project proposal is not required under Article 12 of the *Nunavut Agreement* and s. 92(1)(a) of the *NuPPAA*.⁸³

⁸² Peter Scholz (NPC) to Richard Dwyer (NWB) and others, RE: "NPC file # 149378 [Back River 2020 Modification Package], dated June 9, 2020.

⁸³ Kaviq Kaluraq (NIRB) to Matthew Pickard (Sabina), RE: Nunavut Impact Review Board Direction Regarding the "Back River Project 2020 Modification Package" submitted by Sabina Gold & Silver Corp. in relation to the Back River Project, dated August 11, 2020.



On this basis, the NWB concluded that the applicable pre-licensing land use conformity and impact assessment requirements for the Amendment Application⁸⁴ have been met, and the Application was processed by the NWB.

Inuit Water Rights

The KIA and Sabina chose to address compensation for the potential impacts of the Back River Project on Inuit water rights under the Inuit Impact Benefit Agreement (IIBA). At the Public Hearing associated with the original application for the current Water Licence, the NWB received confirmation⁸⁵ from the KIA that all issues of water user compensation had been dealt with pursuant to Article 20 of the *Nunavut Agreement* and s. 63(1)(a)41 of the *NWNSRTA*. During the Public Hearing, the KIA and Sabina did not identify that there were any outstanding issues of water user compensation associated with the changes as proposed under the Amendment Application.

SECTION VI: DECISION TO ISSUE

Based on the information and materials provided during the Board's consideration of the Amendment Application, and for the reasons outlined in these Reasons for Decision, the NWB's duly-appointed Back River Panel, Panel P19, has, by Motion # 2021-05-P19-05, decided to grant the Amendment Application and issue amended Type "A" Water Licence No: 2AM-BRP1831 (Amendment No. 1) to the Applicant. The Panel also authorized the release of these Reasons for Decision and the amended Water Licence No: 2AM-BRP1831 (Amendment No. 1). It is the Board's view that the amended terms and conditions included in Amendment No. 1 to the Water Licence are necessary to protect the environment, conserve freshwater resources, and provide appropriate safeguards in respect of the changes and additions to the water uses and waste deposits associated with the Back River Project.

The amended Water Licence continues to authorize the use of water and deposit of waste associated with the construction, operation, and reclamation of a Mining undertaking, as defined under Schedule 1 of the *Nunavut Waters Regulations*⁸⁶ and will replace the existing Water Licence.

⁸⁴ As set out under Articles 11-13 of the *Nunavut Agreement*, Part 3 of the *NuPPAA* and ss. 38-39 of the *NWNSRTA*.

⁸⁵ J. Roesch, KIA, NWB Public Hearing, File No. 2AM-BRP----, Transcript, August 8, 2018, Volume 1, p. 102, lines 9-10.

⁸⁶ SOR/2013-69.



Conditions for Issuance of a Licence

As set out under ss. 57, 58, 60 and 63 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, S.C. 2002, c. 10 (*NWNSRTA*) and as specifically discussed below, there are a number of conditions that must be met before the Board can consider issuing a water licence.

Section 57 of the *NWNSRTA* provides several key legislative requirements that must be satisfied before the NWB may issue a licence, as follows:

The Board may not issue a licence unless the applicant satisfies the Board that

- (a) any waste produced by the appurtenant undertaking will be treated and disposed of in a manner that is appropriate for the maintenance of the water quality standards and effluent standards that are prescribed by the regulations or, in the absence of such regulations, that the Board considers acceptable; and
- (b) the financial responsibility of the applicant, taking into account the applicant's past performance, is adequate for
 - (i) the completion of the appurtenant undertaking,
 - (ii) such measures as may be required in mitigation of any adverse impact, and
 - (iii) the satisfactory maintenance and restoration of the site in the event of any future closing or abandonment of that undertaking.

Financial Responsibility of the Applicant

As outlined under the *NWNSRTA*, s. 57(b), the NWB considers three aspects of the responsibility of an Applicant to carry out a licensed undertaking:

- (i) the financial ability of the Applicant to complete the appurtenant undertaking;
- (ii) the ability of the Applicant to undertake measures to adequately monitor for impacts and implement measures to mitigate any impacts; and
- (iii) the Applicant's ability to maintain and restore the site during care and maintenance, closure and abandonment.

The third aspect of financial responsibility under s. 57(b) will be specifically addressed in the section of these Reasons for Decision discussing reclamation security.



The NWB's assessment of the Applicant's financial responsibility under s. 57(b) is a contextual analysis that considers not only the specific activities in relation to the current Amendment Application, but also the Applicant's overall financial capacity to carry out the Undertaking that is the subject of the existing and amended Water Licence. In this regard, recognizing that this is an existing Mining undertaking that has been in the construction stage since 2018, the Board has paid particular attention to the Applicant's past performance as well.

With respect to considering Sabina's past performance to assess their financial capacity to carry out the Undertaking governed by Amendment No. 1 to the Water Licence, the Board notes that:

- Since 2009, the Applicant has had two Type "B" Licences, which authorized various water uses and waste deposits associated with exploration activities for the George Lake and Goose Lake areas, including effluent discharges from the camps. To date, the NWB is aware that the Applicant has met the financial and compliance responsibilities imposed under the Type "B" Licences; and
- Sabina has been operating under the Type "A" Water Licence issued for the Back River Project, since it was granted in 2018, with no indication that the Applicant has been unable to meet the financial and compliance responsibilities of carrying out the Mining undertaking under the terms and conditions of the existing Water Licence No: 2AM-BRP1831.

There was no evidence before the Board of any outstanding issues that would suggest limits on the financial ability of Sabina to successfully fulfill the obligations arising from the amended terms and conditions in the amended Water Licence. The Board also notes that with respect to all elements of the Applicant's financial responsibility, none of the parties, presented evidence that would call into question the Applicant's financial capacity to fulfill their responsibilities as required by s. 57(b) of the *NWNSRTA*.

On the basis of the financial information and compliance history provided with the Amendment Application, and with the Board's acknowledgement of Sabina's prior operating history at the Back River Project, the Board has concluded that Sabina has established that they have the financial resources to meet the obligations imposed under the amended Water Licence.

Compensation of Existing or Other Users

The *NWNSRTA* requires that the NWB be satisfied that compensation of existing or other water users affected by the Amendment Application has been or will be paid.⁸⁷ To ensure

⁸⁷ See ss. 58-60 of the *NWNSRTA*.



that all parties with the potential to bring a water compensation claim have been notified of their rights under s. 55 of the *NWNSRTA*, the Notice of the Amendment Application issued by the Board on December 17, 2020, and the Notice of Public Hearing, published on April 19, 2021, invited anyone having a water user compensation claim to inform the Board of their interests in accordance with the timeline specified in the Notices. The NWB confirms that no parties identified any outstanding water compensation claims associated with the scope of the Amendment Application to the NWB.

Issuance of a Licence

As stated above and pursuant to s. 42(1) of the *NWNSRTA*, by way of Motion # 2021-05-P19-05, the NWB's duly appointed decision-making Panel for the file, Panel P19, has decided to issue Amendment No. 1 to the existing Type "A" Water Licence No: 2AM-BRP1831 (the Amended Water Licence). In issuing the Amended Water Licence, the NWB is satisfied that the Amendment Application contained the required information and was received in the proper form having regard to the requirements of the *NWNSRTA*⁸⁸ and associated *Nunavut Waters Regulations*.⁸⁹

Assumptions

When faced with choices regarding monitoring requirements such as standards or parameters to be imposed under the Amended Water Licence, the Board has opted to impose stringent monitoring requirements in an effort to ensure that the Applicant meets their on-going environmental protection obligations.

Application in Relation to the Licence

Overall, the NWB is satisfied that the requirements of s. 48 of the *NWNSRTA* have been met. Sabina filed an Amendment Application that complied with the NWB's Guide No.7 (*Guide Licensee Requirements Following the Issuance of a Water Licence*) and associated *Supplemental Information Guideline (MM3) for Mine Development*, accompanied by the fees required by the *Nunavut Waters Regulations*, including the required application fee. In addition, Sabina has provided the necessary materials to support the Amendment Application and responses to supplementary information requests provided by the Board and other parties as necessary for the Board to evaluate whether the Amended Water Licence should be granted.

⁸⁸ See s. 48 of the *NWNSRTA*.

⁸⁹ *Nunavut Waters Regulations*, SOR/2013-69.



Future Application to Amend or Application for Future Modifications

In relation to future applications to undertake significant modifications to the activities included within the scope of the Type “A” Water Licence, the NWB reminds Sabina that it must comply with all requirements of the *Nunavut Agreement*,⁹⁰ the *NuPPAA*,⁹¹ and the *NWNSRTA*.⁹² In particular, the Board notes that the scope of the authorized use of water and deposit of waste is as provided by Sabina in the Amendment Application and as set out in Part A of the Amended Water Licence, and any requested changes to that scope may trigger additional amendments to the Water Licence. In addition, any significant modifications to the undertaking are required to be submitted to the Nunavut Planning Commission and may subsequently be referred to the Nunavut Impact Review Board prior to the NWB’s consideration of any associated amendments to the Water Licence.

Assignment of the Licence

If Sabina wishes to assign the Amended Water Licence, the Board highlights that the licence is only assignable if the requirements of s. 44 of the *NWNSRTA* have been met. This section states:

A sale or other disposition by a licensee of any right, title or interest in an appurtenant undertaking constitutes, subject to the authorization of the Board, an assignment of the licence to the person to whom the sale or other disposition is made.

Cancellation or Expiry of the Licence

As indicated above, the NWB reminds the Applicant that the provisions of s. 46 of the *NWNSRTA* state: “[t]he expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence.”

The Applicant is also reminded that pursuant to the NWB’s authority under s. 43(1)(c)(iii) of the *NWNSRTA*, the NWB may, on application by a licensee, or on its own motion, cancel a licence at any time if the NWB considers the cancellation to be in the public interest.

