

1 March 2023

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Dr Peter Williams  
Commissioner and Panel Chair for McPhillamys Gold Project (SSD 9505)  
Independent Planning Commission of New South Wales

**RE: MCPHILLAMYS GOLD PROJECT SSD 9505 – RESPONSE TO ADDITIONAL MATERIAL**

Dear Dr Williams,

This letter and associated attachments provide a response to the additional material submitted by Ms Lisa Paton, Mr Tony Newman and the Environmental Defenders Office (EDO) on behalf of the Belubula Headwaters Protection Group (BHPG) and Nyree Reynolds to the Independent Planning Commission (the Commission) on 17 February 2023.

The reviews commissioned by the EDO contain consistently incorrect and inaccurate information relating to the McPhillamys Gold Project (the project). Over the course of the environmental impact assessment process, Regis has invested significant resources on the scientific studies and design reviews that have informed the planning assessment process. This has included engaging independent peer reviews of multiple key technical assessments to provide Regis confidence of the veracity of the project's assessment documentation.

Our overriding concern with the EDO and BHPG commissioned reviews is that they constantly demonstrate that the authors are unfamiliar with the project's environmental assessment documentation and/or the Commonwealth and NSW Government legislation or policy framework and assessment material relevant to the area on which they have commented.

On numerous occasions throughout the EDO and BHPG commissioned reviews, appointed reviewers have asked questions that have already been answered in the assessment documentation, in some cases multiple times. Other reviews levelled criticisms that did not address the State significant development application and assessment documentation and are well outside the boundaries of the assessment process.

On this basis, we do not believe that the commentary and criticism in the EDO and BHPG commissioned reviews are credible or defensible, and accordingly the following responses to key EDO and BHPG reviews have been prepared and are attached to this letter as follows:

- a response by Muller Acoustic Consulting Pty Ltd on the acoustic assessment peer review report by RCA Australia (dated 14 February 2023), included in **Appendix A**
- a response by EMM Consulting Pty Limited to additional material submitted by Dr Ryan Vogwill, Associate Professor Gavin Mudd and Dr Ian Wright relating to water resources, included in **Appendix B**

- a response by Dr Matt Cupper of Landskape Heritage Management to the Aboriginal cultural heritage assessment review report by Doug Williams (dated February 2022) and Peter Kuskie (dated 11 February 2023), included in **Appendix C**
- a response by Andrew Sneddon of Extent Heritage to additional material submitted relating to Aboriginal Cultural Heritage by Doug Williams, Tony Newman, and Lisa Paton, included in **Appendix D**
- a response by Dr Rob Gillespie of Gillespie Economics to the cost benefit analysis review report by Andrew Buckwell and Professor Christopher Fleming (undated), included in **Appendix E**
- a response by Ashurst to the following is included in **Appendix F**:
  - a. submissions by Melissa McGrath of counsel dated 15 February 2023;
  - b. an EDO letter concerning the proposed reliance on a specific purpose access licence (SPAL) for the Project dated 17 February 2023; and
  - c. an EDO letter which provides feedback on a draft Department of Planning and Environment Water (DPE Water) fact sheet concerning the interpretation of "excluded works exemptions" dated 11 November 2022.
- a response to the SIA review prepared for EDO by Dr Alison Ziller is included in **Appendix G**.

Regis is happy to answer any further questions the Commission may have relating to the additional material submitted to the Commission, or in relation to the responses provided in the attachments.

Yours sincerely



**Wayne Taylor**  
Project Director – McPhillamys Gold Project  
Regis Resources Ltd



23 February 2023

MAC170434-16LR2

Attention: Danielle Wallace  
Ltd



Dear Danielle,

**McPhillamys Gold Project – Noise & Vibration Peer Review by RCA Australia,  
Technical Response**

Muller Acoustic Consulting Pty Ltd (MAC) has been engaged by Regis Resources Ltd to provide technical responses to the Peer Review conducted by RCA Australia Pty Ltd (RCA) of the Amended Noise & Vibration Impact Assessment (ANVIA) completed by MAC for the project.

This response consists of additional commentary and clarifications on technical aspects of the assessment with respect to predictive noise modelling, determining noise impacts, application of guidance and policy, expected impacts and the experience of those involved in the assessment and review process.

# 1 ANVIA

The ANVIA for the McPhillamys Gold Project assessed noise emission from construction and operational (mining) activities, requiring the incorporation of the following:

- noise modelling software;
- mine schedule;
- proposed plant and equipment to be used;
- noise mitigation measures; and
- meteorological conditions.

## 1.1 Predictive Noise Modelling Software

The ANVIA for the McPhillamys Gold Project included a highly comprehensive and detailed noise model to calculate noise emissions from mining and construction activities at the surrounding identified receivers using iNoise, (Version 2020.0) noise modelling software.

Noise models are a forecasting system where the quality of results produced are commensurate to the environmental noise calculation method and the quality of inputs used. iNoise allows the user to specify properties of model items to a high degree, thus providing realistic results.

Predicted noise levels from the project were determined using the widely accepted ISO9613 calculation method ISO9613 (ISO 9613-1 'Acoustics - Attenuation of sound during propagation outdoors. Part 1: Calculation of the absorption of sound by the atmosphere' and ISO 9613-2 'Acoustics - Attenuation of sound during propagation outdoors. Part 2: General method of calculation'). The ISO 9613 standard from 1996 is the most used noise prediction method worldwide. Many countries refer to ISO 9613 in their noise legislation but the standard does not contain guidelines for quality assured software implementation, which lead to the release of ISO/TR 17534-3. ISO/TR 17534-3 is a quality standard that provides clear recommendations for interpreting the ISO 9613 method. iNoise fully supports the recommendations made in ISO/TR 17534-3 and has been verified to conform with the requirements of the standard – ie iNoise is a quality assured software for industrial noise calculations in the environment.

The noise model for the project incorporated a three-dimensional digital terrain map for each assessment scenario, inclusive of the proposed pit depth and waste dump heights, haul roads and proposed noise mitigation bunds. Additionally, the model uses relevant noise source data, ground type, attenuation from barrier or buildings and atmospheric information to predict noise levels at the nearest potentially affected receivers.

## 1.2 ANVIA Author, Technical Review and Peer Review

The ANVIA modelling, assessment and report was authored by Mr Rod Linnett (MAC) and technically reviewed by Mr Oliver Muller (MAC). Mr Linnett and Mr Muller have over 60 years' combined experience in acoustics. Both have a strong track record for delivering comprehensive assessments that are technically robust and have completed numerous assessments of extractive industry/mining projects throughout their consultancy careers. Furthermore, they have both been working with the Noise Policy for Industry and its previous iteration, the Industrial Noise Policy since its inception in 2000 which enables both to have a strong foundation for understanding, interpretation and application of relevant policies and standards.

Rod has been a Member of the Australian Acoustical Society (MAAS) for 20 years, a Member of the UK Institute of Acoustics (MIOA) for 10 years and has over 30 years' experience in environmental and industrial acoustics.

Oliver has been a Member of the Australian Acoustical Society (MAAS) for 15 years and has 30 years' experience specialising in acoustics and blasting.

MAC is a member firm of the Association of Australasian Acoustic Consultants (AAAC) and this submission is provided in consideration of the AAAC code of conduct ([aaac.org.au](http://aaac.org.au)).

A high level adequacy review of inputs and outcomes was provided by Katie Teyhan (EMM Consulting). Katie has 20 years of experience in environmental acoustics including measurement, prediction and assessment of noise and vibration associated with mining, industry, roads and railway transportation. Katie is a Member of the Australian Acoustical Society (MAAS) and EMM Consulting is a member firm of the AAAC.

## 2 Peer Review

The Peer Review (the 'review', reference 16545-401/2, February 2023) was completed by Mr Alex Rees of RCA. A summary of the items recommended for further review is provided in Table 1 of the review report and has been reproduced here. Items have been specifically addressed in the following section.

**Table 1** Summary of items recommended for further review

Item recommended for further review	Brief description of item for review
RBLs, Table 10 of MAC report	RCA believe the NPI procedure for setting RBLs (particularly the rules for excluding data) have not been followed for the Kings Plains location. This could have bearing on the adopted criteria and then the degree of impacts discussed. See <b>section 4.2</b> of this report for more information.
Meteorological analysis, section 5.2 of MAC report	There is some doubt over the temperature inversion analysis since the NPI states that the location of a 10 m high weather station needs to be on "level terrain" in order to execute the chosen method for analysing temperature inversions. RCA recommend this is a vitally important detail to the assessment and that the analysis should be double checked against another nearby weather station. See <b>section 4.1</b> of this report for more information.
Road noise assessment, section 5.4 of MAC report	The Road Noise Assessment has not assessed maximum noise level events associated with braking and engine noise at the proposed intersection at the site access, which could potentially cause significant sleep disturbance impacts for the nearest resident. See <b>section 4.4</b> of this report for more information.
Construction vibration human comfort impacts, section 2.5 of MAC report	RCA believe a typographical error was made in referencing safe working distances supplied by the TfNSW Construction Noise and Vibration Strategy. This should be corrected for accuracy. See <b>section 6</b> of this report for more information.
Proposed DPIE noise conditions	The client has forwarded RCA the DPIE proposed noise conditions. RCA have concerns that the proposed conditions in B7 Table 1 will not protect the amenity of the nearby receivers. See <b>section 8</b> of this report for more details.

The AAAC sets out objectives for Member Firms when conducting Peer Reviews around professional behaviours. The AAAC advises that all Peer Review reports should, based on the information contained within the document being reviewed, identify opinions on:

- Advice, which they believe is incorrect or inappropriate;
- Advice which requires clarification or additional information;
- Minor points which, in the peer reviewer's opinion, may not be the approach they would have taken, however, do not alter the outcome/ conclusion of the report.

Most points raised are minor and do not alter the outcomes of the (ANVIA) assessment. These could be confirmed by RCA's own analysis for the points raised or by seeking clarifications with the author to address questions from their review.

## 2.1 RCA Internal Review

There are concerns that the RCA internal review was completed by Mr Jasper Cullip, this does not align with the recommendations of the AAAC, where “*reports should be thoroughly reviewed by another staff member of **equal experience or higher technical capability** as the author and preferably one who has not been involved in the preparation of the report*”.

It is understood Mr Cullip is at a graduate level (or similar) consultant and his level of experience is not considered commensurate to that required for this project, especially in the role of reviewer. It is of significant concern to the author that a senior RCA member or alternatively (if a suitable member is not available), an independent third party reviewer such as a AAAC member be engaged to complete this role.

## 2.2 Background Noise Monitoring and Project Noise Trigger Levels

**RCA Comment** - “*Table 10 of the ANVIA presents ABLs measured within Kings Plains over 87 days. RCA noted a very large range in the ABL day values. The maximum daytime ABL was 44 dB and the minimum was 14 dB (14 dB was reported on both the 4th and 5th of January), giving a range of 30 dB. This range is too large to be correct. When RCA reviewed the noise monitoring charts in Appendix B it was seen that several days (including the 4th and 5th of January) had large segments of data missing (the noise terminal appears to have been offline).*”

**MAC Response** - The ABL values of 14dBA were included for transparency and as a conservative measure because at the time, the instrument floor was not known. RCA incorrectly state that RBLs need adjusting downwards, whereas the removal of these low values would have the effect of increasing the calculated RBL which is the median of the ABLs. The revised RBL after removing these low values increases by 0.2dB and is unchanged when rounded to the nearest whole number. This should be noted as a minor point that will not alter the outcome conclusion of the of the ANVIA.

**RCA Comment** - “*Also, much of this data was taken during school holidays, when the NPI states that background noise monitoring should not be undertaken during school holidays. Finally, the report does not state that periods of wind above 5 m/s has been excluded prior to analysis and the monitoring charts do not show periods of exclusions. This indicates that periods of rain or wind above 5 m/s may not have not been excluded prior to analysis.*”

**MAC Response** - RCA provides a misleading statement regarding noise monitoring during school holidays. The NPI does not state that monitoring should not be done during school holidays - it says monitoring must be representative and that transportation noise can be a key factor - especially during school holidays. The NPI states in Section A1.3 “*Transportation noise (air, road and rail) may be included in background noise measurements, except when there is a reasonable expectation that transport flows are not representative of normal conditions (for example, traffic during school holidays). Air, road and rail traffic during these times are usually considered to be extraneous*”.

Kings Plains is not affected by a significant difference in road transportation levels during school holiday period. Review of the ABLs (Table 10 of ANVIA) and calculation of RBLs for the period prior to school holidays, the school holiday period and the period after school holidays result in the same RBL. Therefore, this demonstrates that school holidays do not influence measured levels.

NPI methodology and data exclusion rules have been applied in determining the ABLs and RBLs for the project. This is demonstrated by the number of periods excluded due to weather as indicated by double dashes (- -) in Table 10 of the ANVIA. The periods where the noise monitor was offline is noted on the charts in Appendix B of the ANVIA.

### 2.3 Meteorological Assessment (Weather Assessment)

The review questions the method for determining the presence of prevailing winds and occurrence of temperature inversions and “whether the local terrain could be considered “level”, and whether the adopted method for determining the stability class is accurate”.

The ANVIA analysed data from the weather station MCPWS01 (refer **Figure 1**) which showed that, F and G Class temperature inversions occur for less than 20% of winter evenings and nights and are not considered a feature of the area as they occur less than 30% of the time.

The review also questions the calculation variable, in particular the roughness factor, which is used to represent the surface texture in the scale of meteorology. Further analysis of the same 2018 winter data set with the most conservative roughness factor (0.01) results in the following:

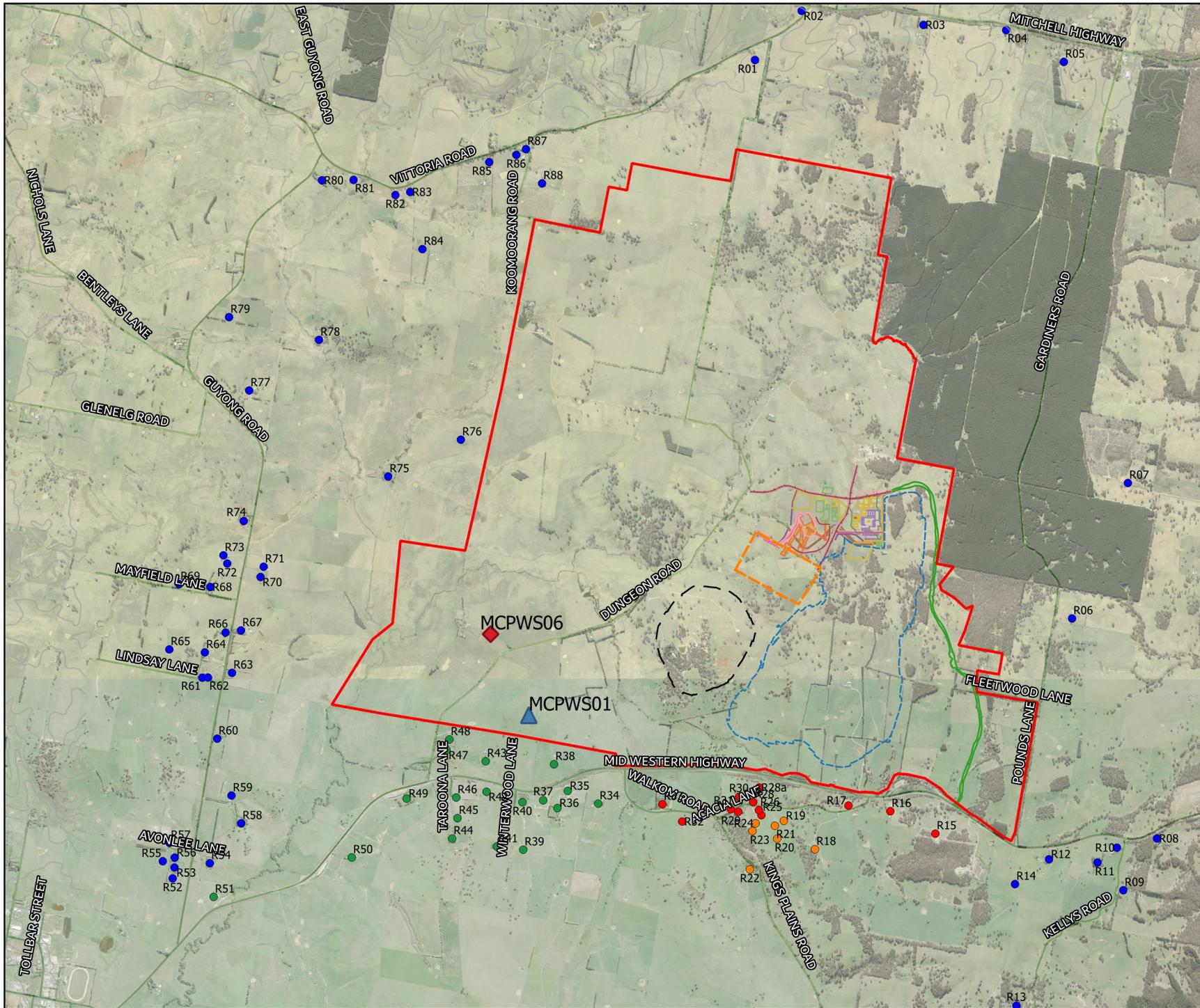
- F and G Class temperature inversions occur for less than 20% of the time; and
- Calm conditions (<0.5m/s) occur for approx. 1% of the time annually.

**RCA Comment** - “*RCA recommend that the presence of noise enhancing weather be reviewed against a second nearby weather station to double check this vital assessment factor.*”

**MAC Response** - MAC has completed an analysis of weather data from the Orange Airport BOM weather station (23km from the project site) which shows a similar trend to that analysed for the ANVIA in that calm wind conditions occur approximately 7% of the time annually (data to determine the occurrence of temperature inversions was not available). Such an analysis could have been conducted by RCA, to address this question. The subsequent MAC analysis of readily available data demonstrates that this is of no consequence and should be considered as a minor point that will not alter the outcome/conclusion of the ANVIA.

The weather station at Kings Plains has been decommissioned and replaced by a new station – MCPWS06 (refer **Figure 1**). Analysis of the data from MCPWS06 from April 2022 to February 2023 shows a similar trend in that calm wind conditions occur approximately 5% of the time annually indicating the high occurrence/presence of windy conditions. Analysis of the winter 2022 (June-August) data from MCPW06 also indicates the occurrence of F and G Class temperature inversions occur for <17% of the time and hence are not a feature of the area and not relevant to the assessment.

Figure 1  
 Weather Station Locations  
 MAC170434  
 McPhillamys Gold Project  
 Mine Development



**KEY**

-  Project Boundary
-  ROM
-  Waste Rock Emplacement
-  Mine Disturbance Area
-  Pit Extents
-  Access Road
-  MCPWS01 MCPWS01.kmz
-  MCPWS06 MCPWS06.kmz



## 2.4 Noise Predictions

**RCA Comment** - *“RCA would contend that the question of intermittency cannot be immediately dismissed. The NPI lists intermittency as an annoying characteristic, which when present, attracts a 5 dB penalty. The penalty applies at night time only, “where the level suddenly drops/increases several times during the assessment period. With a noticeable change in source noise levels of at least 5 dB(A).”*

**MAC Response** - The reference to the NPI regarding intermittent noise penalty by RCA is misleading and has not been made in full. Table C1 (Fact Sheet C) of the NPI states the following regarding intermittent noise:

- Subjectively assessed but should be assisted with measurement to gauge the extent of change in noise level;
- The source noise heard at the receiver varies by more than 5 dB(A) and the intermittent nature of the noise is clearly audible; and
- Adjustment to be applied for **night-time only**.

The correct application of the intermittent penalty should be determined from measurement at the receiver and subjectively assessed and hence, not be applied to a predicted or modelled noise level.

## 2.5 Road Traffic Noise (Road noise assessment)

**RCA Comment** - *“The assessment concludes that the overall day and night road noise limits set out in the Road Noise Policy will be achieved, however, the assessment does not consider the additional noise that will be caused by braking and engine noise at the proposed intersection connecting the Mid-Western Highway with the site access road.”*

**MAC Response** - Section 5.4 of the NSW EPA's Road Noise Policy (RNP) discusses published research, studies and guidelines and states the following:

*From the research on sleep disturbance to date it can be concluded that:*

- *“maximum internal noise levels below 50 - 55dB(A) are unlikely to awaken people” and*
- *“one or two noise events per night, with maximum internal noise levels of 65–70 dB(A), are not likely to affect health and well being significantly.*

The potential for braking and engines noise at the proposed intersection is highly unlikely. Assuming a road truck sound power level of 105dBA a simple loss for distance calculation to the nearest receiver results in a received noise level of <55dB LAmax, and is significantly lower than the Road Noise Policy recommended maximum noise level assessment criteria of <65dB LAmax. Such a calculation could have been conducted by RCA, to address this question. The subsequent MAC calculation demonstrates that this is of no consequence and should be classified by RCA as a minor point that will not alter the outcome/conclusion of the ANVIA.

## 2.6 Construction Noise Assessment

**RCA Comment** - *“Section 5.2 of the ANVIA states that the Construction Noise Strategy (Transport for NSW, 2018) sets a safe working distance of 25 m from a large vibratory roller to achieve the residential human response criteria for continuous vibration, and that since the closest receiver to construction activities is greater than 25 m, no vibration impacts are anticipated. RCA believe this is a typographical error. The Construction Noise Strategy sets a safe working distance of 25 m for a large vibratory roller (> 18t) to avoid cosmetic damage to residential buildings, but sets a 100 m safe working distance for the same plant to avoid human comfort vibration impacts. We understand that the closest receiver to the proposed intersection may be within 100 m, and human comfort vibration impacts may therefore be experienced. The ANVIA should be updated for accuracy.”*

**MAC Response** - MAC agrees with the comment from RCA and that a typographical error was made. The correct offset distance is 100m for human comfort.

The review incorrectly states that the “closest receiver to the proposed intersection may be within 100m”. The closest receiver is 130m (refer **Figure 1**) from the proposed intersection. Hence, potential vibration levels would satisfy the requirements for human comfort.

## 3 Conclusion

A Peer Review of the McPhillamys Gold Project ANVIA has been completed by RCA. MAC’s evaluation of this review is summarised as follows:

- RCA has not followed the guidance provided by the industry professional association (AAAC) with respect to conducting reviews and the experience level required for internal review.
- RCA’s review contains misleading statements, demonstrating a lack of understanding and application of relevant noise policy.
- Were RCA to have conducted the recommended analysis or simple checking calculations for the issues raised, it would have been realised that they are minor and would not alter the outcome/conclusion of the ANVIA.
- All the technical issues raised in the review are minor would not alter the outcome/conclusion of the ANVIA.

If you have any further questions or would like to discuss, please contact the undersigned.

Yours sincerely



**Rod Linnett**  
Lead Acoustic Consultant





28 February 2023

Dr Peter Williams  
Commissioner and Panel Chair for the McPhillamys Gold Project (SSD 9505)  
Independent Planning Commission of New South Wales

Re: Response to submissions from EDO third-party reviewer comments on groundwater related aspects for the IPC

Dear Dr Williams,

This letter provides a response to additional material submitted to the Independent Planning Commission (the Commission) by Dr Ryan Vogwill, Associate Professor Gavin Mudd and Dr Ian Wright, on behalf of the Environmental Defenders Office (EDO) for the McPhillamys Gold Project (the project). The aspects discussed in this letter are focused on groundwater-related items or issues raised by the listed reviewers and focuses on the additional material submitted.