Term of Licence

Section 45 of the *NWNSRTA* provides that the term of a Type “A” Licence or any renewal shall not exceed the longer of twenty-five years or the “anticipated duration” of an

⁹⁰ See Article 12, Clause 12.4.3 (b) of the NLCA.

⁹¹ *Nunavut Planning and Project Assessment Act* S.C. 2013, c. 14 (*NuPPAA*).

⁹² See s. 43 of the *NWNSRTA*.



undertaking (other than an undertaking, for which the maximum term is prescribed by Regulation as 25 years).

The Applicant did not request any changes to the current term of the Licence. During the review process, no parties indicated that the Licence term should be changed. Therefore, the term of the Amended Water Licence remains as previously approved, with an expiration date of December 31, 2031.

SECTION VII: AMENDED WATER LICENCE 2AM-BRP1831 TERMS AND CONDITIONS

The amendments to the Water Licence do not take effect until the Minister approves or is deemed⁹³ to have approved the NWB's recommendation to issue the Amended Water Licence. As indicated in [SECTION VI](#), the Panel has decided to issue amended Type "A" Water Licence No: 2AM-BRP1831 – Amendment No. 1, subject to the terms and conditions contained herein.

To provide context and clarity, the NWB has provided a discussion and comments about specific amendments to the terms and conditions that follow. The NWB has not, however, provided specific comments for those amendments to licence terms and conditions that are clear in their wording and intent on the face of the Amended Water Licence.

Part A: Scope, Definitions and Enforcement

Scope

The undertaking, for which the Amended Water Licence is issued, is classified as a Mining undertaking in accordance with Schedule 1, Item 2 of the *Nunavut Waters Regulations*.⁹⁴

The Amendment Application under consideration involves increasing the scope of Water Licence 2AM-BRP1831 to include greater water use, all-weather airstrips expansions at the mine site and Marine Laydown Area (MLA), extension of the Umwelt Underground Mine and shoreline pad at the MLA, extension of the Operations Phase of Project by two years, changes to timing of construction and use of the waste and water management

⁹³ Section 56 of the *NWNSRTA* states:

The issuance, amendment, renewal and cancellation of a type A licence, and if a public hearing is held, a Type B licence are subject to the approval of the Minister.

Under s. 56(2.2) if the Minister does not issue a decision within 45 days of receiving the Licence from the Board, (or within 90 days if the Minister has extended the decision-making period by an additional 45 days) the Minister is deemed to have approved the Licence.

⁹⁴ SOR/2013-69.



infrastructure, allocation of the mined-out open pits for tailings storage, addition of the Fuel Transfer Area to MLA, improvements to the Winter Ice Road (WIR), as well as construction of the permanent service/ emergency camps along the WIR.

At the Public Hearing, the Applicant indicated that although previously approved elements of the Back River Project, such as Llama Underground, Goose Main Underground, Echo Open Pit and Echo Underground, were no longer in the current mine plan, these components should be retained within the scope of the amended licence:

Sabina confirms that the scope of activities in Part A, Item 1 of licence, 2AMBRP1831, remains unchanged, that Sabina is not requesting a reduction in Project scope, and that the new scope of activities associated with the 2020 Modification Package will be added to the licence as part of this Amendment Application.⁹⁵

Additionally, Sabina noted that “no additional water management ponds [would] be generated, no additional waste rock storage areas (WRSAs) [were] required, no change to tailings management methodology [was] proposed, Site Specific Water Quality Objectives [would] continue to be met, and no adjustment to closure methodology [was] proposed.”⁹⁶

Additionally, Sabina noted that the end use of Umwelt Pit and Llama Pit were changed “as a consequence of changes to when the open pits would be exhausted and available to store tailings or water, as well as based on the changed Process Plant throughput of the mine plan from 6,000 tpd to 3,000 tpd.” Sabina further clarified the following:

In the approved mine plan, the TSF had capacity to store approximately 2 years of tailings, at which point, the only exhausted open pit available to become a Tailings Facility (TF) was Umwelt Pit. In the 2020 Modification Package, the TSF, which has not changed in size, had capacity to store approximately 5 years of tailings with the reduced Process Plant throughput, by which point the Llama TF was available for tailings deposition. In the 2020 Modification Package, Umwelt Pit begins receiving saline water to become Umwelt Reservoir and therefore was not available to store tailings.⁹⁷

The remainder of the amendments to the Water Licence requested by the Applicant fall within the existing Scope of activities under the Water Licence and required no amendments.

⁹⁵ Sabina, Exhibit #10, NWB Public Hearing File No: Water Licence 2AM-BRP1831; PowerPoint Presentation (*English*), filed on July 13, 2021.

⁹⁶ Sabina, “The Back River Project Modification Package”, Version 2, dated October 2020.

⁹⁷ Sabina Gold & Silver Corp., “Back River Project, Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment”, dated November 30, 2020.



Definitions

All definitions were carried over from the existing Water Licence. In addition, definitions for the “Bulk Fuel Storage Facilities”, “Diffuser”, “Fresh Water Intake”, “Fuel Transfer Area”, “Goose Main Reservoir”, “Umwelt Reservoir”, “MLA Shoreline Pad”, “Plant Site Pond”, “Rascal Stream Connectivity”, “Water Supply Facilities”, “Winter Ice Road Service/Emergency Camps”, and “Reservoir” have been added.

With respect to the addition of the definition of “Reservoir”, Sabina provided the following clarification:

A reservoir is ... a legacy term in our ... project; it's not a new definition. · It was in the original water licence, under "Llama reservoir." A reservoir is simply a mined-out open pit that does not receive tailings. · A tailings facility is a mined-out open pit that receives tailings. · A reservoir is a mined-out open pit that receives contact water, including saline water. · That's the origin of the "reservoir." Tailings facilities had its own definition in the original licence, but individual tailings facilities also had definitions. · So, we felt that that was an oversight in the original licence, and we wanted to make sure that "reservoir" had its own definition as well.⁹⁸

Part B: General Conditions

Part B of the Licence addresses many of the general terms and conditions that apply to the Undertaking, such as annual report submission, protocols for handling documents related to the Licence, updates to the approved management plans, posting of signage at sites associated with the Undertaking, and more.

With respect to the updated management plans, the following plans were filed with the Board by the Applicant during the water licensing process and are considered to be reviewed and approved by the Board with the issuance of the Amended Water Licence:

- *Borrow Pits and Quarry Management Plan*, dated November 2020;
- *Interim Closure and Reclamation Plan*, dated July 2021;
- *Saline Water Management Plan*, dated October 2020;
- *Tailings Management Plan*, dated November 2020;
- *Waste Rock Management Plan*, dated November 2020; and
- *Water Management Plan*, dated October 2020.

⁹⁸ M. Keefe, Sabina, NWB Public Hearing, File No: 2AM-BRP1831, Transcript, Public Hearing, Volume 1 – July 13, 2021, p. 49, lines 10-25.



Additionally, the following Management Plans were provided with the 2020 Annual Report:

- *Roads Management Plan*, dated March 2021;
- *Risk Management and Emergency Response Plan*, dated August 2018; and
- *Quality Assurance and Quality Control (QA/QC) Plan*, dated March 2021.

All Plans listed above have been approved or accepted by the Board under this Part⁹⁹ with the issuance of the Amended Water Licence.

The NWB notes that the Board’s approval or acceptance of a specific plan does not imply that the NWB has considered, or has otherwise approved, elements of that plan that may be outside of the NWB’s jurisdiction. In addition, reflecting the scale and scope of the future changes to an approved plan, the Board may subsequently process the changes as solely an amendment to the plan, as a Modification under Part G of the Licence, or, if the proposed changes are significant, as an amendment to the Water Licence.

As previously discussed in [SECTION II: SUMMARY OF FINAL SUBMISSIONS OF THE PARTIES](#), Sabina committed to update all applicable Management Plans prior to March 31, 2022 to take into account commitments made with respect to the submissions received during the technical review of the Amendment Application, as well as final submissions and issues raised during the Public Hearing process.

With respect to the *Water Management Plan*, Sabina committed to incorporating the changes to water management on site, which would be proposed based on the Hydrodynamic Model findings. Additionally, Sabina will update Appendix D of the Water and Load Balance Report and Table 6.1-2 to address the KIA’s recommendations. Sabina will also update the parameter group G to include Total Ammonia as Nitrogen, as well as pH and water temperature, to calculate un-ionized Ammonia as Nitrogen. To address ECCC’s recommendations about Saline Water Pond, Sabina committed to update Section 8.2.3.

The *Saline Water Management Plan* will also be updated to correct the inconsistencies identified by CIRNA during the review.

⁹⁹ NOTE: Under the NWB’s approach to review and consideration of relevant Management Plans, the NWB “approves” plans that are directly required or applicable to the activities within the scope of the Water Licence and “accepts” plans that may be less directly relevant or that may contain components outside the scope of the activities governed by the Water Licence. For the purposes of the discussion of this section of the Amended Licence, the Board has referenced the plans as “approved (accepted)” to denote the distinction between the NWB’s process of reviewing the two different types of plans.



In response to CIRNA’s comment regarding the inconsistency with how PAG rock was defined in the *Waste Rock Management Plan* and the *Borrow Pit and Quarry Management Plan*, Sabina clarified that PAG rock was defined as having a neutralization potential ratio (NPR) <3 and total sulphur (S) >0.15%, and committed “to address the inconsistency in the next revision of the *Mine Waste Rock Management Plan* to be included with the 2021 Annual Report.”¹⁰⁰

To address CIRNA’s recommendation to include the additional approved infrastructure into the *Tailings Management Plan*, Sabina committed to update the Plan and provide it as an addendum within the next Annual Report.

In response to ECCC’s comment regarding water quality action levels, Sabina committed to “establishing water quality action levels for Goose Lake within an Adaptive Management Response Framework” and also committed to “updating the AEMP to include Low Action Levels for Goose Lake that would serve as an early-warning indication of the potential for adverse effects on water quality.”¹⁰¹

The remainder of the revisions to the General Conditions section have been included by the Board to ensure that the terms and conditions of the Amended Water Licence in this Part are consistent with the other Type “A” Water Licences applicable to Mining Undertakings previously issued by the NWB.