## 1 Overview

The project's groundwater impact assessments (and associated modelling) were conducted in accordance with industry-standards, relevant guidelines and NSW Government requirements applying at the time of completion. Various documents have been prepared detailing the groundwater modelling and assessments, including independent peer reviews for both Regis and the (then) Department of Planning, Industry and Environment (DPIE), and are listed in Table 1.1.

Table 1.1 Relevant documents

Reference list
EMM Consulting 2019, McPhillamys Gold Project – Groundwater Assessment. Prepared for Regis Resources Ltd. Reference J17064_RP2. July 2019, Appendix H of the EIS.
EMM Consulting 2020a, McPhillamys Gold Project – Submissions Report. Prepared for LFB Resources NL. Reference J180395. August 2020.
EMM Consulting 2020b, McPhillamys Gold Project – Amendment Report. Prepared for LFB Resources NL. Reference J180395. August 2020.
EMM Consulting 2020c, McPhillamys Gold Project, Amendment Report - Groundwater Assessment Addendum. Prepared for LFB Resources NL. Reference J180395. August 2020. Appendix K of the Amendment Report.

Table 1.1 Relevant documents

Reference list
EMM Consulting 2020d, McPhillamys Gold Project – Surface Water-Groundwater Interaction Assessment. Prepared for LFB Resources NL. Reference J180395. August 2020. Appendix C of the Submissions Report.
EMM Consulting 2020e, McPhillamys Gold Project – response to expert review of the EIS groundwater assessment. 21 February 2020.
EMM Consulting 2020f, McPhillamys Gold Project (SSD-9505) – response to expert review of the Amendment Report Groundwater Assessment Addendum. 21 December 2020.
JBS&G Australia Pty Ltd 2019, Review of Groundwater Assessment of EIS for McPhillamys Gold Project (SSD 9505). 5 December 2019.
JBS&G Australia Pty Ltd 2020, Review of Groundwater Assessment of McPhillamys Gold Project (SSD 9505) – Amendment Report. 9 December 2020.
Middlemis H 2019, McPhillamys Gold Project Groundwater Model Review. Prepared by HydroGeoLogic for EMM Consulting. 28 June 2019.

It is evident from their submissions that Dr Wright, Assoc. Prof. Mudd and Dr Vogwill have not reviewed all available documentation submitted by Regis as part of the Environmental Impact Statement (EIS), response to submissions on the EIS (Submissions Report (EMM 2020a)) and the Amendment Report (EMM 2020b). Nor do they appear to have reviewed the responses to NSW Government agency advice since the EIS was submitted in 2019, which addressed as number of the substantive issues they raised. Had the reviewers examined the full suite of publicly available documentation, EMM understands that Regis is of the view that they may have provided markedly different advice to the EDO.

In addition, the IPC should be aware that, in preparing to respond to agency advice and reviewer comments, Regis consulted with NSW Government and, where relevant, DPIE's independent reviewer, Dr Bell of JBS&G Australia Pty Ltd (JBS&G). This included presentations from EMM and Regis, and discussion to address questions raised by JBS&G.

The groundwater model and impact assessment of the project were reviewed by Mr Hugh Middlemis of HydroGeoLogic and found to be:

“fit for the purpose of mine dewatering environmental impact assessment and informing management strategies and licensing”.

In addition, the Department of Planning and Environment (DPE) state in their Assessment Report that:

“DPE Water also considered that the [groundwater] model was fit for purpose”.

Table 1.2 lists themes of issues raised by the EDO reviewers and provides references to previously submitted documentation that addresses the issues raised. Discussion on other items raised by the reviewers is provided in Section 2.

Table 1.2 Themes raised and relevant documentation where discussed

Themes raised by reviewers	EMM Comment	Relevant documentation where discussed
Conceptual uncertainty of fractured rock geology	Conceptual understanding informed by drilling, geological observations, geophysical surveys, testing (where possible). Discussed in Section 2.1 of this letter	EMM Consulting 2019, McPhillamys Gold Project – Groundwater Assessment. EMM Consulting 2020c, McPhillamys Gold Project, Amendment Report - Groundwater Assessment Addendum. EMM Consulting 2020e, McPhillamys Gold Project – response to expert review of the EIS groundwater assessment.
Adequacy of groundwater modelling	Reviews found modelling to be fit for purpose	Middlemis H 2019, McPhillamys Gold Project Groundwater Model Review.
Influence of fractured rock	Discussed in Section 2.1 of this report	EMM Consulting 2020e, McPhillamys Gold Project – response to expert review of the EIS groundwater assessment. EMM Consulting 2020f, McPhillamys Gold Project (SSD-9505) – response to expert review of the Amendment Report Groundwater Assessment Addendum. JBS&G Australia Pty Ltd 2020, Review of Groundwater Assessment of McPhillamys Gold Project (SSD 9505) – Amendment Report.
Estimates of storage properties and aquifer testing	Due to the tight nature of the geology of the Lachlan Fold Belt, bore yields are generally too low to allow aquifer testing to be conducted. As reported in the Groundwater Assessment Addendum (EMM 2020c), aquifer testing was conducted at two test bores. Storage parameters used in the groundwater model were informed from the core testing, literature values and hydrogeological experience. A range of values were evaluated as part of the predictive uncertainty analysis.	EMM Consulting 2019, McPhillamys Gold Project – Groundwater Assessment. EMM Consulting 2020c, McPhillamys Gold Project, Amendment Report – Groundwater Assessment Addendum. EMM Consulting 2020e, McPhillamys Gold Project – response to expert review of the EIS groundwater assessment. Middlemis H 2019, McPhillamys Gold Project Groundwater Model Review.
Transient calibration	Transient verification was conducted (i.e. simulating effects of rainfall and evaporation), as transient stresses (such as mining or large scale pumping) are not available. However, predictive uncertainty analysis has been completed and Regis has committed to reviewing the groundwater model and suitable transient data is available.	EMM Consulting 2019, McPhillamys Gold Project – Groundwater Assessment. EMM Consulting 2020c, McPhillamys Gold Project, Amendment Report – Groundwater Assessment Addendum. EMM Consulting 2020e, McPhillamys Gold Project – response to expert review of the EIS groundwater assessment.

Table 1.2 Themes raised and relevant documentation where discussed

Themes raised by reviewers	EMM Comment	Relevant documentation where discussed
Model classification	<p>Discussed and closed out with the DPIE reviewer – “groundwater model is suitable for impact assessment scenario modelling purposes” (Middlemis 2019).</p> <p>Regis has committed to upgrading the model. The draft conditions of development consent reflect this commitment, with condition B531(iv) requiring that the groundwater management plan includes: “A program to periodically upgrade and validate the groundwater model for the mine site, including a model update plan and independent review of the model every 3 years, and at least annual comparison of monitoring results with modelled predictions.”</p>	<p>EMM Consulting 2020a, McPhillamys Gold Project – Submissions Report.</p> <p>EMM Consulting 2020c, McPhillamys Gold Project, Amendment Report - Groundwater Assessment Addendum.</p> <p>EMM Consulting 2020e, McPhillamys Gold Project – response to expert review of the EIS groundwater assessment.</p> <p>Middlemis H 2019, McPhillamys Gold Project Groundwater Model Review.</p>
Predictive uncertainty analysis	<p>Scenario analysis was undertaken with subjective probability informed by calibration sensitivity. A total of 66 scenarios were run that included a range of aquifer properties (i.e. Kh, Kv, Ss, Sy) for all model zones and layers.</p> <p>Middlemis (2019) states the analysis was adequate for the low risk context, generally consistent with guidelines principles.</p>	<p>EMM Consulting 2019, McPhillamys Gold Project – Groundwater Assessment.</p> <p>EMM Consulting 2020c, McPhillamys Gold Project, Amendment Report - Groundwater Assessment Addendum.</p> <p>EMM Consulting 2020e, McPhillamys Gold Project – response to expert review of the EIS groundwater assessment.</p> <p>Middlemis H 2019, McPhillamys Gold Project Groundwater Model Review.</p>
Contamination risk from the TSF	<p>The simulation of the TSF in the groundwater model is very conservative to assess the potential changes to groundwater movement under a “worst-case” seepage scenario.</p>	<p>EMM Consulting 2019, McPhillamys Gold Project – Groundwater Assessment.</p> <p>EMM Consulting 2020c, McPhillamys Gold Project, Amendment Report - Groundwater Assessment Addendum.</p> <p>Middlemis H 2019, McPhillamys Gold Project Groundwater Model Review.</p>
Springs (occurrences in the area, monitoring and potential impact from the TSF and open cut)	<p>Thoroughly addressed in various documents</p>	<p>EMM Consulting 2020d, McPhillamys Gold Project – Surface Water-Groundwater Interaction Assessment.</p>
Cultural value of waterways, including springs	<p>Cultural values mapping conducted for the project found there is no evidence in the early ethnographic records that supports a special Aboriginal spiritual connection to the Belubula River and, in particular its headwaters.</p>	<p>Clarke P 2021, Aboriginal Cultural Values Mapping Report For the McPhillamys Gold Project, prepared for Regis Resources Limited &amp; LFB Resources NL.</p>

Table 1.2 Themes raised and relevant documentation where discussed

Themes raised by reviewers	EMM Comment	Relevant documentation where discussed
Adequacy of the groundwater monitoring network	The monitoring network was installed consistent with that documented in the Groundwater Monitoring and Modelling Plan (GMMP) which is a NSW government requirement of an exploration licence. Regis is also committed to additional monitoring.	EMM Consulting 2017, Groundwater Monitoring and Modelling Plan: McPhillamys Gold Project. EMM Consulting 2020a, McPhillamys Gold Project – Submissions Report.

The EDO reviewers have expressed concerns about the level of detail included in the assessment of groundwater monitoring, trigger levels and environmental protection during project operation. It is noted that Regis has committed to robust monitoring regimes and minimisation of impacts through transparent trigger-action-response regimes and continuous improvement of groundwater and surface water modelling. However, many of the recommendations and concerns of the reviewers are, by established convention, and as reflected in the recommended conditions of development consent, to be included in post determination approvals and documentation, as follows:

Recommended condition B49.

The Applicant must ensure that all surface discharges from the site comply with all relevant provisions of the POEO Act, including any discharge limits (both volume and quality) set for the development in any EPL.

Recommended condition B53.

The Applicant must prepare a Water Management Plan for the mine site and mine access road to the satisfaction of the Planning Secretary.

This must be prepared in consultation with DPE Water and the NSW Environment Protection Authority (EPA); and include a Groundwater Management Plan that must, inter alia, include the aspects raised in the reviewers' submissions.

These post determination requirements will be subject to significant regulatory scrutiny and approval.

## 2 Responses to selected reviewer comments

### 2.1 Fractured rock conceptual uncertainty

In his review, Dr Vogwill states that the main shortcomings of the impact assessment relate to “conceptual uncertainty related to the fractured rock nature of the aquifer not being explicitly assessed or included in the numerical modelling”. Dr Vogwill states the modelling completed as part of the EIS and Amendment Report has led to an “under prediction of the scale and magnitude of water quality impacts”.

EMM disagrees with this statement, and notes that the conceptual hydrogeological model is described in Section 4.8 of the Groundwater Assessment (EMM 2019) prepared as part of the EIS and Section 4 of the Groundwater Assessment Addendum (EMM 2020c) prepared as part of the Amendment Report.

The conceptual understanding has been informed by analysis of extensive drilling for mineral and groundwater exploration purposes for the project. This included logging of drill core, core testing, slug testing, aquifer testing (where sufficient yields allowed) and groundwater level and quality monitoring (as well as surface water monitoring). In addition, interpretation of geophysical surveys conducted by Regis (and data available in the public domain) has informed the conceptual understanding.

As stated in EMM's reports:

- the Goldolphin Fault defines the contact between the Byng Volcanics and the Anson Formation; and
- the volcanics and metasediments weather to clay-like material and where fracturing occurs, the fractures generally are clay filled and do not act as conduits for groundwater flow.