Part C: Conditions Applying to Security

Review of the Amount of Security

Throughout the Board’s consideration of the Amendment Application, the NWB has considered the information provided by the Applicant and the technical review comments provided by the Interveners with respect to the additional security that is required to reflect the increases to reclamation liability associated with the additional activities, works and undertakings included within the scope of the Amended Water Licence. Although the Interveners did not initially agree with respect to the required updated total global security amount, at the Public Hearing, Sabina summarized the outcome of their discussions with the Kitikmeot Inuit Association (KIA) and Crown-Indigenous Relations and Northern Affairs (CIRNA) as follows:

... we believe we have agreement between the three parties with respect to the closure security, for presentation to the Board.... in the current Type

¹⁰⁰ Sabina Gold & Silver Corp., “Back River Project, Responses to Technical Comments for Water Licence (2AM-BRP1831) Amendment”, dated February 12, 2021

¹⁰¹ Sabina Gold & Silver Corp., “Back River Project, Final Submission Responses for Water Licence (2AM-BRP1831) Amendment”, dated June 25, 2021



"A" Water Licence, ... there is a \$43 million security estimate on the Project. As a result of these discussions on the modification package, that number is increased to 48.5, almost 48.6 million.¹⁰²

Noting the parties' agreement and, based on the Board's consideration of the works and activities added to the scope of the Amended Water Licence, the Board has concluded that the total global security amount should be increased from \$43,189,352 to **\$48,592,110** under the Amended Water Licence, as set out in Exhibits 23(b)¹⁰³ and 25.¹⁰⁴ Additionally, the NWB has taken note that only **67.5%** of total global security amount will be held by the Minister under the Water Licence, with the remaining **32.5%** to be held under the land lease negotiated by Sabina with the Kitikmeot Inuit Association:

The other point to mention is that the split agreed upon by the parties remains the same, overall. KIA will hold 32.5 percent of the security, once all of these stages are paid, while CIRNAC will hold 67.5 percent of the security, once all stages are paid.¹⁰⁵

The Board is confident that the additional amount represents an appropriate increase to the total amount of security required to reclaim the Mining undertaking, when additional activities, works and undertakings included in the Amendment Application are taken into account, and also reflects the factors that the NWB must take into account when fixing security under a Type "A" Water Licence, as set out in s. 10(1) of the *Nunavut Waters Regulations*.¹⁰⁶

10 (1) For the purposes of subsection 76(1) of the Act, the Board may fix the amount of security required to be furnished by an applicant for a licence, a licensee or a prospective assignee in an amount not exceeding the aggregate of

(a) the costs of the abandonment of the undertaking;

(b) the costs of the restoration of the site of the undertaking;

(c) the costs of any ongoing measures that may remain to be taken after the abandonment of the undertaking; and

(d) the compensation that a person, including the designated Inuit organization, who is adversely affected by the use of waters or deposit of waste may be entitled to under section 13 of the Act.

¹⁰² M. Pickard, Sabina, NWB Public Hearing, File No: 2AM-BRP1831, Transcript, Public Hearing, Volume 2 – July 14, 2021, pp. 160-162.

¹⁰³ Sabina, Exhibit # 23(b): NWB Public Hearing, File No: 2AM-BRP1831, "Updated RECLAIM Model Closure Cost Estimate" (English), Electronic Copy filed on July 14, 2021.

¹⁰⁴ Sabina, Exhibit # 25: NWB Public Hearing, File No: 2AM-BRP1831, "Draft Water Licence Framework Addendum, Part C, Item 1- Table 1" (English), Electronic Copy filed on July 14, 2021.

¹⁰⁵ M. Pickard, Sabina, NWB Public Hearing, File No: 2AM-BRP1831, Transcript, Public Hearing, Volume 2 – July 14, 2021, pp. 160-162.

¹⁰⁶ *Nunavut Waters Regulations*, SOR/2013-69.



In addition to considering the split between reclamation security amounts between the KIA and CIRNA, the Board also considered the “staging” of security, as proposed by Sabina and agreed to by both the KIA and CIRNA:

Originally, there were 9 stages proposed; that has now increased to 12 stages. And what this does is allow Sabina the opportunity to place security on activities in large clumps or groupings 60 days prior to a trigger. In most cases, the trigger is, if we're going to mine an open pit, we put the money up 60 days before we start construction, so that way both the Minister and the KIA remain fully secured. We don't put security money up for things that haven't started yet..¹⁰⁷

The Board notes that the reclamation cost estimate for the Type “A” Water Licence provided in the Amendment Application and set out in Exhibits 23(b) and 25, was prepared using the RECLAIM method, which is in accordance with the *Mine Site Reclamation Policy for Nunavut*.¹⁰⁸ The Board also notes that at the time of issuance of this Amended Licence, Sabina has posted total security in the amount of \$7,203,530.

After extensive technical review and discussions amongst the Kitikmeot Inuit Association (KIA) and Crown-Indigenous Relations and Northern Affairs (CIRNA), the parties have agreed that **\$48,592,110** is required to reclaim the undertaking once all stages of infrastructure have been constructed, as set out in Exhibit 23(b). Also as agreed to by the parties **67.5%** of this amount or **\$32,775,415** will ultimately be held under the Licence with the remaining **32.5%** or **\$15,816,695** to be held by the KIA under the land lease. Also, as requested by the Applicant and agreed to by the KIA and CIRNA, the security required to be posted under Part C of the Licence is apportioned into 12 segments that are linked to the increase in reclamation liability that would occur as key project infrastructure associated with the Undertaking is constructed. In addition, with the agreed upon timelines for posting the security being in advance of construction, the Board is confident that adequate security will be in place before activities are undertaken that will increase the reclamation liability of the Undertaking. On this basis, the Board has amended Part C, Item 1 of the Licence to increase the global security amount as noted above.

Although the Board has taken into account the allocation of the global security between the KIA and CIRNA as agreed to by Sabina, the KIA and CIRNA as required under s. 76.1(3) of the *NWNSRTA*, the Board heard some parties characterize this allocation process as

¹⁰⁷ M. Pickard, Sabina, NWB Public Hearing, File No: 2AM-BRP1831, Transcript, Public Hearing, Volume 2 – July 14, 2021, pp. 160-162.

¹⁰⁸ According to the *Mine Site Reclamation Policy for Nunavut*:

The recognized methodology for calculating reclamation costs, for the purposes of financial security, should be the RECLAIM or some other appropriate model. Consideration should be given to alternate or innovative forms of security, such as mine reclamation trusts, provided they meet certain criteria that protect the government's interests and objectives.



indicative of a split between “land and water security”. This is not correct. As stated by the Board during the NWB’s consideration of the Water Licence in 2018, the Board takes a holistic approach to the assessment of reclamation security for the Undertaking, which includes the integrated costs of both water and land reclamation. However, the Board “*must also be cognizant of any security amounts that will be held by the Designated Inuit Organization for those components of the Undertaking that will be taking place on Inuit Owned Lands (IOL)*”¹⁰⁹ to ensure that Sabina is not required to post duplicate reclamation security with both the Minister and the KIA.

As explained in the Board’s Decision in 2018 the allocation of security does not involve making artificial distinctions between land-based reclamation and water-based reclamation, rather:

Reflecting these concerns of overbonding, and as set out in the Board’s previous decisions, the NWB has developed an approach to allowing the Board to factor security held under land based instruments by Designated Inuit Organizations into the Board’s fixing of security under Water Licences as follows:

... the Board’s focus in assessing security is that the Applicant must have posted sufficient security, through all means, when taken together, to ensure that the overall reclamation of the site (land and water) has been adequately addressed. Consequently, the Board’s starting point to assess security remains considering the security requirements holistically and then deducting from the aggregate land and water reclamation totals any security held under other instruments, with the remainder being secured under the water licence.[citation in the original omitted] ¹¹⁰

Part D: Conditions Applying to Construction

There were no substantive revisions to Part D, with all terms and conditions of the existing Water Licence being carried over, with only minor edits and updates to ensure that the terms and conditions of the Amended Water Licence under this Part are consistent with the other Type “A” Water Licences applicable to Mining Undertakings previously issued by the NWB.

¹⁰⁹ See the discussion of this issue in the NWB, Water Licence No: 2AM-BRP1831, Type “A” Water Licence, Reasons for Decision, Including Record of Proceedings, September 21, 2018, at pp. 45-49.

¹¹⁰ NWB, Water Licence No: 2AM-BRP1831, Type “AP Water Licence, Reasons for Decision, Including Record of Proceedings, September 21, 2018, at p. 48.



Part E: Conditions Applying to Water Use and Management

Section 11 of the *NWNSRTA* states: “... *no person shall use, or permit the use of, water in Nunavut except in accordance with the conditions of a licence.*”

The Board has amended the Water Licence to approve the Applicant’s request to increase the originally approved volumes of fresh water used from various water sources and for various purposes, as specified below:

- Use of a maximum of six hundred eight thousand seven hundred (608,700) cubic metres per year from Goose Lake;
- Use of a maximum of two hundred seventy-three thousand seven hundred and fifty (273,750) cubic metres per year from Big Lake; and
- Use of a maximum of two thousand twenty-five (2,025) cubic metres per year per kilometre from water sources proximal to the Winter Ice Road (WIR) for the purposes of construction, maintenance, and operation of the WIR and WIR Service/Emergency Camps.

The Board notes that the total combined authorized annual water use volume at the Goose Property has been increased from five hundred seventy-eight thousand (578,000) cubic metres to nine hundred ninety-two thousand four hundred fifty (992,450) cubic metres, which includes the quantities of water withdrawn from Goose Lake, Big Lake and MLA ponds.

The Board has included a provision to update the Hydrodynamic Model, including the mixing zone design, and submit the update to the Board for review on or before March 31, 2022. This update should incorporate more detailed inputs, including field data acquired during the 2021 field season, and the forecast period covering Operations, Closure and Post-Closure, as well as other commitments made to address the issues raised during the Public Hearing process, as previously discussed in [SECTION II](#). As noted in Commitment # 6¹¹¹ in the Pre-Hearing Conference Decision list of commitments, the updated Hydrodynamic Model should expressly include, in a summary table, the inputs and scenarios varied from the previous iteration of the Model.