Drilling campaigns have been conducted in the mine development area to explore for and install production bores to meet the initial construction water demand, prior to commissioning of the pipeline water supply. The majority of the drillholes did not intercept groundwater of measurable yields or had very low yields. In the project area, the lithology of the Lachlan Fold Belt behaves more like an aquitard than an aquifer due to low permeability and, where present, fractures are generally clay or quartz filled.

The conceptual uncertainty and conceptual understanding were presented to, and discussed with, Dr Bell in late 2019 and early 2020 as part of the consultation on his peer review for DPIE (EMM 2020e).

Heterogeneity associated with weathering (including fracturing) is represented by the upper layer of the groundwater model and predictive uncertainty analysis conducted for the project included varying the hydraulic conductivity (horizontal and vertical) and storage parameters of each layer and by different geological unit (individually and grouped).

As noted above, EMM does not agree with Dr Vogwill's assertion that the fractured rock nature of the geology has not been explicitly assessed or included in the numerical modelling. The groundwater modelling is robust and fit for the purpose of the groundwater impact assessment, as evaluated by Mr Middlemis, DPIE Water and DPIE Planning and Assessments.

## 2.2 Potential impacts to the north-east and the south

Dr Vogwill states "the model currently does not definitively prove that contamination cannot move to the north east, although [he agrees] this is unlikely".

EMM believes this has been adequately addressed through the modelling, and as presented on Figure 6.3 and Figure 6.4 in the Groundwater Assessment Addendum (EMM 2020c), there is a groundwater divide present to the north-east of the mine development that is predicted to remain in place at the end of mining and in the very long term, despite the simulated local mound caused by the highly conservative simulated TSF.

Hydraulic gradients and hydraulic flow have the greatest control on the potential movement of contaminants. The groundwater divide located to the north-east acts as a groundwater barrier and upgradient diffusion is very unlikely and is analogous to swimming against the current in a river.

The modelling demonstrates that it is extremely unlikely that seepage from the TSF will migrate to the north-east.

Dr Vogwill also states that the "impacts to the south of the mine site are likely and will be of the greatest severity". Once again, EMM believes that this has been adequately assessed and notes that the potential for groundwater-related impacts, in terms of groundwater level decline and groundwater mounding, has been evaluated with the groundwater model. This is presented in Section 6 of the Groundwater Assessment (EMM 2019) and Section 6 of the Groundwater Assessment Addendum (EMM 2020c). As discussed in EMM's response to Dr Bell's review (EMM 2020e), the predictive uncertainty analysis included changes in parameter values of all fresh and weathered units (individually and grouped), including increasing the hydraulic conductivity of the Byng Volcanics much higher than that used in the base case model. This scenario (S11) allows assessment of the potential for greater impacts to be observed in the Kings Plains area to the south of the project. The results clearly show the potential for drawdown to extend to bores owned by landholders in the Kings Plains area is very low. The results of the modelling demonstrate the potential impacts have been adequately assessed and the groundwater model is fit for purpose.

## 2.3 Climate change

Both Dr Vogwill and Assoc. Prof. Mudd have raised concerns about the adequacy of the assessment of climate change risks in the groundwater assessment.

Both the CSIRO's Climate Futures Tool (CSIRO 2022), and the NSW Government's NARCIIM (climate change) projections found there was likely to be both a reduction in average annual rainfall and a slight increase in annual evapotranspiration in the project area over time in the Lachlan region generally. Surface water modelling has used the full climate record (1889 to 2020), over which there have been multiple extended drought periods,

<sup>1</sup> <https://www.climatechangeinaustralia.gov.au/en/projections-tools/climate-futures-tool/introduction-climate-futures/>

particularly in the first half of the 20th century, and significant and prolonged wet periods. The implications of climate change predictions on water management for the project (including groundwater recharge) are unlikely to be significant over the life of the mine development as they are fairly small compared to this natural climatic variability and given the relatively short duration of the mine development (15 years including construction and rehabilitation).

An uncertainty scenario was simulated as part of the groundwater modelling where Trib A and the Belubula River upstream of the confluence with Trib A were simulated as a dry watercourse (where no leakage can occur from the watercourse to groundwater, and only groundwater can discharge to the watercourse) (see Section 6.4.2 and 6.4.3 in the Groundwater Assessment (EMM 2019)).

## 2.4 Water quality (acid rock drainage and contamination)

Dr Vogwill and Dr Wright raised concerns about water quality impacts due to acid rock drainage (ARD) and metal contamination. Dr Vogwill states that the “dominance of sulphate in some of the water quality samples indicates ARD is already active” and that “a component of [this] could be natural but this is unlikely as the area has already been disturbed and mined”.

EMM disagrees that that exceedances of the ANZECC (2000)<sup>2</sup> default guideline values indicate existing impacts from historical mining (noting that EMM used the 95% species protection level in the Groundwater Assessment Addendum (EMM 2020c)). As noted by the DPE in their assessment report, the McPhillamys deposit is “one of the most significant gold resources within NSW” (with additional gold mineralisation identified beneath the base of the proposed pit). Deposits of this scale naturally contain large amounts of sulphates. The natural weathering process (and its products) that have occurred over time, and will continue to occur, will generate elevated levels of sulphate concentrations.

The reviewers also raised concerns about setting site-specific guideline values rather than using the default guideline values (e.g. ANZECC (2000)). In 2018, the Australian and New Zealand Guidelines for Fresh and Marine Water Quality were published (the ANZG 2018 Guidelines<sup>3</sup>). ANZG (2018) states default guideline values can provide a generic starting point for assessing water quality. However, ANZG (2018) emphasise that site-specific guideline values for physico-chemical stressors should be derived and used in preference to default guideline values. Site-specific guideline values take into account bioavailability and the local environment (for example, redox, pH and bacteria can affect the toxicity and bioavailability of analytes). Therefore, Regis’ proposed approach to deriving site-specific trigger values is appropriate and meets the recommended approach of the ANZG 2018 guidelines.

Dr Wright also provided a comparison of water quality impacts from the Sunny Corner Mining Area where mining ceased over 100 years ago. The observations from the historical mining activities are not indicators for what to expect for the project, as they are not comparable by engineering design and standards, or regulatory framework. Mining activity in the Sunny Corner Mining Area was conducted under a very different, and potentially non-existent, regulatory environment.

<sup>2</sup> Agriculture and Resource Management Council of Australia and New Zealand and the Australian and New Zealand Environment and Conservation Council (ANZECC and ARMCANZ) 2000, Australian and New Zealand guidelines for fresh and marine water quality.

<sup>3</sup> <https://www.waterquality.gov.au/anz-guidelines>



28 February 2023

Danielle Wallace  
Manager - Health, Safety and Environment  
Regis Resources Limited



Blayney 2799

Dear Danielle,

**Re: Mr Doug Williams and Mr Peter Kuskie Public Submissions (submitted: 17 February 2023) to Independent Planning Commission for McPhillamys Gold Project**

You have requested I consider the public submissions of Mr Doug Williams and Mr Peter Kuskie (submitted: 17 February 2023) to the Independent Planning Commission for McPhillamys Gold Project (the Project).

*1. Qualifications and Expertise*

I am the principal author of the Aboriginal cultural heritage assessment report for the Project mine area (Landscape 2019).

I have particular expertise in the Aboriginal archaeology and environmental history of the Murray-Darling Basin, encompassing the Project area. I have a PhD in the Aboriginal archaeology, palaeoecology and geoscience of the Murray-Darling Basin in western NSW (awarded by The University of Melbourne in 2003) and 23 years' experience in professional and academic archaeology and geoscience. I have been a research fellow in the Archaeological Science cluster in the School of Geography, Earth and Atmospheric Sciences at the University of Melbourne continuously since 2004 and have held past honorary academic fellowships at the University of Oxford (2015-2020) and the Australian National University (2011-2015) ([findanexpert.unimelb.edu.au/display/person20521](https://findanexpert.unimelb.edu.au/display/person20521)). Pertinently, I am also Chief Investigator of a current (2020-2024) Australian Research Council Discovery Grant '*Environmental and cultural change along the Central Murray River*' (<https://findanexpert.unimelb.edu.au/project/105138-environmental-and-cultural-change-along-the-central-murray-river>), directly relevant to understanding the cultural heritage and landscape context of a large tract of the Murray-Darling Basin.



I have been principal archaeologist at Landskape Heritage Management and prepared Aboriginal cultural heritage assessments for similar approved new and existing mining projects across the Murray-Darling Basin of NSW over the past 23 years. Most of these are state significant developments including some near the Project area. These include for Newcrest Mining's Cadia Valley Operations Modifications (2013-2023), Sunrise Energy Mineral's Sunrise Nickel/Cobalt Mine Modifications (2016-2021), Tronox Mining's Murray Basin Projects and Modifications (2000-2023) and Whitehaven Coal's Werris Creek, Tarrawonga, Narrabri and Vickery Mine Modifications (2011-2012). In the Murray-Darling Basin of Victoria I was principal archaeologist for Astron's approved Donald Mine (2009-2023). During these and hundreds of other projects across southeastern Australia over more than two decades I have established a specialist understanding of the nature and scientific significance of Aboriginal cultural heritage sites.

I have particular expertise in understanding the palaeoenvironmental and geoscientific context of Aboriginal cultural heritage and have published on these topics in peer-reviewed national and international scientific journals including the *Journal of Human Evolution* and *Australian Archaeology*. This includes a lead research role with Aboriginal Traditional Owners in the identification and study of one of the most scientifically-significant Aboriginal cultural heritage sites in Australia, the Ice Age footprints in the Willandra Lakes Region World Heritage Area of western NSW. I also have an extensive publication record on broader questions of world archaeology, palaeoecology and geoscience including in *Nature* and the *Journal of Archaeological Science*. I have appeared regularly as an expert witness to the Victorian Civil and Administrative Tribunal, providing specialist opinion on these topics as they pertain to Aboriginal cultural heritage management.

## *2. Methodological Validity of the Assessments*

Multiple specialists have assessed the nature, extent and significance of Aboriginal cultural heritage in the Project area with Aboriginal stakeholder representatives. These assessments have concluded the Aboriginal cultural heritage in the Project mine area is not of high scientific significance and the consequences of harm by the Project can be appropriately managed.

The NSW Department of Planning and Environment (2022) *McPhillamys Gold Project State Significant Development Assessment SSD 9505* concluded:



“The Aboriginal Cultural Heritage Assessment (ACHA) was prepared in accordance with applicable guidelines by Landskape Natural and Cultural Heritage Management (Landskape) for the mine site...” (DPE [2022], section 6.6.2; p. 75).

“BCS/Heritage NSW...advice on the ACHAs did not raise any significant concerns with these assessments or the proposed avoidance and mitigation measures.” (DPE [2022], section 6.6.2; p. 76).

“Heritage NSW noted that consultation with the Aboriginal community was undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* and agreed with the proposed management measures.” (DPE [2022], section 6.6.2; p. 76).

“With implementation of the appropriate measures outlined above, the Department considers that the project’s impacts on Aboriginal cultural heritage are acceptable under NSW government policy.” (DPE [2022], section 6.6.7; p. 79).

In separate correspondence, the Biodiversity and Conservation Division (BCD) of the Department of Planning, Industry and Environment (12 Oct 2020) stated:

“The exhibited documents were reviewed by our archaeologist and BCD had no issues relating to ACH. The documented consultation was compliant with guideline procedures.” (BCD [2020], p.1).

Contrary to Mr Kuskie’s (his point 34) questioning “whether a qualified archaeologist in Aboriginal heritage even reviewed the Landskape (2019) report on behalf of Heritage NSW”, a Heritage NSW archaeologist with a doctoral degree in Aboriginal cultural heritage from Mr Kuskie’s *alma mater* (11 Nov 2020) stated:

“...the proposed mitigation measures to reduce harm to Aboriginal objects are adequate and proportionate to the type of objects and the land use disturbance history and the assessment adequately complied with the Aboriginal consultation requirements”. (Heritage NSW [2020], p.1; see Attachment 1).

In a review of the Aboriginal cultural heritage assessment, Dr Andrew Sneddon, a heritage professional with over 25 years’ of Australian and internationally experience and an Adjunct Senior Research Fellow at La Trobe University, concluded:

“The archaeological methodologies employed by the proponent’s archaeologists are consistent with accepted archaeological practice, and supported by NSW government policy and guidelines” (Dr Sneddon [2021], p. 50).

Mr Williams’ and Mr Kuskie’s public submissions present no substantive evidence that the existing Aboriginal cultural heritage assessments are inadequate. Their assertions that subsurface investigation is required to test for the presence of stone artefacts or other cultural features are based on misconceptions of the cultural and environmental context of the Project area and subjective methodological preconceptions. The additional



investigations posited are not essential to characterise the nature, extent and significance of Aboriginal cultural heritage in the Project area, which have already been appropriately assessed in accordance with accepted archaeological practice and guided by NSW government policy.

Principally, Mr Williams' and Mr Kuskie's submissions overstate the applicability of a subsurface-testing methodology for the Project. Most developments across NSW including many SSD mining projects are approved based on assessments of surface archaeology. In many instances, including the Project, the extent, nature and significance of Aboriginal cultural heritage can be validly characterised by surface assessment.

In a peer review of the potential for buried Aboriginal cultural heritage at the Project mine area, geoarchaeologist Dr Tim Stone (2018) concluded:

"Any artefacts would be present no deeper than the A2 horizon (<10 cm) and more likely on the surface following erosion of the topsoil." (Stone [2018], p. 2).

Dr Stone determined that the soils of the Project mine area were undifferentiated from the surrounding archaeological landscape:

"...there are no archaeological deposits apart from a few artefacts eroding out of shallow volcanic soils and shallow podsoles" (Stone [2018], p. 6).

Mr Williams' and Mr Kuskie's submissions are predicated on the incorrect proposition that the SEARs required the Aboriginal cultural heritage assessment to comply with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the Code; DECCW 2010). The assertions that the Aboriginal cultural heritage assessment does not meet the SEARs are correspondingly in error.

Neither the SEARs nor Agency Requirements mention adherence to the Code<sup>1</sup>. The SEARs state:

"The EIS must address the following specific issues:

...Heritage – including:

- an assessment of the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the development, including adequate consultation

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<sup>1</sup> The SEARs include the general statements: "...[assessment] taking into consideration relevant laws, environmental planning instruments, guidelines, policies, plans and industry codes of practice". "While not exhaustive, Attachment 1 contains a list of some of the environmental planning instruments, guidelines, policies, and plans that may be relevant to the environmental assessment of this development."

The agency advice from the Office of Environment and Heritage was: "The identification of cultural heritage values should be guided by the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (DECCW, 2011)." (OEH [2018], p.3).

The identification of cultural heritage values was guided by the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011).



with Aboriginal stakeholders having regard to the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (OEH 2010).”

Mr Williams’ and Mr Kuskie’s submissions misinterpret the purpose of the Code. The Code prescribes requirements of a report to support an Aboriginal Heritage Impact Permit (AHIP) application under Part 6 of the *National Parks and Wildlife Act 1974* and for undertaking test excavation as a part of archaeological investigation without an AHIP.

The Code states:

“1.1 Purpose of this Code of Practice. The purpose of this Code of Practice is to:

1 establish the requirements for undertaking test excavation as a part of archaeological investigation without an AHIP

If you comply with these requirements and you harm an Aboriginal object when undertaking test excavations, your actions will be excluded from the definition of harm and as such you will not be committing an offence of harm to an Aboriginal object.

2 establish the requirements that must be followed when carrying out archaeological investigation in NSW where an application for an AHIP is likely to be made.

Under the NPW Act, the Director General can require that certain information accompany an application for an AHIP. This Code explains what that information is in relation to archaeological investigations.” (DECCW [2010], p. 1).

These purposes have no direct relevance to the Project because test excavation was not undertaken and an AHIP is not required. The *Environmental Planning and Assessment Act 1979* Division 4.7 *State significant development* 4.41 states:

“Approvals etc legislation that does not apply (1) The following authorisations are not required for State significant development that is authorised by a development consent granted after the commencement of this Division (and accordingly the provisions of any Act that prohibit an activity without such an authority do not apply)—...

(d) an Aboriginal heritage impact permit under section 90 of the *National Parks and Wildlife Act 1974*.”

Mr Williams’ and Mr Kuskie’s assertions that the assessment did not meet the Code are moot and their detailed critique is also primarily incorrect. Requirements they claim are absent from the report are either present or there is not requirement under the Code to include the information in the report. The Code prescribes separate information collection, documentation and reporting requirements. For example, “Requirement 5c – Survey units” does not prescribe documentation in the report. “Requirement 11 – Archaeological Report content and format” prescribes requirements of a report, which does not include all the information to be collected as prescribed by the Code.



### 3. Scientific Significance of the Cultural Heritage

The Landskape (2019; p. 15, 33, 131) assessment detailed that the Project mine area has been substantially modified by past land use over the past *circa* 170 years. It documents scant preservation of any original land surfaces and describes how the vegetation has been widely cleared during past mining and agricultural activities and road and other infrastructure construction. This disturbance includes extensive earthworks during previous alluvial and reef gold mining. Wide areas have been cultivated for crops and pasture. This disturbance is catalogued and illustrated by contemporary aerial imagery and photographs (e.g. Landskape [2019], pp. 16-18). Gully erosion and scalding, in some instances exacerbated by agricultural and mining land use, is widespread across the Project area. The assessment uses this land use history, landscape and geomorphic context and archaeological investigation results to conclude the Aboriginal cultural heritage is not in its original context (Landskape [2019], p. 111).

The lateral and horizontal movement of tangible Aboriginal cultural heritage (exclusively stone artefacts in the instance of the Project mine area), by past earthworks and erosion inherently diminishes their scientific significance. Such tangible Aboriginal cultural heritage has lost some of its spatial and temporal context, lessening its potential to inform science.

Dr Sneddon in his review agreed:

“Human and natural forces have significantly disturbed the potential archaeological resource within the Specified Area. As a result, the isolated artefacts and surface scatters recorded on AHIMS do not form a coherent assemblage of artefacts that reflect a system of past human behaviour (a critical matter to archaeologists e.g. Schiffer 1987). The context of their manufacture, use and discard cannot be defined with certainty. Rather, isolated artefacts and scatters of the type identified by survey within the Specified Area form part of what archaeologists sometimes call a ‘background scatter’ of artefacts that extends across the Australian landscape, and which reflects tens of thousands of years of Aboriginal occupation. They reflect a past Aboriginal presence, in a general sense, but do not yield data that may contribute substantively to scientific research about particular places.

On these well-established criteria, the isolated artefacts and stone artefact scatters identified by past surveys are of low scientific significance. For the same reason, any isolated artefacts and scatters that may not have been identified during those surveys, but which might be encountered by chance during the Project works, would likely be of low scientific significance.

Further, the isolated artefacts and disturbed artefact scatters like those within the Specified Area are not rare. Those identified within the Specified Area are not good



representative examples of their type. They have limited potential to yield data that would be useful in addressing substantive research questions.

In conclusion, the Specified Area is not a 'significant Aboriginal area' for its identified surface archaeology in scientific terms.

The specialist archaeological reports prepared for the Project also assess the Specified Area as having potential to contain subsurface Aboriginal archaeology. However, the surface finds, geology, hydrology and ethnohistory of the area do not indicate that the Specified Area has significantly higher potential for in situ subsurface archaeology than thousands of square kilometres of the surrounding region." (Dr Sneddon [2021], p. 30).

Dr Stone in his peer review similarly concluded:

"...the sites recorded...have little potential to be of moderate-high scientific significance" (Stone [2018], p. 6).

Furthermore, the Orange Local Aboriginal Land Council, registered Aboriginal stakeholder for the Project, broadly concurs with the assessment conclusions. The Orange Local Aboriginal Land Council was involved throughout the cultural heritage assessments and publicly submitted (9 January 2023)<sup>2</sup>:

"...OLALC submits that the proposed development would not impact any known sites or artefacts of high significance". (Orange Local Aboriginal Land Council [2023], p.2).

In summary, Mr Williams' and Mr Kuskie's submissions are based on subjective methodological preconceptions and misconceptions about the cultural and natural landscape of the Project area. A subsurface-testing methodology is not essential to characterise the Aboriginal cultural heritage of the Project area. The results and conclusions of the assessments are valid, as agreed by multiple, authoritative independent and NSW government reviews.

Please feel free to contact me if you require any clarification of the above.

Kind regards,

  
Dr Matt Cupper

**Principal Archaeologist**

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<sup>2</sup> The Orange Local Aboriginal Land Council public submission (9 January 2023) is co-signed by the Chair of the Orange Local Aboriginal Land Council Cultural and Heritage Committee, who was also present during at least 18 days of the cultural heritage field surveys of the Project mine area.



## References:

Biodiversity and Conservation Division (BCD) (2020). McPhillamys Gold Project – Aboriginal Heritage. Correspondence from Biodiversity and Conservation Division to Department of Planning, Industry and Environment 12 October 2020.

Department of Environment, Climate Change and Water (2010). *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*.

Heritage NSW (2020). McPhillamys Gold Project, SSD-9505 Amendment report – request for advice. Correspondence from Heritage NSW to Department of Planning, Energy and Environment 10 November 2020.

Kuskie, P. (2023). Public Submission to Independent Planning Commission McPhillamys Gold Project.

Landskape (2019). *Aboriginal and Historical Cultural Heritage Assessment: McPhillamys Gold Project*. Report to LFB Resources NL.

Heritage NSW (2020). McPhillamys Gold Project, SSD-9505 Amendment report – request for advice. Correspondence from Heritage NSW to Department of Planning, Energy and Environment 10 November 2020.

NSW Department of Planning and Environment (2022). *McPhillamys Gold Project State Significant Development Assessment SSD 9505*.

Orange Local Aboriginal Land Council (2023). Public Submission to Independent Planning Commission McPhillamys Gold Project.

Sneddon, A. (2021). *McPhillamys Gold Project Response to Application Made Pursuant to Section 10 of the Aboriginal and Torres Strait Islander Heritage Protection Act 1984*. Report to Regis Resources Limited.

Stone, T. (2018). *McPhillamys Gold Project, Blayney – Aboriginal Cultural Heritage Review*. Report to Regis Resources Limited.

Williams, D. (2023). Public Submission to Independent Planning Commission McPhillamys Gold Project.



**Attachment 1:**

Heritage NSW (2020). McPhillamys Gold Project, SSD-9505 Amendment report – request for advice. Correspondence from Heritage NSW to Department of Planning, Energy and Environment 10 November 2020.



Our ref: DOC20/894796

Brittany Golding  
Department of Planning Energy and Environment  
Via the Major Projects Portal

By email: [REDACTED]

**RE: McPhillamys Gold Project, SSD-9505 Amendment report – request for advice**

Dear Brittany

Heritage NSW have assessed your request for advice and provide the following comments:

- The Aboriginal cultural heritage assessment for the proposed McPhillamy's Gold Mine including modification, were assessed by the then, Biodiversity and Conservation Division (BCD). It was noted that the proposed mitigation measures to reduce harm to Aboriginal objects are adequate and proportionate to the type of objects and the land use disturbance history and that the assessment adequately complied with the Aboriginal consultation requirements.
- BCD noted the concerns raised by the Orange Local Aboriginal Land Council and further noting the proponent's responses to the issues raised.
- Heritage NSW have no further comments regarding the assessment.

Please contact Phil Purcell, Archaeologist on [REDACTED] [REDACTED] or at [REDACTED] if you have any further questions.