Additionally, the Board has included a provision to require an update to the *Water Management Plan* on or before March 31, 2022, to integrate changes to water management on site that are being proposed based on the Hydrodynamic Model findings, as well as other commitments made to address the issues raised during the Public Hearing process, as

¹¹¹ NWB, Pre-Hearing Conference Decision Regarding an Amendment Application for Amendment to the existing Type “A” Water Licence No: 2AM-BRP1831, April 19, 2021.



previously discussed in [SECTION II](#). The updated *Saline Water Management Plan* and the *Water and Load Balance Report* should be also updated and provided to the Board within the March 31, 2022 submission.

The remainder of the revisions to Part E: Water Use and Management, ensure that the terms and conditions of the Amended Water Licence under this Part are consistent with the other Type “A” Water Licences applicable to Mining Undertakings previously issued by the NWB.

Part F: Conditions Applying to Waste Disposal and Management

The Board has included conditions in the Amended Water Licence to ensure that the main types of waste and/or effluent generated by the Project do not negatively impact the receiving freshwater environment.

In the Draft Water Licence Framework (DWLF) submitted as Exhibit 13¹¹², Sabina proposed to include additional infrastructure (Primary Water Pond, Plant Site Pond, Saline Water Pond, or Reservoirs) suitable to receive effluent that does not meet the effluent quality limits listed under Part F, Item 12. The conceptual basis for these recommended additions is that the water collected in this additional infrastructure will be eventually transferred to the Tailings Storage Facility or Tailings Facilities for re-use and will never be discharged to the receiving environment unless the effluent quality limits outlined in Part F, Item 21 are met. During the Board’s review of the Amendment Application no concerns with this alteration were identified by the Interveners or the Board, and the NWB has included the proposed additions and consequential amendments in the Amended Water Licence under Part F, Item 13.

Additionally, Sabina proposed to expand the list of facilities that can receive saline water (groundwater), which are the Primary Water Pond, Plant Site Pond, Saline Water Pond, Reservoirs, Tailings Storage Facility, Tailings Facilities or any underground storage. Similarly, the options for water movement on site were expanded under Part F, Item 17 and Part F, Item 18. During the Board’s review of the Amendment Application no concerns with these revisions were identified by the Interveners or the Board, and the NWB has included these amendments in the Amended Water Licence.

In the Draft Water Licence Framework (DWLF), Sabina introduced the discharge criteria for the effluent at the Final Discharge Point prior to entering the receiving environment (Goose Lake). Two sets of limits were proposed: Maximum Authorised Monthly Mean Concentration and Maximum Concentration of Any Grab Sample. At the Public Hearing,

¹¹² Sabina, Exhibit # 13: NWB Public Hearing, File No: 2AM-BRP1831, “Draft Water Licence Framework Addendum, Rev 3” (English), Electronic Copy filed on July 13, 2021.



the NWB noted that for some parameters the limits were much lower than the *Metal and Diamond Mining Effluent Regulations (MDMER, SOR/2002-222)* requirements and requested the Applicant to confirm whether they would be able to meet these limits. The Applicant's response was as follows:

...in advance of creating the effluent quality criteria that were provided in the updated Draft Water Licence Framework, we went through a rigorous process of identifying potential parameters of concern and identifying or reviewing them against water quality guidelines that need to be met within Goose Lake to be protective of the aquatic receiving environment. So, with that said, the answer is, yes, Sabina will meet both the effluent quality criteria that were provided in the Draft Water Licence Framework, as well as *MDMER*.¹¹³

In the DWLF, Sabina also proposed to include a provision for the acute lethality testing for effluent at the Final Discharge Point and provided the specifications for the test prescribed for Rainbow Trout (*Oncorhynchus mykiss*). At the Public Hearing, the NWB noted that after changes to the *MDMER* came into effect on June 1, 2021, the *Daphnia magna* test became a requirement under the *MDMER* and informed the Applicant that this would be captured within the potential Amended Water Licence. In response, the Applicant expressed some concern.¹¹⁴ To support its rationale, the NWB provided the following clarification and references from the legislative enactments:

Section 72 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* states as follows: (as read)

Conditions of waste deposit. The conditions in a licence relating to the deposit of waste in waters shall be based on the water quality standards prescribed for those waters by the regulations, if any; and be at least as stringent as the effluent standards prescribed for those waters by the regulations, if any.

And then the second applicable section is regulations specifically under the *Fisheries Act*. Under Section 73, the *Act* states: (as read)

Where the Board issues a licence in respect of any waters to which regulations made under Subsection 36(5) of the *Fisheries Act* apply, any conditions in the licence relating to the deposit of waste in those waters shall be at least as stringent as the conditions prescribed by those regulations.

¹¹³ M. Keefe, Sabina, NWB Public Hearing, File No: 2AM-BRP1831, Transcript, Public Hearing, Volume 1 – July 13, 2021, p. 54, lines 9-19.

¹¹⁴ NWB Public Hearing, File No: 2AM-BRP1831, Transcript, Public Hearing, Volume 2 – July 14, 2021, pp. 203-216.



So where we have a situation like we do here, where new regulations have come into force as of June 1st, 2021, the Board's view when they're amending that water licence is that it is an opportunity to ensure that the terms and conditions applicable with respect to waste deposit are at least as stringent as stated under the regulations made under the *Fisheries Act*.¹¹⁵

During these discussions, the Interveners also suggested that a reference to the tests that should be used to determine toxicity should be included either explicitly or by reference to acute toxicity tests prescribed under the *MDMER*. The NWB has included an express provision under Part F, Item 22, identifying that the Licensee is required to conduct the acute lethality tests as required under the current (and future) provisions of the *MDMER*.

Additionally, the Amended Water Licence captured Sabina's commitment that there would be only one discharge rate of effluent to Goose Lake within a provision allowing the Licensee to discharge up to 1,900 cubic metres of effluent per day from the Final Discharge Point.

There were also two provisions introduced under Part F, Items 23 and 24 to account for the proposed permanent service/ emergency camps along the Winter Ice Road.

The remainder of the revisions to the Part F: Waste Disposal and Management ensure that the terms and conditions in this Part of the Amended Water Licence are consistent with other Type "A" Water Licences applicable to Mining Undertakings previously issued by the NWB.

Part G: Conditions Applying to Modification

There were no substantive revisions to Part G, with all terms and conditions of the existing Water Licence being carried over.

Part H: Conditions Applying to Emergency Response and Spill Contingency Planning

There were no substantive revisions to Part H, with all terms and conditions of the current Water Licence being carried over with minor edits and updates to ensure that the terms and conditions of the Amended Water Licence under this Part are consistent with the other Type "A" Water Licences applicable to Mining Undertakings previously issued by the NWB.

¹¹⁵ T. Meadows, Nunavut Water Board, NWB Public Hearing, File No: 2AM-BRP1831, Transcript, Public Hearing, Volume 2 – July 14, 2021, pp. 213-214.



Additionally, the Board has updated the Emergency phone number of the Inspector, which should be included in all future updated Plans under this Part.

Part I: Conditions Applying to General and Aquatic Effects Monitoring

As previously noted, s. 73 of the *NWNSRTA*¹¹⁶ requires the NWB to set conditions at least as stringent as conditions prescribed by regulations pursuant to ss. 36(5) of the *Fisheries Act*. Furthermore, for the purpose of ensuring compliance with the Water Licence or applicable regulations, an Inspector designated by the Minister may inspect or examine works, waters or waste and exercise other powers according to the *NWNSRTA*¹¹⁷. For the purposes of monitoring, the NWB may include conditions in the licence regarding monitoring programs to be undertaken.¹¹⁸

In this Part of the Amended Water Licence, the NWB directs the Applicant to undertake the updated Monitoring Program described in Schedule I of the Amended Water Licence and to measure and record monthly quantities of water used from various sources and of waste produced. In addition, the Board included conditions requiring the Applicant to undertake geotechnical inspections of facilities and infrastructure designed and constructed to withhold, divert or retain waters in accordance with set intervals as well as adherence to the *Canadian Dam Association Safety Guidelines* for relevant infrastructure/facilities.

Additionally, the Board has updated the provision requiring the Licensee to update the *Aquatic Effects Management Plan (AEMP)* to incorporate the recommendations made by the parties and commitments made by the Applicant during the regulatory review of the Amendment Application, as previously discussed in [SECTION II](#). Amendments to this section also include incorporating an adaptive approach to managing nutrients in Goose Lake through requiring an adaptive response framework with action levels, which would inform the need for and the implementation of adaptive mitigation measures.

The remainder of the revisions to Part I with respect to Monitoring ensure that the terms and conditions in relation to monitoring as revised under the Amended Water Licence are consistent with the other Type “A” Water Licences applicable to Mining Undertakings previously issued by the NWB.

¹¹⁶ Section 73 of the *NWNSRTA* states:

Where the Board issues a licence in respect of any waters to which regulations made under subsection 36(5) of the Fisheries Act apply, any conditions in the licence relating to the deposit of waste in those waters shall be at least as stringent as the conditions prescribed by those regulations.

¹¹⁷ See ss. 85-94 of the *NWNSRTA*.

¹¹⁸ See s. 70(1)(c) of the *NWNSRTA*.