Yours sincerely

[REDACTED]

**Dr Samantha Higgs**  
Senior Team Leader  
Aboriginal cultural heritage regulation - North  
Heritage NSW  
10 November 2020

[REDACTED]

## APPENDIX D



27 February 2023

Ms Danielle Wallace  
Regis Resources Ltd  
[REDACTED]  
Blayney NSW 2799

Dear Ms Wallace,

### Re: McPhillamys Project – Cultural Heritage Issues

I refer to the following documents provided to me on 22 February 2023:

- Report by Doug Williams of Technical Heritage Studies dated February 2022.
- Submission to the IPC made by Tony Newman.
- Document headed 'Independent Planning Commission Submission', by Lisa Paton dated 15 February 2023.

I have read the above documents. They contain no information that would cause me to change my previous opinion. That is:

- There is no evidence that any specific event from the Bathurst War took place on the McPhillamys site.
- Proposed measures for the management of the potential archaeological resource there are appropriate having regard to assessed levels of significance.
- There is no evidence to demonstrate that the McPhillamys site is of particular significance to Aboriginal people for its spiritual values.

I note that Ms Paton's submission refers to a derelict cottage located in the vicinity of the McPhillamys project. Ms Paton expresses the view that this cottage may date to the early 1820s and be the site of an event central to the Bathurst Wars.

The images on pages 7 and 8 of the Paton submission are not clear enough to form a definitive view; however, the cottage appears to have been constructed of milled timber with wide boards and central beads.



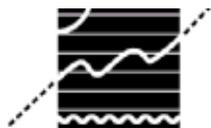
It is highly unlikely that milled timber was being used in the Bathurst region in the early 1820s. At such an early date, it is likely that a shepherd's cottage would have been constructed using split timber with adzed surfaces (or, possibly, roughly sawn timbers). The illustrated cottage appears to date to later in the nineteenth century, not the early 1820s.

Yours Sincerely,



**Andrew Sneddon**  
Director | Extent Heritage

## APPENDIX E



**Gillespie Economics**

Environmental and Resource Economics: Environmental Planning and Assessment

[REDACTED]  
Rozelle, NSW 2039  
[REDACTED]

Nicole Armit  
Director  
EMM Consulting Pty Ltd

[REDACTED]  
Newcastle NSW 2300

Nicole

### **Re: Response to Submission from Andrew Buckwell and Christopher Fleming**

Gillespie Economics has reviewed the submission from Andrew Buckwell and Professor Christopher Fleming from the Griffith Business School, Griffith University (the Submission) and a detailed response is provided in **Attachment 1**.

The main issue raised in the Submission is regarding the treatment of greenhouse gas emissions (GHG) in the cost benefit analysis (CBA) of the Project. Buckwell and Fleming advocate:

- the use of global social cost of carbon (SCC) values that are well above the average damage costs reported in the literature.
- including the global SCC in the Project CBA, in contrast to NSW Treasury (2017) guidelines, NSW Government (2015) guidelines and NSW DPE (2018) technical notes that identify that the CBA should only include costs and benefits that accrue to NSW households.

This asymmetric treatment of GHG and other costs and benefits is compounded by Buckwell and Fleming advocating the use of different (lower) discount rates for GHG emission. The use of asymmetric discount rates is largely a self-serving approach to help justify environmental outcomes that would otherwise not be supported using CBA. It is also in contrast to NSW Treasury (2017) and NSW Government (2015) guidelines.

The independent review of the Project Economic Assessment by BIS Oxford Economics raised no issues in relation to the treatment of GHG emissions in the Project CBA.

Regards

[REDACTED]  
Dr Rob Gillespie  
27 February 2023

## ATTACHMENT 1 – DETAILED RESPONSE TO SUBMISSION FROM ANDREW BUCKWELL AND CHRISTOPHER FLEMING

### THE CORRECT COSTS OF CARBON EMISSIONS

**Submission Comment:** Buckwell and Fleming question the cost of carbon emissions used in the cost benefit analysis (CBA) of the Project. They identify that three CO<sub>2</sub>-e prices were used in the analysis:

- the forecast European Union Allowance Units price;
- the Australian Treasury Clean Energy Future Policy Scenario; and
- United States (US) Environmental Protection Agency (EPA) Social Cost of Carbon (SCC).

However, they conclude that:

- the first two measures are 'exchange prices' for credits and should not be used in CBA for valuing greenhouse gas (GHG) costs; and
- while the CBA did use a SCC estimate in the CBA, these values have been recently significantly updated by the US EPA, and arguably should be within the envelope of that determined by Ricke et al. (2018).

**Response:** The three different prices that were initially used for the SCC in the Project CBA were based on NSW Government (2015b) and indexed to inflation. In the final analysis, the average of the European Union Emissions Allowance Units price and the US EPA SCC was used.

In contrast to the view of Buckwell and Fleming, NSW DPE (2018) clearly states that exchange prices can be used as a basis for valuing GHG emission.

*"While at present there is no identified carbon price in Australia, it is suggested for NSW project appraisal purposes that proponents refer to the NSW Government Guide to Cost-Benefit Analysis (TPP17-03) which states that 'Market prices should be used as a basis for valuing the costs of carbon emissions, where reliable evidence can demonstrate that those market prices are not significantly biased as a direct consequence of scheme design.'"*

Furthermore, NSW DPE (2018, p 48) specifically refers to the European Union Emissions Trading Scheme carbon price as potentially providing a benchmark price.

The US EPA currently has a draft discussion paper in which a higher global SCC is posited. However, this is a draft only and has not been adopted. The Ricke et al (2018) study referred to is an individual study that attempts to estimate the global SCC. The global SCC estimates of Ricke et al (2018) and the US EPA draft discussion paper are well above the average reported in the literature. Tol (2023) undertook a meta-analysis of 69 studies that have examined the global SCC and found a wide range of estimates with a weighted average estimate of US\$59/t C, which is equivalent to US\$16/t CO<sub>2</sub>e or AUD\$22.85.<sup>1</sup> This is similar to the values used in the CBA.

Notwithstanding, these values are representative of the global SCC which is "the right value to use from a **global** welfare perspective" (Ricke et al p. 895) but not the correct value to use in a country level or state level analysis.

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<sup>1</sup> Using and AUD:USD exchange rate of 0.70.

## WHOSE COSTS AND BENEFITS COUNT: THE ISSUE OF STANDING

**Submission Comment:** Buckwell and Fleming consider that the NSW Government (2015) guidelines and technical notes (NSW DPE 2018) that respectively identify that the NSW community is the appropriate referent group for assessing costs and benefits and that impacts of GHG emissions should be estimated for NSW only, are flawed when it comes to GHG emissions because the impacts are felt globally.

**Response:** A central issue in CBA is that of "standing" i.e. the society whose costs and benefits count. Conceptually, CBA can be undertaken from a range of different definitions of society. Whatever definition of society is used, only the costs and benefits to that society are included. In NSW, guidelines for CBA make it clear that the society of relevance for the assessment are the collective households of NSW.

NSW Treasury (2017, p. iii) states the following:

*"in terms of geographic scope, a CBA should focus on **impacts (costs and benefits) to the NSW community** (households, businesses, workers and/or governments)."*

The NSW Government (2015, p. 9) Guideline is also very clear that the CBA of mining Projects should be undertaken from a NSW perspective *"requiring benefits and costs to be estimated where possible as **those that accrue to the NSW community.**"*

In relation to addressing GHG emissions in CBA of mining projects, the NSW DPE (2018, p. 48-49) *Technical Notes supporting the Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals*, state that:

*"project proponents should provide an analysis of:*

- *their business-as-usual (BAU) GHG emission output (central estimate) and the expected emissions profile of this central estimate (Scope 1 and 2);*
- *estimate **the economic impact** of GHG emission output **to NSW only** (emphasis added);*
- *undertake a sensitivity analysis on anticipated project GHG emissions output (Scope 1 and 2) at carbon prices below and above the central estimate price.*

Consistent with all these guidelines, the CBA of the Project only included the costs and benefits of the Project to NSW households. This included apportioning global costs of GHG emissions to reflect impacts to NSW households.

Ernst & Young (2021) *Peer review of the economic impact assessment reports related to the Bowden Silver project*, has previously reviewed this issue, and concluded that *"Gillespie's method of apportionment for GHG emission externalities is consistent with the Guidelines and has been accepted in other projects by the Department."*

It should also be noted that just like GHG impacts, the net production benefits of mining projects are also often felt globally. Foreign ownership of many mining projects means that some of the net production benefits accrue outside Australia. However, when adopting NSW households as the appropriate referent group for CBA (as required by NSW Government guidelines) a number of components of the net production benefits are excluded from the analysis e.g. profits to foreign ownership and company tax benefits that accrue to other states. This was the approach used in the CBA of the Project. It is completely incorrect to suggest that the referent group for some costs and benefits should be different from the referent group for other costs and benefits.

## METHODOLOGICAL INNOVATIONS

**Submission Comment:** Buckwell and Fleming suggest that in future applications consideration should be given to applying a lower discount rate to external costs such as carbon emission to account for impacts on future generations, whilst maintaining standard discount rates for other costs and benefits.

**Response:** The CBA was undertaken using the discount rates recommended by NSW Treasury (2017) and NSW Government (2015) guidelines.

These recommended discount rates are based on the opportunity cost of capital and the social marginal time preference rate of society. These do not change because of potential impacts of a project on future generations. Any impacts on future generations should simply be included in the analysis as a when they occur and discounted at normal rates.

Notwithstanding, it should be noted that estimates of the SCC are already discounted values of all effects now and into the future of a tonne of carbon and typically include very low discount rates. So, impacts of GHG emissions on future generations are already embedded within them.

The use of asymmetric discount rates is largely a self-serving approach to help justify environmental outcomes that would otherwise not be supported using CBA.

## REVISED EXTERNAL COST OF CARBON EMISSIONS

**Submission Comment:** Buckwell and Fleming provide some revised estimates of the global SCC from the Project, including a scenario incorporating Scope 3 emissions. These global effects are then compared to the net benefits of the Project.

**Response:** The revised external cost of carbon emissions is based on:

- two 'exchange prices' that the authors say in their own submission are inappropriate for valuing GHG emissions.
- a global SCC figure that appears in a draft US EPA discussion paper only and is well above average SCC values that appear in the academic literature.
- assigning 100% of global damage costs to the households of NSW – contrary to NSW Treasury (2017), NSW Government (2015) and NSW DPE (2018) guidelines on 'standing' in CBA.

One scenario also includes Scope 3 emissions which is also contrary to NSW DPE (2018) technical notes which only require inclusion of Scope 1 and Scope 2 emissions in the CBA.

The revised estimates of global GHG emission costs from the Project are then compared to the net social benefits of the Project which, in accordance with NSW Government guidelines, are limited and apportioned to the benefits to NSW households only. This is a highly spurious and irrelevant comparison.

## EXISTENCE VALUES OF MINE EMPLOYMENT

**Submission Comment:** Buckwell and Fleming identify that the Economics Assessment puts forward evidence and argument ascribing a community 'existence value' to knowing other people have high-paid and secure employment at the mine, if developed. It states that the proponent presents several, relevant contingent valuation (a form of stated preference) studies and this implies that *not* developing the mine is a 'lost benefit'. Although contentious, as acknowledged by the proponent (who then subsequently reports their CBA with and without this lost benefit), to demonstrate the net impact of the mine, similar studies should also be included to demonstrate the value of lost existence values from the

transfer of other jobs elsewhere in NSW. These jobs will likely be similarly valued by the community that inevitably results from workers migrating to work at the new mine site.

**Response:** The empirical evidence put forward in the Economic Assessment to support existence values for employment were from three choice modelling studies, not contingent valuation studies as suggested by Buckwell and Fleming. All potential benefits of a project are opportunity costs if the project does not go ahead. This includes foregone net production benefits and any existence values attached to employment.