Part J: Conditions Applying to Abandonment, Reclamation and Closure

The Board requires all Type “A” Water Licence licensees to prepare an *Interim Closure and Reclamation Plan*, and, eventually, a *Final Closure and Reclamation Plan* in accordance with the *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the NWT (2013) (Guidelines)*¹¹⁹ and consistent with the *Mine Site Reclamation Policy for Nunavut, 2002 (Policy)*.¹²⁰

As clearly outlined by the Board in the Shear Diamonds Licence Renewal Decision:

The Board’s approach to reclamation reflects the four main objectives outlined in the Policy:

*The Mine Site Reclamation Policy*¹²¹ *for Nunavut serves four main objectives:*

- 1. Ensure the impact of mining on the environment and human health and safety is minimized;*
- 2. Reduce the environmental liability that falls to government to the greatest extent possible;*
- 3. Provide industry and the public with a clear signal of the government’s expectations; and*
- 4. Build positive and supportive relationships with the new regulatory authorities coming into operation in the North.*¹²²

With respect to the specific components of the Plans, in the Amended Water Licence the Board has maintained the approach put forward in the *Guidelines* that recognizes that there are three stages in the development of a *Closure and Reclamation Plan (CRP)*. The first stage involves the preparation of a *Preliminary Closure and Reclamation Plan* that is typically prepared as part of the environmental assessment of the project that demonstrates “*how the mine site is proposed to be reclaimed and describes the likely residual risks to human health and the environment*”. The second stage involves the development of one or more *Interim Closure and Reclamation Plans (ICRP)* through the operating life of the mine, which builds on the Preliminary CRP, and is updated to reflect significant changes to the mine plan or key milestones in terms of the mine life.

¹¹⁹ Mackenzie Valley Land and Water Board, (Yellowknife: Mackenzie Valley Land and Water Board, 2013) *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the NWT (2013)*.

¹²⁰ Minister of Indian Affairs and Northern Development, (Ottawa: Minister of Public Works and Government Services Canada, 2002) *Mine Site Reclamation Policy for Nunavut*.

¹²¹ Minister of Indian Affairs and Northern Development, (Ottawa: Minister of Public Works and Government Services Canada, 2002), *Mine Site Reclamation Policy for Nunavut*, p. 2.

¹²² Nunavut Water Board, *Reasons for Decision: 2AM-JER1119 Type A – Licence Renewal* at pp. 66-68.



As stated in the *Guidelines*:

The general purpose of the Interim CRP is to update preceding plans according to the current mine operating plan, updated or renewed community values, or advances in mine reclamation technology. Interim Reclamation Plans provide conceptual detail on the reclamation of mine components, which will not be closed until near the end of the mining operations, and operational detail for components which are to be progressively reclaimed earlier in the mine life. The Interim CRP should include increased detail and more specific closure criteria regarding reclamation components as these become available and as those areas of the mine are developed (e.g. rock piles that are completed or reclamation test studies that have been conducted).¹²³

The third stage involves the preparation of a Final Closure and Reclamation Plan (FCRP) that should be provided and approved before a scheduled permanent closure takes place, or as soon as is practical after an unplanned closure. The general purpose of the FCRP is to provide complete details, usually for regulatory approval, regarding the proposed reclamation activities such that they can be subsequently implemented¹²⁴. The Licence requires the filing of a *Final Closure and Reclamation Plan* at least twelve (12) months prior to the closure of the mine.

In compliance with these requirements, Sabina submitted the *Back River Project Interim Closure and Reclamation Plan (ICRP)*, dated July 2021, as Exhibit 22¹²⁵ at the Public Hearing.

The ICRP will be updated throughout the phases of the Project, as new information (such as monitoring results) becomes available. The Board has included a requirement in the Amended Water Licence to update the ICRP for the Board's approval within 12 months following the commencement of the Operation Phase. The Board is of the understanding that this timeline should provide the Applicant with sufficient time to collect all necessary data to include the additional details on the closure and post-closure soil and water quality monitoring programs. The Board also notes that all applicable Management Plans should be taken into account for future revisions of the ICRP.

¹²³ Mackenzie Valley Land and Water Board, (Yellowknife: Mackenzie Valley Land and Water Board, 2013) *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the NWT* (2013), at p. 22.

¹²⁴ Mackenzie Valley Land and Water Board, (Yellowknife: Mackenzie Valley Land and Water Board, 2013) *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the NWT* (2013), at pp. 24-26.

¹²⁵ Sabina, Exhibit # 22: NWB Public Hearing, File No: 2AM-BRP1831, "Back River Project Interim Closure and Reclamation Plan" (English), Electronic Copy filed on July 13, 2021.



In deciding upon the amendments to this Part of the Water Licence, the Board considered the recommendations of CIRNA, as set out in [SECTION II](#), suggesting that Sabina should be required to submit a Progressive Reclamation Report annually, starting one year following the commencement of Operations, to update parties on progress related to the *Progressive Reclamation Work Plan*. This Report will require Sabina to include the information specified in Table 1 of Schedule E.

The Board agrees with this recommendation and has included this requirement along with a requirement for the *Progressive Reclamation Work Plan* to be submitted in the Licensee's Annual Report in accordance with Schedule B. The Board has further clarified that the annual Progressive Reclamation Report should include the information specified in Table 1 of Schedule J.

The Board has also included a requirement that Sabina must notify the Board in writing, as soon as practically possible, and in any event, at least sixty (60) days prior to entering into a Care and Maintenance Phase. A *Care and Maintenance Plan* shall also be submitted to the Board within thirty (30) days of Sabina providing such a notification of intent to put the site into care and maintenance, and the Plan shall detail the Licensee's plans for maintaining compliance with the Terms and Conditions of the Licence during Care and Maintenance.

The current Water Licence includes the provision requiring Sabina to notify the Board upon achieving "Recognized Closed Mine" status. The Board notes that the definition of "Recognized Closed Mine" has been removed from the *MDMER*, and therefore this status is no longer a defined stage, and has accordingly removed this term from the Amended Water Licence. The Board also notes that the wording of Part B, Item 9 imposes an obligation on the Licensee to provide notice of changes to the phase of the Mining undertaking, requiring under Part E, Item 17 that Sabina "... provide at least sixty (60) days' notice to the NWB and Inspector prior to the change of Water use associated with changes in Project phases."

The remainder of the revisions to Part J regarding Abandonment, Reclamation and Closure ensure that the terms and conditions of the Amended Water Licence under this Part are consistent with the other Type "A" Water Licences applicable to Mining Undertakings previously issued by the NWB.



Schedules A through J

The Schedules in the Amended Water Licence provide instructive detail to the conditions appearing in more general terms in the main body of the Amended Water Licence and are spelled out in this format for greater clarity and as an aid to interpretation for the Licensee. Except for Schedule A, the Schedules provide, if needed, specific requirements for plans or reports to be submitted to the Board.

If the Board subsequently determines that an item in any of the Schedules requires revision in order to better reflect the intent and objectives of the Amended Licence, the Board may at its discretion, and upon consulting and providing written notice to the Licensee and intervening parties, revise the Schedule. Unless the Board directs otherwise, such revision may not necessarily be considered as an Amendment to the Licence.

Schedule A: Scope, Definitions and Enforcement

All definitions were carried over from the existing Water Licence. In addition, definitions for the “Bulk Fuel Storage Facilities”, “Diffuser”, “Fresh Water Intake”, “Fuel Transfer Area”, “Goose Main Reservoir”, “Umwelt Reservoir”, “MLA Shoreline Pad”, “Plant Site Pond”, “Rascal Stream Connectivity”, “Water Supply Facilities”, “Winter Ice Road Service/Emergency Camps” and “Reservoir” have been added to this section of the Amended Water Licence.

Schedule B: General Conditions

Schedule B outlines general and specific annual reporting requirements for the Mining undertaking. The following items were added to the Annual Reporting requirements of the Amended Water Licence, to satisfy the concerns raised by the Interveners during the Public Hearing:

- Annual comparison of measured groundwater inflow rates to model predictions.
- In the event of a short term closure or period of Care and Maintenance referred to in Part J, Item 3, the Licensee shall, within 30 days of notifying the Board, provide a Status Report on all planned Progressive Reclamation activities undertaken to date. The Report will identify those activities that remain incomplete due to the closure. The Status Report is to be filed in addition to the Care and Maintenance Plan referred to in Part J, Item 4 and will include details on site conditions at the cessation of operations as outlined in Schedule J.
- *Progressive Reclamation Work Plan (PRWP)*, one (1) year following the commencement of operations. The PRWP will provide a breakdown of the progressive reclamation activities planned to be completed that year in accordance with the criteria set in Schedule J.



Schedule C: Conditions Applying to Security

There is no Schedule for Security under the Amended Water Licence.

Schedule D: Conditions Applying to Construction

There were no changes to Schedule D under the Amended Water Licence.

Schedule E: Conditions Applying to Water Use and Management

There is no Schedule for Water Use and Management under the Amended Water Licence

Schedule F: Conditions Applying to Waste Disposal and Management

There is no Schedule for Waste Disposal and Management under the Amended Water Licence

Schedule G: Conditions Applying to Modifications

There is no Schedule for Modifications under the Amended Water Licence

Schedule H: Conditions Applying to Emergency Response and Spill Contingency Planning

There is no Schedule for Emergency Response and Spill Contingency Planning under the Amended Water Licence

Schedule I: Conditions Applying to General and Aquatic Effects Monitoring

This Schedule is linked to Part I of the Licence and the Conditions Applying to Monitoring. The amendments to this Schedule include updates or changes to the monitoring requirements, taking into consideration the Licensee's requests, Intervener's recommendations, the Board's mandate and the changes to the Scope of the Undertaking.

Table 2 was updated to reflect the changes in the infrastructure on site. Additionally, in the Draft Water Licence Framework, Sabina proposed to add Monitoring Program Stations:

- BRP-56 for general monitoring of the pre-treatment quality of the water in Llama Tailings Facility;
- BRP-57 for general monitoring and to confirm the treatment efficiency for the Llama Tailings Facility water at the outlet of the treatment facility; and
- BRP-58 as a regulated monitoring station at the Final Discharge Point in Goose Lake, the exact location of which will be determined at a later stage in consideration of the *MDMER* and once the Mixing Zone is defined.

Schedule J: Conditions Applying to Abandonment, Reclamation and Closure

This Schedule is linked to Part J of the Licence and the Conditions Applying to Abandonment, Reclamation and Closure. The amendments to this Schedule include updates or changes to the reclamation requirements, taking into consideration the



Licensee's requests, Intervener's recommendations, the Board's mandate and the changes to the Scope of the Undertaking.