The context of voluntary transition from one job to a higher paying is completely different to the scenario of allowing high paying jobs to be generated by the Project compared to not allowing them. While there is empirical evidence from nonmarket valuations studies for the latter, as reported in the Economic Assessment, Buckwell and Fleming offer no empirical evidence for the former. Consequently, their conclusion that existence values would exist for the transfer of jobs from elsewhere in the NSW and these would likely be of similar value to those created by the Project is unfounded and spurious.

### **LOSS OF RECREATION VALUES**

**Submission Comment:** Buckwell and Fleming identify that the NSW Biodiversity Offsets framework does not consider lost recreational values (only biodiversity values) and therefore it cannot be assumed that lost recreational values (or compensation for lost recreational values) are included in the Biodiversity Offset schedule. Whilst the CBA Guide states that the CBA should be looked at from a NSW perspective (and the habitat secured by the proponent's Biodiversity Offsets may present new recreational activities elsewhere in NSW) this is not guaranteed. We therefore feel that lost recreational values to the local community need to be considered in the proponent's CBA, unless they are guaranteed elsewhere.

**Response:** Land with biodiversity values that will offset is in private ownership and has no public recreation values.

### **REFERENCES**

NSW Government (2015) *Guidelines for the economic assessment of the mining and coal seam gas proposals*

NSW Government (2015b) *Greenhouse Gas Emissions Valuation Workbook*, accompanying the NSW Government (2015) *Guidelines for the economic assessment of the mining and coal seam gas proposals*, draft for consultation.

NSW DPE (2018) *Technical Notes supporting the Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals*.

NSW Treasury (2017) *NSW Government Guide to Cost-Benefit Analysis, Policy and Guideline paper TPP 17-03*.

Ricke, K., Drouet, L., Caldeira, K. and Tavoni, M. (2018) Country-level social cost of carbon, *Nature Climate Change*, V.8, pp. 895-900.

Tol, R. (2022) A meta-analysis of the total economic impact of climate change, [2207.12199.pdf](https://arxiv.org/abs/2207.12199) ([arxiv.org](https://arxiv.org))

28 February 2023

**MEMORANDUM**

**MCPHILLAMYS GOLD PROJECT – RESPONSE TO THE LEGAL SUBMISSION AND TWO EDO LETTERS LODGED WITH THE IPC ON BEHALF OF THE BHPG**

**1. PURPOSE OF THIS MEMORANDUM**

- 1.1 On 17 February 2023, the following three documents were lodged with the Independent Planning Commission (**IPC**) as part of the Belubula Headwaters Protection Group's submission on the State significant development (**SSD**) application for the McPhillamys Gold Project (**Project**):
- (a) submissions by Melissa McGrath of counsel dated 15 February 2023 (**Legal Submission**);
  - (b) an Environmental Defenders Office (**EDO**) letter concerning the proposed reliance on a specific purpose access licence (**SPAL**) for the Project dated 17 February 2023 (**SPAL Letter**); and
  - (c) an EDO letter which provides feedback on a draft Department of Planning and Environment Water (**DPE Water**) fact sheet concerning the interpretation of "excluded works exemptions" dated 11 November 2022 (**Exemptions Letter**).
- 1.2 On behalf of our clients Regis Resources Limited (**Regis**) and LFB Resources NL (**LFB**), the purpose of this memorandum is to concisely respond to these three documents.

**2. RESPONSE TO THE LEGAL SUBMISSION**

- 2.1 In our view, the key claim made in the Legal Submission is that DPE's recommended conditions of consent "are not fit for purpose ... and in some cases likely invalid due to issues of uncertainty, unenforceability, and/or ineffectiveness".<sup>1</sup> Although it is said that many of the proposed conditions lack certainty,<sup>2</sup> only five conditions are addressed in the table at [50].
- 2.2 Our clients reject this claim and submit that DPE's recommended strict and precautionary conditions of consent are "fit for purpose" and can lawfully be imposed under section 4.38 of the *Environmental Planning and Assessment Act 1979* (NSW) (**EP&A Act**).
- 2.3 By reference to the table at [50], our clients submit as follows:
- (a) condition A1: this condition reflects a long-standing standard condition in SSD consents for mines which relevantly imposes an overarching duty on the Applicant to implement "all reasonable and feasible measures to prevent ... any material harm to the environment ..." (defined terms in DPE's proposed condition A1 are underlined). The use of the qualifying terms "reasonable and feasible" is conventional, logical and appropriate, and does not make the condition uncertain or ineffective.<sup>3</sup> If the Department's Compliance Team<sup>4</sup> considers that LFB has failed to implement a reasonable and feasible measure contrary to this condition, it can take enforcement

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<sup>1</sup> See at [46]. See also at [3], [45]-[51] and [53].

<sup>2</sup> See at [3] and [50].

<sup>3</sup> See *Barrington-Gloucester-Stroud Preservation Alliance Inc v Minister for Planning and Infrastructure* (2012) 194 LGERA 113 at [98]-[102] ("The concepts of "reasonableness" and "feasibility" are familiar to the law and are readily capable of application'). The IPC has regularly used the terms "reasonable and feasible" in the conditions of consents it has granted.

<sup>4</sup> See <https://www.planning.nsw.gov.au/Assess-and-Regulate/About-compliance>

action against LFB (including commencing criminal prosecution proceedings or civil enforcement proceedings pursuant to the EP&A Act);

- (b) similarly, the long-standing use of the expression "generally in accordance with" in condition A2, which imports a degree of practical flexibility into the SSD Consent, does not make condition A2 uncertain or ineffective. This expression has been considered by the Courts on various occasions<sup>5</sup> and the Department's Compliance Team takes enforcement action against proponents who have carried out approved development otherwise than "generally in accordance with" environmental assessment documents specified in a consent;
- (c) condition B13: it is incorrect to state that the definitions of "reasonable" and "feasible" "allow the Proponent to determine what is 'reasonable' and 'feasible'" and are "entirely subjective".<sup>6</sup> If the Department's Compliance Team considers that the Applicant has failed to take all reasonable and feasible steps contrary to the condition, it can take enforcement action. If there is a dispute between a proponent and the Department's Compliance Team as to whether the proponent failed to take "reasonable and feasible steps", a Court can resolve this dispute by objectively determining whether or not the relevant steps were "reasonable and feasible" based on the circumstances and available evidence;
- (d) condition B30: as explained above, it is logical and appropriate for this condition to use the terms "reasonable and feasible" and this does not make the condition uncertain, ineffective or unenforceable;
- (e) condition B34: it is conventional and logical for SSD consents to include conditions requiring the preparation of various detailed environmental management plans to the satisfaction of the Planning Secretary (which must be implemented once approved). In considering whether to approve a management plan pursuant to this specific condition, the Secretary will appropriately have regard to the advice of the EPA and CCC and consider whether the plan adequately addresses the prescribed items in B34(c)-(e). The fact that the Secretary has a discretion to determine whether or not to approve a submitted plan is sensible and does not mean that this condition is uncertain or ineffective;
- (f) condition B49: the reason why condition B49 is said to lack certainty or effectiveness is unclear. The purpose of condition B49 is to ensure that the all surface discharges from the site "comply with all relevant provisions of the POEO Act". If a surface discharge from the site does not comply with a relevant provision of the POEO Act (which relevantly regulates water pollution),<sup>7</sup> LFB may be liable to enforcement action for contravening both condition B49 and the relevant provision of the POEO Act;
- (g) in commenting on the five abovementioned conditions, the Legal Submission notably fails to recognise that the retention of practical flexibility in conditions of consent for complex major SSD mining projects is desirable, appropriate and inevitable;<sup>8</sup> and
- (h) the Legal Submission notably does not identify any relevant caselaw where a Court has determined that a condition of an SSD Consent that is similar to any of the five abovementioned conditions (or any other proposed condition) was invalid.

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<sup>5</sup> See, eg, *Grace Bros Pty Ltd v Willoughby Municipal Council* (1980) 44 LGRA 400 at 406-407 and *Elanor Investors Limited v Sydney Zoo Pty Ltd* (No 5) [2020] NSWLEC 93 at [111](m).

<sup>6</sup> The condition does not say "take all steps which the Applicant considers to be reasonable and feasible".

<sup>7</sup> Section 120 of the POEO Act makes it an offence for a person to pollute any waters.

<sup>8</sup> See, by analogy, *Ulan Coal Mines Ltd v Minister for Planning* (2008) 160 LGERA 20 at [73]-[81].

- 2.4 In our opinion, the proposed conditions (including the 106 specific environmental conditions) are "fit for purpose"<sup>9</sup> and can lawfully be imposed under the EP&A Act.
- 2.5 With respect to the balance of the Legal Submission, our clients also submit that:
- (a) while the IPC may have regard to the various relevant objects of the EP&A Act<sup>10</sup> (which are capable of being in tension with each other) in determining the development application for the Project, it is not the case that the "IPC must exercise its powers for the purpose of achieving such of the objects of the EP&A Act as are relevant to its decision" ([14]);
  - (b) the comprehensive environmental assessment materials for the Project assessed by DPE (and the various relevant specialist Government regulators) are clearly sufficient for the IPC to properly and thoroughly consider the likely impacts of the Project, the suitability of the Project site and the public interest (cf [27]). The claims that DPE and LFB have significantly underestimated the environmental and social impacts of the Project and that LFB has failed to properly investigate and report on the likely impacts should be rejected (at [52]);
  - (c) in responding to the question 'what is the benefit of mining for gold?' at [35], the Legal Submission fails to acknowledge, among other things, that the Project "would have considerable economic benefits for the region and NSW" (as DPE concluded)<sup>11</sup> and that the McPhillamys deposit is "one of the most significant gold resources within NSW" (with additional gold mineralisation identified beneath the base of the proposed pit);<sup>12</sup> and
  - (d) the brief attempt at [40]-[44] to apply the facts in the *Rocky Hill* judgment to this Project is misconceived and irrelevant (see section 3.4 of our clients' 17 February 2023 Submission). In particular, our clients reject that "the impacts included a very similar laundry list of adverse outcomes for residents ... and the local environment" ([41]). If the IPC engages in an exercise of "applying the facts" of selected coal mining developments which were refused consent, we consider that the IPC will likely misdirect itself and fail to properly determine this SSD application on its merits and in accordance with the EP&A Act.

### 3. **RESPONSE TO THE SPAL LETTER**

#### Context: Reliance on a SPAL

- 3.1 The SPAL Letter concerns LFB's proposed reliance on a specific purpose access licence (**SPAL**) to authorise the Project's "take" of surface water runoff under the *Water Management Act 2000* (NSW) (**WM Act**) regime.
- 3.2 In our opinion, it is important for the IPC to consider Regis' letter to DPE titled "Response to DPE Water and NRAR advice on the ... additional information" (6 October 2022) (**October 2022 Response**) and understand the following context to the proposed reliance on a SPAL:

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<sup>9</sup> For example, with respect to water management, condition B50 requires the Applicant to ensure that the development complies with 29 prescribed water management performance measures and condition B55 requires the Applicant to implement an approved water management plan which includes all of the items identified in conditions B53(c)-(e).

<sup>10</sup> In this regard, our clients also refer to the relevant aims of Chapter 2 of *State Environmental Planning Policy (Resources and Energy) 2021*, which recognise the importance to New South Wales of mining.

<sup>11</sup> DPE Assessment Report (November 2022), [476] on p 85.

<sup>12</sup> DPE Assessment Report (November 2022), [23] on p 10.