In the Draft Water Licence Framework, Sabina proposed new requirements for Progressive Reclamation, as well as the list of items to be considered as evidence related to Progressive Reclamation. These changes were reviewed and adopted by the Board in the Amended Water Licence.



APPENDIX A – Agendas for Public Hearing and Community Session

AGENDA

APPLICATION FOR AMENDMENT TO WATER LICENCE NO: 2AM-BRP1831 BACK RIVER PROJECT

PUBLIC HEARING

July 13, 2021, 9:00 a.m. – 5:00 p.m. MT, Luke Novoligak Community Hall

July 14, 2021, 9:00 a.m. – 5:00 p.m. MT, Luke Novoligak Community Hall

Teleconference Call-In Information: Phone: +1 587 328 1099; Meeting ID: 506 243 8596

Zoom link: <https://us06web.zoom.us/j/5062438596?pwd=WURzNmpaUXorQmJCRDFRV0U3SS9lUT09>

1. Opening Prayer
2. Opening Remarks by the Chairperson, which shall include the purpose of the Public Hearing and the scope of matters which will be considered by the Board
3. Introduction of the Board Members and staff
4. Identification and introduction of the Parties
5. Introduction of the Elders and their role in the Public Hearing
6. Introduction and identification of the persons, associations, agencies, etc., who have not submitted interventions but who have expressed a desire to speak at the Public Hearing
7. Identification of any Motions or any objections
8. Presentation by the Applicant
9. Questioning of the Applicant by Parties respecting the Applicant’s presentation
10. Questioning by the Board staff and Panel Members
11. Presentation by Interveners
12. Questioning of Interveners by Parties
13. Questioning by the Board staff and Panel Members



14. Presentation by any other persons, associations, agencies, etc. who have advised the Chairperson that they wish to speak
 15. Questioning of other persons, associations, agencies, etc. by Parties
 16. Questions by the Board staff and Panel Members
 17. Upon completion of presentations by all Parties, the Board will give the Applicant the opportunity to reply. Then all Parties will have the opportunity to make final closing statements taking into account matters raised at the Hearing
 18. Closing remarks by the Chairperson; and
 19. Closing Prayer
-



AGENDA

APPLICATION FOR AMENDMENT TO WATER LICENCE NO: 2AM-BRP1831 BACK RIVER PROJECT

COMMUNITY SESSION

July 13, 2021, 7:00 p.m. – 10:00 p.m. MT, Luke Novoligak Community Hall

Teleconference Call-In Information: Phone: +1 587 328 1099; Meeting ID: 506 243 8596

Zoom link: <https://us06web.zoom.us/j/5062438596?pwd=WURzNmpaUXorQmJCRDFRV0U3SS9lUT09>

1. Opening Prayer
2. Opening Remarks by the Chair
3. Introductions of the Board Members and Staff
4. Purpose and Scope of the Evening Session
5. Presentation by the Nunavut Water Board (NWB) – Type “A” water licensing process for the Amendment Application (15 minutes)
6. Questions and/or comments from community members and other participants
7. Presentation by the Applicant on the Application before the Board for the Amendment to Type “A” Water Licence 2AM-BRP1831 (20 Minutes)
8. Question and/or comments from community members and other participants
9. Presentation from each intervening party pertaining to its mandate and role(s) in the water licensing process as well as an overview of their findings during their technical review (15 Minutes/Intervener).
10. Questions and/or comments from community members and other participants
11. Closing Remarks
12. Closing Prayer



APPENDIX B – Exhibit List

Exhibit	Exhibit Description (copies of all Exhibits available from links in the Transcript)	Date	From
1	Electronic Copy Curriculum Vitae of S. Barnes, Consultant SRK Consulting <i>(English)</i>	July 13, 2021	Sabina Gold & Silver Corp.
2	Electronic Copy Curriculum Vitae of S. Dayyani, Water Quality Modeller Golder Associates Ltd. <i>(English)</i>	July 13, 2021	Sabina Gold & Silver Corp.
3	Electronic Copy Curriculum Vitae of D. Filiatrault, Senior Reviewer/Technical Advisor Golder Associates Ltd. <i>(English)</i>	July 13, 2021	Sabina Gold & Silver Corp.
4	Electronic Copy Curriculum Vitae of A. Humphries, Senior Water Quality Specialist, Golder Associates Ltd. <i>(English)</i>	July 13, 2021	Sabina Gold & Silver Corp.
5	Electronic Copy Curriculum Vitae of E. Irving, Senior Environmental Scientist, Golder Associates Ltd. <i>(English)</i>	July 13, 2021	Sabina Gold & Silver Corp.
6	Electronic Copy Curriculum Vitae of J. Kurylo, Senior Consultant SRK Consulting <i>(English)</i>	July 13, 2021	Sabina Gold & Silver Corp.



Exhibit	Exhibit Description (copies of all Exhibits available from links in the Transcript)	Date	From
7	Electronic Copy Curriculum Vitae of C. Paul, Environmental and Engineering Consultant Weymark Consulting Ltd. <i>(English)</i>	July 13, 2021	Sabina Gold & Silver Corp.
8	Electronic Copy Curriculum Vitae of K. Serben, Environmental Scientist Golder Associates Ltd. <i>(English)</i>	July 13, 2021	Sabina Gold & Silver Corp.
9	Electronic Copy Curriculum Vitae of A. Snow, Water Quality Modeller Golder Associates Ltd. <i>(English)</i>	July 13, 2021	Sabina Gold & Silver Corp.
10	Electronic Copy PowerPoint Presentation Back River Project Type A Water Licence Amendment Public Hearing and Community Session – July 13/14, 2021 <i>(English)</i>	July 13, 2021	Sabina Gold & Silver Corp.
11	Electronic Copy PowerPoint Presentation Back River Project Type A Water Licence Amendment Public Hearing and Community Session – July 13/14, 2021 <i>(Inuinnaqtun)</i>	July 13, 2021	Sabina Gold & Silver Corp.



Exhibit	Exhibit Description (copies of all Exhibits available from links in the Transcript)	Date	From
12	<p>Electronic Copy PowerPoint Presentation</p> <p>Back River Project Type A Water Licence Amendment Public Hearing and Community Session – July 13/14, 2021</p> <p><i>(French)</i></p>	July 13, 2021	Sabina Gold & Silver Corp.
13	<p>Electronic Copy</p> <p>Draft Water Licence Framework “Addendum” to Support Water Licence Amendment</p> <p>July 13, 2021 Rev3</p> <p><i>(English)</i></p>	July 13, 2021	Sabina Gold & Silver Corp.
14	<p>Electronic Copy PowerPoint Presentation</p> <p>Kitikmeot Inuit Association Presentation of Sabina Gold & Silver Corp’s Modifications of the Back River Project July 13, 2021</p> <p><i>(English)</i></p>	July 13, 2021	Kitikmeot Inuit Association
15	<p>Electronic Copy PowerPoint Presentation</p> <p>Kitikmeot Inuit Association Community Presentation Sabina Gold & Silver Corp’s Modifications of the Back River Project July 13, 2021</p> <p><i>(English)</i></p>	July 13, 2021	Kitikmeot Inuit Association
16	<p>Electronic Copy PowerPoint Presentation</p> <p>Crown-Indigenous Relations and Northern Affairs Canada Presentation Regarding Amendments to Water Licence No: 2AM-BRP1831</p> <p><i>(Inuinnaqtun/English)</i></p>	July 13, 2021	Crown-Indigenous Relations and Northern Affairs Canada



Exhibit	Exhibit Description (copies of all Exhibits available from links in the Transcript)	Date	From
17	<p>Electronic Copy PowerPoint Presentation</p> <p>Crown-Indigenous Relations and Northern Affairs Canada Presentation Regarding Amendments to Water Licence No: 2AM-BRP1831</p> <p><i>(Inuktitut/English)</i></p>	July 13, 2021	Crown-Indigenous Relations and Northern Affairs Canada
18	<p>Electronic Copy PowerPoint Presentation</p> <p>Environment and Climate Change Canada's Presentation to the Nunavut Water Board Respecting the Type A Water License Amendment Application for the Back River Project</p> <p><i>(English)</i></p>	July 13, 2021	Environment and Climate Change Canada
19	<p>Electronic Copy PowerPoint Presentation</p> <p>Environment and Climate Change Canada's Presentation to the Nunavut Water Board Respecting the Type A Water License Amendment Application for the Back River Project</p> <p><i>(Inuktitut)</i></p>	July 13, 2021	Environment and Climate Change Canada
20	<p>Electronic Copy PowerPoint Presentation</p> <p>Environment and Climate Change Canada's Presentation to the Nunavut Water Board Respecting the Type A Water License Amendment Application for the Back River Project</p> <p><i>(Inuinnaqtun)</i></p>	July 13, 2021	Environment and Climate Change Canada
21	<p>Electronic Copy</p> <p><i>Updated Interim Closure & Reclamation Plan dated July 2021 (red line version showing where revisions have been made)</i></p> <p><i>(English)</i></p>	July 13, 2021	Sabina Gold & Silver Corp.



Exhibit	Exhibit Description (copies of all Exhibits available from links in the Transcript)	Date	From
22	Electronic Copy <i>Updated</i> Interim Closure & Reclamation Plan dated July 2021 (clean version with all changes accepted) <i>(English)</i>	July 13, 2021	Sabina Gold & Silver Corp.
23(a)	Electronic Copy Reclaim Model “Closure cost estimate” dated July 2021 <i>(English)</i>	July 13, 2021	Sabina Gold & Silver Corp.
23(b)	Electronic Copy <i>Updated</i> Reclaim Model “Closure cost estimate” dated July 2021 <i>(English)</i>	July 14, 2021	Sabina Gold & Silver Corp.
24	Electronic Copy Curriculum Vitae of R. Nesbitt, Senior Aquatic Scientist Hutchinson Environmental Sciences Ltd. <i>(English)</i>	July 13, 2021	Kitikmeot Inuit Association
25	Electronic Copy Draft Water Licence Framework Addendum Part C, Item 1 - Table 1 <i>(English)</i>	July 14, 2021	Sabina Gold & Silver Corp.



APPENDIX D – List of Submissions and Correspondence

Amendment Application:

1. Cover letter and initial submission of water licence amendment for Sabina Gold & Silver Corp. Back River Project Water Licence 2AM-BRP1831 **October 13, 2020.**

Submissions & Correspondence:

1. Cover Letter to Richard Dwyer, Nunavut Water Board (NWB) RE: Amendment Type A Water Licence Application for Sabina Gold & Silver Corp. (Sabina) Back River Project (NWB File No. 2AM-BRP1831), from Mathew Pickard, Sabina, dated **October 13, 2020.**
2. Submitted **October 13, 2020** by Sabina, Water Licence Amendment Application.
3. Submitted **October 13, 2020** by Sabina, COMPLIANCE ASSESSMENT/STATUS REPORT (Amendment Application Form Box 23) FOR MODIFICATION PACKAGE
4. Submitted **October 13, 2020** by Sabina, Modification Package Introduction.
5. Submitted **October 13, 2020** by Sabina, BACK RIVER PROJECT Water Management Plan.
6. Cover E-mail to Sergey Kuflevskiy, Karen Kharatayan, Richard Dwyer, NWB, RE: Sabina's Project Modification Submission to NWB, from Merle Keefe, Sabina, dated **October 15, 2020.**
7. Letter to Matthew Pickard, Sabina, RE: Water Licence No: 2AM-BRP1831; Amendment Application by Sabina Gold & Silver Corp.; Back River Project, from Richard Dwyer, NWB, dated **October 15, 2020.**
8. Cover E-mail to Matthew Pickard, Merle Keefe, Sabina, Back River Project E-mail Distribution List, RE: Back River Project Sabina Gold & Silver Corp. Amendment Application Completeness check for 2AM-BRP1831 water licence, from Richard Dwyer, NWB, dated **October 15, 2020.**
9. Letter to Stephanie Autut, NWB, RE: Licence #2AM-BRP1831 – Sabina Gold & Silver Corp. – Back River Project – Amendment Application Completeness Check, from Margaret Fairbairn, Environment Climate Change Canada (ECCC), dated **November 12, 2020.**
10. Letter to Richard Dwyer, NWB, RE: Crown-Indigenous Relations and Northern Affairs Canada Completeness Review for Type A Water Licence 2AM-BRP1831



Amendment for Back River Modification Project by Sabina Gold and Silver Corporation in Nunavut, from Godwin Okonkwo, CIRNA, dated **November 13, 2020**.

11. Letter to Richard Dwyer, NWB, RE: Review of Water Licence No: 2AM-BRP1831; Amendment Application by Sabina Gold & Silver Corp.; Back River Project, from John Roesch, Kitikmeot Inuit Association (KIA), dated **November 13, 2020**.
12. Cover E-mail to Richard Dwyer, NWB, Matthew Pickard, Sabina, RE: Back River Project Sabina Gold & Silver Corp. Amendment Application Completeness check for 2AM-BRP1831 water licence, from Merle Keefe, Sabina, dated **November 13, 2020**.
13. Cover E-mail to Merle Keefe, Matthew Pickard, Sabina, Sergey Kuflevskiy, NWB, RE: 2AM-BRP1831 Completeness Check, from Richard Dwyer, NWB, dated **November 16, 2020**.
14. Submitted **November 30, 2020** by Sabina, BACK RIVER PROJECT Responses to Information Requests for Water Licence (2AM-BRP1831) Amendment.
15. Cover E-mail to Richard Dwyer, NWB, RE: Back River Project Sabina Gold & Silver Response to completeness comments 2AM-BRP1831, from Orlagh O’Sullivan, ECCC, dated **December 4, 2020**.
16. Cover E-mail to Richard Dwyer, NWB, RE: Proceeding with the NWB technical review of the modifications to the Back River Project, from John Roesch, KIA, dated **December 8, 2020**.
17. Letter to Richard Dwyer, NWB, RE: Crown-Indigenous Relations and Northern Affairs Canada Reply to Sabina Gold and Silver (Sabina) Response to Information Request on Water Licence 2AM-BRP1831 Amendment Application for the Back River modification Project, from Godwin Okonkwo, CIRNA, dated **December 8, 2020**.
18. Letter to Matthew Pickard, Sabina, RE: Water Licence No: 2AM-BRP1831; Amendment Application by Sabina Gold & Silver Corp.; Back River Project, from Stephanie Autut, NWB, dated **December 17, 2020**.
19. Cover E-mail to Matthew Pickard, Sabina, Back River Project E-mail Distribution List RE: Back River Project, Sabina Gold & Silver Corp, notice of Amendment Application for water licence 2AM-BRP1831, from Richard Dwyer, NWB, dated **December 17, 2020**.
20. Cover E-mail to Richard Dwyer, NWB, Matthew Pickard, Sabina, RE: Back River Project, Sabina Gold & Silver Corp, notice of Amendment Application for water licence 2AM-BRP1831, from Godwin Okonkwo, CIRNA, dated **January 18, 2021**.



21. Cover E-mail to Sergey Kuflevskiy, Karen Kharatyan, Richard Dwyer, NWB, RE: Back River Project, Sabina Gold & Silver Corp, notice of Amendment Application for water licence 2AM-BRP1831, from Merle Keefe, Sabina, dated **January 19, 2021**.
22. Letter to Richard Dwyer, NWB, RE: Crown-Indigenous Relations and Northern Affairs Canada's technical review of Sabina Gold & Silver Corp.'s Amendment Application for water licence #2AM-BRP1831 for the Back River gold mine, from Sarah Forte, CIRNA, dated **January 28, 2021**.
23. Letter to Stephanie Autut, NWB, RE: Licence #2AM-BRP1831 – Sabina Gold & Silver Corp. – Back River Project – Technical Review of the Amendment Application and Supplemental Information, from Orlagh O'Sullivan, ECCC, dated **January 29, 2021**.
24. Cover E-mail to Richard Dwyer, NWB, RE: Back River Project, Sabina Gold & Silver Corp, notice of Amendment Application for water licence 2AM-BRP1831, from John Roesch, KIA, dated **February 2, 2021**.
25. Letter to Matthew Pickard, Sabina, RE: Water Licence No: 2AM-BRP1831; Amendment Application by Sabina Gold & Silver Corp.; Back River Project; Technical Review Update, from Richard Dwyer, NWB, dated **February 2, 2021**.
26. Cover E-mail to Matthew Pickard, Sabina, Back River Project E-mail Distribution List RE: Back River Project Technical Review Update Sabina Golds & Silver Corp. water licence 2AM-BRP1831, from Richard Dwyer, NWB, dated **February 2, 2021**.
27. Submitted **February 12, 2021** by Sabina, BACK RIVER PROJECT Responses to Technical Comments for Water Licence (2AM-BRP1831) Amendment.
28. Letter to Stephanie Autut, NWB, RE: 2AM-BRP1831 – Sabina Gold & Silver Corp. – Back River Project – Technical Review of the Hydrodynamic Model, from Orlagh O'Sullivan, ECCC, dated **March 2, 2021**.
29. Letter to Richard Dwyer, NWB, RE: Crown-Indigenous Relations and Northern Affairs Canada's comments on Sabina Gold & Silver Corp.'s hydrodynamic model submitted as part of their Amendment Application for water licence #2AM-BRP1831 for the Back River gold mine, from Sarah Forte, CIRNA, dated **March 2, 2021**.
30. Letter to Richard Dwyer, NWB, RE: Review of Hydrodynamic Model for Water Licence No: 2AM-BRP1831; Amendment Application by Sabina Gold & Silver Corp.; Back River Project, from John Roesch, KIA, dated **March 2, 2021**.
31. Cover E-mail to Richard Dwyer, Sergey Kuflevskiy, NWB, RE: Back River Project Technical Review Update Sabina Golds & Silver Corp. water licence 2AM-BRP1831, from Merle Keefe, Sabina, dated **March 3, 2021**.



32. Cover E-mail to Back River Distribution List, RE: Back River Project Technical Review Update Sabina Golds & Silver Corp. water licence 2AM-BRP1831, from Richard Dwyer, NWB, dated **March 3, 2021**.
33. Submitted **March 12, 2021** by Sabina, BACK RIVER PROJECT Responses to Technical Comments on the Hydrodynamic Model for Water Licence (2AM-BRP1831) Amendment.
34. Letter to Matthew Pickard, Sabina, RE: Water Licence No: 2AM-BRP1831; Amendment Application by Sabina Gold & Silver Corp.; Back River Project; Technical Meeting and Pre-Hearing Conference Draft Agenda, from Richard Dwyer, NWB, dated **March 12, 2021**.
35. Cover E-mail to Matthew Pickard, Sabina, Back River Project E-mail Distribution List, RE: Back River Project Technical Review Update Sabina Golds & Silver Corp. water licence 2AM-BRP1831, from Richard Dwyer, NWB, dated **March 12, 2021**.
36. Submitted **March 15, 2021** by ECCC, Environment and Climate Change Canada's Presentation to the Nunavut Water Board Respecting the Back River Project Type A Water License Amendment Application by Sabina Gold and Silver Corp.
37. Cover E-mail to Richard Dwyer, NWB, RE: Back River Project Technical Review Update Sabina Golds & Silver Corp. water licence 2AM-BRP1831, from Sarah Forte, CIRNA, dated **March 16, 2021**.
38. Submitted **March 16, 2021**, by CIRNA Back River Project Amendment Application for Water Licence 2AM-BRP1831 Nunavut Water Board Technical Meeting Teleconference, March 23 - 24, 2021.
39. Submitted **March 16, 2021**, by Sabina, Back River Project Type A Water Licence Amendment Technical Meeting –March 26, 2021.
40. Cover E-mail to NWB, RE: Back River Project Technical Review Update Sabina Golds & Silver Corp. water licence 2AM-BRP1831, from John Roesch, KIA, dated **March 17, 2021**.
41. Submitted **March 17, 2021**, by KIA, KIA Technical Review of Back River Project Modifications.
42. Submitted **March 17, 2021**, by KIA, Presentation of Sabina Gold & Silver Corp's Modifications of the Back River Project March 26, 2021.
43. Letter to Matthew Pickard, Sabina, RE: Water Licence No: 2AM-BRP1831; Amendment Application by Sabina Gold & Silver Corp.; Back River Project;



55. Letter to Matthew Pickard, Sabina, RE: Water Licence No: 2AM-BRP1831; Amendment Application by Sabina Gold & Silver Corp.; Back River Project; Technical Review Update, from Richard Dwyer, NWB, dated **May 13, 2021**.
56. Cover E-mail to Merle Keefe, Matthew Pickard, Sabina, Back River Project E-mail Distribution List, RE: Water Licence No: 2AM-BRP1831; Amendment Application by Sabina Gold & Silver Corp.; Back River Project; Technical Review Update, from Richard Dwyer, NWB, dated **May 13, 2021**.
57. Submitted **May 27, 2021**, by Sabina, Sabina Gold & Silver Corporation Back River Project Effluent Quality Criteria Report for Effluent Discharged from Tailings Facilities, Tailings Storage Facilities, or Reservoirs – Version 1.
58. Submitted **June 11, 2021**, by KIA, Review of Hydrodynamic Model for Water Licence No: 2AM-BRP1831; Amendment Application by Sabina Gold & Silver Corp.; Back River Project.
59. Submitted by **June 15, 2021**, by Sabina, BACK RIVER PROJECT Interim Closure and Reclamation Plan March 2021.
60. Submitted **June 15, 2021**, by CIRNA, Final submission for amendment of water licence 2AM-BRP1831 Back River Project (Sabina Gold & Silver Limited) June 15, 2021.
61. Letter to Stephanie Autut, NWB, RE: Licence #2AM-BRP1831 – Sabina Gold & Silver Corp. – Back River Project – ECCC Final Written Submission, from Margaret Fairbairn, ECCC, dated **June 15, 2021**.
62. Letter to Richard Dwyer, NWB, RE: Final Submission for Water Licence No: 2AM-BRP1831; Amendment Application by Sabina Gold & Silver Corp.; Back River Project, from John Roesch, KIA, dated **June 15, 2021**.
63. Submitted **June 15, 2021** by Sabina, Type A Water Licence Amendment Closure Discussion Summary.
64. Submitted **June 15, 2021** by Sabina, Updated Back River Project Cost Estimate.
65. Submitted **June 23, 2021** by ECCC, Final Written Submission Executive Summary French.
66. Submitted **June 23, 2021** by ECCC, Final Written Submission Executive Summary Inuktitut.
67. Submitted **June 23, 2021** by ECCC, Final Written Submission Executive Summary Inuktitut.



91. Prepared **July 30, 2021** by NWB, ·NUNAVUT WATER BOARD Sabina Gold & Silver Corp. Type "A" Water Licence Number 2AM-BRP1831 Amendment Application·PUBLIC HEARING VOLUME 1·Cambridge Bay, Nunavut July 13, 2021.

92. Prepared **July 30, 2021** by NWB, ·NUNAVUT WATER BOARD Sabina Gold & Silver Corp. Type "A" Water Licence Number 2AM-BRP1831 Amendment Application·PUBLIC HEARING VOLUME 2·Cambridge Bay, Nunavut July 14, 2021.



APPENDIX E – Sign-in Sheets – List of Participants in the Public Hearing

**PUBLIC HEARING BACK RIVER PROJECT 2AM-BRP1831
CAMBRIDGE BAY NU JULY 13, 2021
Registration Form**

Day 1

No.	First Name	Last Name	Organization/ Address	Phone	Fax	E-mail
1.	Mark	Keefe	Sabina	604 246 6619		mkeefe@sabina.goldsilver.com
2.	Scott	Kaitogawa	CRS	847 983 3281		kaitogawa@sarsilab.com SILVER.com
3.	Sergey	Kuflevskiy	NWB			
4.	Justin	Krolow	SABINA	867 638 3583		
5.	James	Beniak	Interpreter	867 983 3739		
6.	Keith	Morrison	NWB	807 983 4617		kmorrison@nwb.ca
7.	Marlene	Mars	Cambridge Bay resident	903 3409		marlene_mars@hotmail.com
8.	John	Roesch	KIA	867 982 3310		srproject@kitia.ca
9.	Marlene	Suksh	Cam-Bay resident	780-299-4172		NIL
10.						
11.	Lynn	Sikrik	Cambridge Bay resident			
12.	Lottie	Ioannasie	NWB			
13.	Sakiasie	Sandloapik	NWB			
14.	Sarah	Silow	NWB			
15.	Teresa	Meadows	NWB (legal)			
16.	Sylvia	Ekelik	NWB			
17.	Karen	Khasatran	NWB			
18.	Richard	Dwyer	NWB			
19.	Orlagh	O'Sullivan	ECCC			
20.	Maggie	Jobin	ECCC			
21.	Sarah	Waste	CIRNA			
22.	Spencer	Dowar	CIRNA			
23.	Andrew	Keim	CIRNA			
24.	Jody	Small	ECCC			
25.	Reg	Ejeckam	ECCC			
26.	Alison	Snow	Golder for Sabina			
27.	Christine	Kowbel	Legal for Sabina			
28.	Dionne	Filiatrault	Golder for Sabina			
29.	Kerrie	Serben	Golder for Sabina			
30.	Erin	Salo	Golder for Sabina			
31.	Lukas	Arenson	BGC Engineering			

Zoom call



PUBLIC HEARING BACK RIVER PROJECT 2AM-BRP1831
CAMBRIDGE BAY NU JULY 13, 2021
 Registration Form

Day 1

Zoom call

No.	First Name	Last Name	Organization/ Address	Phone	Fax	E-mail
32.	Matthew	Rickard	Sabina			
33.	Richard	Nesbitt	HESL for KIA			
34.	Rick	Hoos	CIRNA (Tetra Tech)			
35.	Shadi	Dayyani	Goldier for Sabina			
36.	April	Hussey	Tetra Tech (CIRNA)			
37.	Catherine	Paul	Sabina			
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COMMUNITY SESSION BACK RIVER PROJECT 2AM-BRP1831
CAMBRIDGE BAY NU JULY 13, 2021

Registration Form

No.	First Name	Last Name	Organization/ Address	Phone	Fax	E-mail
1.	Merle	Keefe	Sabina	604-240-6619		mkeefe@sabinagoldsilver.com
2.	Sergey	Kutlevskiy	NWIB			
3.	Tobin	Roesch	KIA	867-987-2310		srproject@kita.ca
4.	Jant	Roslan		867-987-3888		
5.						
6.	James	Pyrivak	Interpreter	867-983-3339		
7.	Leotie	Loomasie	NWIB			
8.	Secah	Silou	NWIB			
9.	Sakiasie	Sawloapik	NWIB			
10.	Sylvia	Ekelik	NWIB			
11.	Teresa	Meadows	NWIB (legal)			
12.	Karen	Khachatryan	NWIB			
13.	Richard	Dwyer	NWIB			
14.	Orlagh	O'Sullivan	ECCC			
15.	Morgan	Tobin	ECCC			
16.	Sarah	Foste	CIRNA			
17.	Spencer	Dewar	CIRNA			
18.	Andrew	Keim	CIRNA			
19.	Richard	Nesbitt	HESL for KIA			
20.	Matthew	Pickard	Sabina			
21.	Catherine	Paul	Sabina			
22.	Christine	Kowbel	Sabina (legal)			
23.	Dionne	Fillatrait	Golden for Sabina			
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**PUBLIC HEARING BACK RIVER PROJECT 2AM-BRP1831
CAMBRIDGE BAY NU JULY 14, 2021**

Day 2

Registration Form

No.	First Name	Last Name	Organization/ Address	Phone	Fax	E-mail
1.	Dana	Kaitigana	Sabina	446 2501		Dkaitigana@sabina.ca
2.	Mark	Keefer	Sabina	6042406619		mkkefer@sabinajettoliver.com
3.	Sergey	Kutlevskiy	NWB			
4.	John	Boesch	KIA	867-982-3310		srproject@kia.ca
5.	Just	Korman	Jordan	8676883885		
6.						
7.	Jada Kuhlman					
8.	Keith	Morrison	NIRB	867 983 4617		kmorrison@nirb.ca
9.	Tara	Arko	NIRB	867-983-5596		tarko@nirb.ca
10.	Stacey Kuhlman					skuhlman
11.	Betty Ann M.		NIRB			Betty Ann M.
12.	Beren	Khachatryan	NWB			
13.	Teressa	Meadows	Legal NWB			
14.	Sylvia	Ekelik	NWB			
15.	Lottie	Toomasie	NWB			
16.	Saskia	Sawloapik	NWB			
17.	Sasha	Siloe	NWB			
18.	Richard	Dwyer	NWB			
19.	Orlagh	O'Sullivan	ECCC			
20.	Megan	Tobin	ECCC			
21.	Andrew	Keim	CIRNA			
22.	Spencer	Dewar	CIRNA			
23.	Sarah	Foste	CIRNA			
24.	Reg	Ejeckam	ECCC			
25.	Jody	Small	ECCC			
26.	Alison	Snow	Goldier for Sabina			
27.	Catherine	Paul	Sabina			
28.	Christine	Koubel	Sabina (legal)			
29.	Dionne	Filiatrault	Goldier for Sabina			
30.	Erin	Salo	Goldier for Sabina			
31.	Kerrie	Serben	Goldier for Sabina			

Zoom call



**PUBLIC HEARING BACK RIVER PROJECT 2AM-BRP1831
CAMBRIDGE BAY NU JULY 14, 2021**

Day 2

Registration Form

Zoom call

No.	First Name	Last Name	Organization/ Address	Phone	Fax	E-mail
32.	Matthew	Pickard	Sabina			
33.	Shadi	Dayyani	Golder for Sabina			
34.	Richard	Nesbitt	HESL for KIA			
35.	Elaine	Irving	Golder for Sabina			
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