- (a) the WM Act regime expressly provides for the Minister for Water to grant a SPAL for the purpose of enabling surface water to be taken for the McPhillamys Gold Mine from the Belubula River above Carcoar Dam water source;<sup>13</sup>
- (b) if the IPC grants an SSD Consent for the Project under the EP&A Act, LFB would lodge an application for a SPAL to authorise the take of runoff by the Project's TSF.<sup>14</sup> While the purpose of the TSF is to securely store and manage tailings, LFB will need to ensure that dirty runoff within the TSF's boundaries is securely captured and contained;<sup>15</sup>
- (c) it is essential to appreciate that the estimated volume of runoff captured by the Project's water management system (including at maximum disturbance) does not represent the impact of the Project on the Belubula River downstream of the Project's disturbance area. Disturbed catchments within the mine site will generate significantly more runoff than the pre-mine catchments (due to disturbed catchments having a higher runoff rate). In this regard, DPE has relevantly stated "while there would only be relatively minor reductions in flow downstream, the full volume of water captured by the mining operations must still be licensed under the" WM Act;<sup>16</sup>
- (d) LFB intends to apply for a SPAL which conservatively authorises up to 1,753 ML/year of surface runoff to be captured by the Project's TSF (this figure represents the estimated peak take in a very high rainfall year and actual take will be much lower in almost all years).<sup>17</sup> However, this figure does not represent the impact of the TSF on the Belubula River downstream of the Project's site. In this regard, we note that:
  - (i) the modelled impact of the TSF on Carcoar Dam inflows is a reduction of 255 ML/year in an average rainfall year (413ML/year in wet conditions (20th percentile flows));<sup>18</sup>
  - (ii) as detailed in Appendix B to the October 2022 Response, LFB's proposed strategy for managing the modelled impact of the TSF on Carcoar Dam inflows is to offset the reduction (413 ML/year) by purchasing access licences in the Belubula Regulated River Water Source and not using the associated available water allocation for the duration of the Project;<sup>19</sup>
  - (iii) a representative of the Belubula Landholders Association (which we understand represents 45 licensed irrigators from Carcoar Dam to the Lachlan River) commented on LFB's proposed reliance on a SPAL and advised the IPC that the Association "has no objection to the water access plans as proposed";<sup>20</sup>

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<sup>13</sup> WM Act, ss 61 and 63 and *Water Management (General) Regulation 2018* (NSW) (**WM Regulation**), cl 10(1)(p).

<sup>14</sup> As explained in the October 2022 Response (see pp 6-7, 13 and Appendix A), it is possible that LFB would also apply for SPALs to authorise the take of runoff by Clean Water Facility 1 (**CWF1**) (noting that the clean runoff captured by CWF1 will be diverted into the Belubula River catchment downstream of the Project's disturbance area) and Water Management Facility 1.

<sup>15</sup> In this regard, proposed condition B50 requires LFB to ensure that the TSF is designed, installed and maintained to ensure no unlicensed or uncontrolled discharge of mine water off-site, with sufficient freeboard to accommodate a 1 in 10,000 year 72-hour duration storm event.

<sup>16</sup> DPE Assessment Report (November 2022), [322] on p 61.

<sup>17</sup> October 2022 Response, p 14.

<sup>18</sup> October 2022 Response, p 14.

<sup>19</sup> Appendix B to the October 2022 Response, pp B.15-B.17.

<sup>20</sup> IPC Public Hearing Day 2 (7 February 2023) Transcript of Proceedings, pp 40-41 (Mark Ward).

- (iv) for the small number of "basic landholder rights" water users above Carcoar Dam,<sup>21</sup> the impact of the TSF on daily streamflow downstream of the Project will be minimal in the low flow range and the greatest flow reduction occurs in the higher flow ranges when there would be more than sufficient flow for the water users.<sup>22</sup> LFB will supply water to these water users if and when, but for the Project, they would have been able to extract water from the Belubula River;<sup>23</sup>
- (e) based on its assessment of LFB's information package to support a future application for a SPAL for the TSF,<sup>24</sup> the expert regulator responsible for assessing this future application (DPE Water) has not identified "any significant problems or barriers"<sup>25</sup> and "encourages the proponent to use this application pathway".<sup>26</sup> Further, DPE "considers that there is now a clear pathway for Regis to acquire the relevant water entitlements in accordance with the" WM Act;<sup>27</sup>
- (f) in order to grant a SPAL for the TSF under the WM Act, the Minister for Water must be satisfied that "adequate arrangements are in force to ensure that no more than minimal harm will be done to any water source as a consequence of water being taken from the water source under the" SPAL.<sup>28</sup> Further, a SPAL can only be used for the purpose for which it is granted<sup>29</sup> and must be cancelled if the Minister is of the opinion that the purpose for which the licence was granted no longer exists;<sup>30</sup>
- (g) prior to the commencement of construction of the TSF, proposed conditions B51 and B52 require LFB to offset the TSF's impacts to the Belubula River Regulated River Water Source (estimated reduction in inflows to Carcoar Dam of 413 ML/year) to the satisfaction of the Planning Secretary, following consultation with DPE Water; and
- (h) with respect to the rehabilitation of the mine site:<sup>31</sup>
  - (i) proposed condition B52 recognises that the TSF has a limited operational life and must be rehabilitated, and that the mine's final landform will be free-draining;
  - (ii) proposed condition B95 regulates the rehabilitation of the mine site and requires the rehabilitated final landform to comply with the objective of maximising surface water drainage to the natural environment (i.e. the final landform will be free-draining); and

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<sup>21</sup> With respect to unregulated river access licences in the Belubula River above Carcoar Dam water source, we note that our clients hold 262 unit shares of the available 264 unit shares. As such, no other water user holds significant unregulated river access licence entitlement in this water source.

<sup>22</sup> October 2022 Response, p 6.

<sup>23</sup> October 2022 Response, p 15.

<sup>24</sup> See Appendix B to the October 2022 Response.

<sup>25</sup> IPC meeting with DPE (6 December 2022) Transcript of Proceedings, p 10 at line 30 (Mitch Isaacs).

<sup>26</sup> DPE Water advice to DPE (7 November 2022), p 1.

<sup>27</sup> DPE Assessment Report (November 2022), [343] on p 64.

<sup>28</sup> WM Act, s 63(2)(b).

<sup>29</sup> See WM Act, s 66(2A).

<sup>30</sup> WM Act, s 77A(2).

<sup>31</sup> See the October 2022 Response, p 26.

- (iii) while the Project will result in a 4% catchment reduction during mining, there will be less than a 0.5% catchment reduction post rehabilitation.<sup>32</sup>

Response to the SPAL Letter

3.3 In the SPAL Letter, the EDO's client claims on p 1 that:

- (a) the statutory provision which enables a SPAL to be granted for the Project "amounts to the proponent being written a 'blank cheque' for the take of water" which is inconsistent with the WM Act and risks water take related impacts which have not been assessed; and
- (b) the unacceptable impact of the Project's proposed water take warrants the refusal of development consent under the EP&A Act.

3.4 Our clients submit that these claims should be rejected and note that:

- (a) a SPAL for the TSF would only be granted if the Minister is satisfied that the SPAL can and should be granted under the WM Act and, in particular, that the abovementioned minimal harm requirement is satisfied;
- (b) water take related impacts associated with the Project (including the TSF) have been assessed by DPE Water/DPE, will be assessed by the IPC and will be assessed by the Minister for Water in determining any future SPAL application for the Project; and
- (c) based on a whole-of-government assessment (including expert assessment by DPE Water), DPE "considers the project would result in acceptable impacts on water resources" (if various measures are implemented in accordance with the relevant recommended conditions of consent).

3.5 Further, our clients submit as follows in response to various paragraphs in the SPAL Letter:

- (a) [5] and [18a]: the 2082.6 ML figure is a superseded figure for the estimated runoff captured by 5 storages (including CWF1) in a wet year at maximum disturbance.<sup>33</sup> The comparison of this figure with the 264 unregulated river access licence unit shares in the Bebusubula River above Carcoar Dam water source cannot support a conclusion that the "impacts of the Project, pertaining to water availability in the locality, are unacceptable". In this regard, it is noted that the superseded 2082.6 ML figure accounts for the higher runoff rate of the disturbed catchments (compared to the pre-mine existing catchments) and includes 658 ML captured by CWF1 (when the clean water runoff captured by CWF1 would be diverted to the Belubula River catchment downstream of the Project's disturbance area);
- (b) [8] and [9]: the 192 ML access licence referred to is a conventional unregulated river access licence which gives LFB 192 ML/year of water entitlement in the Belubula River above Carcoar Dam water source.<sup>34</sup> This water allocation can be used regardless of whether or not the Project is carried out;
- (c) [12]: the unexplained general claim that the Project will exacerbate the vulnerability of water users and the environment should be rejected and this paragraph fails to

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<sup>32</sup> October 2022 Response, p 20.

<sup>33</sup> The figures in the February 2021 DPE Water advice referred to in the SPAL letter have been superseded by the figures in Table 2.1 on pp 3-4 of the October 2022 Response.

<sup>34</sup> This licence was acquired via a "controlled allocation" process and any interested person could have procured this licence.

acknowledge that the mine site (including the TSF) is required to be rehabilitated under the proposed conditions of consent;

- (d) [14]: as above, this paragraph fails to acknowledge that the TSF will be rehabilitated. Any SPAL for the TSF would be cancelled when the purpose for which the licence was granted no longer exists;
- (e) [15]: it is incorrect that LFB "has provided vague assurances as to mitigation measures ...".<sup>35</sup> As to long term impacts of the Project's incidental water take, the paragraph fails to acknowledge that, under the recommended conditions of consent, the mine site (including the TSF) must be rehabilitated and the final landform must comply with the objective of maximising surface water drainage to the natural environment (i.e. free draining). As to the alleged "critical flaw", LFB has specified how it proposes to address possible water availability impacts on the small number of basic land holder rights water users above Carcoar Dam;<sup>36</sup>
- (f) [16]: the unexplained general claims that the granting of a SPAL for the Project is inconsistent with the "hydrological reality of the catchment" and the water management principles in the WM Act should be rejected; and
- (g) [18]: in our opinion:
  - (i) the SPAL Letter does not properly identify or consider the impacts of the Project on "water availability in the locality" (or establish that those impacts are unacceptable);
  - (ii) the fact that LFB proposes to rely on a SPAL to authorise the take of the TSF under the WM Act does not indicate that the proposed Project site is an unsuitable site for the proposed development;
  - (iii) the SPAL Letter fails to explain what it means when it states that the Project's incidental water take will continue in perpetuity and fails to consider the likely outcomes of the required rehabilitation of the site; and
  - (iv) the SPAL Letter does not establish that the Project's water take is inconsistent with the WM Act or that the Project is not in the public interest.

#### 4. **RESPONSE TO THE EXEMPTIONS LETTER**

##### Context: The EW Exemption

- 4.1 The Exemptions Letter is the EDO's response to a draft DPE Water factsheet titled "[h]ow to interpret excluded works exemptions". DPE Water has advised LFB to use this draft factsheet "when confirming which works fit an exclusion and associated licence exemption".<sup>37</sup> Our clients have had regard to it in formulating the Project's surface water licensing pathway.
- 4.2 The WM Act regime relevantly provides that any landholder is exempt from the requirement to hold an access licence in relation to the taking of water from or by means of the following category of "excluded work" (**EW Exemption**):<sup>38</sup>

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<sup>35</sup> In this regard, see Appendix A to the October 2022 Response at pp A.5-A.7 and Appendix B at pp B.15-B.17.

<sup>36</sup> October 2022 Response, p 15.

<sup>37</sup> DPE Water, "McPhillamys Gold Project (SSD-9505) – Response to DPE Water advice on Submissions Report, Amendment Report and additional information" (7 November 2022), pp 1-2.

<sup>38</sup> WM Regulation, cl 21, item 12 in Sch 4 and item 3 in Sch 1.

Dams solely for the capture, containment and recirculation of drainage and/or effluent, consistent with best management practice or required by a public authority ... to prevent the contamination of a water source, that are located on a minor stream.<sup>39</sup>

- 4.3 It is standard industry practice for operators of SSD mines to rely on the EW Exemption to capture and manage surface water runoff. The EW Exemption is a long-standing statutory exemption<sup>40</sup> and relevant Government regulators have routinely accepted that mining operators are entitled to rely on this exemption with respect to storages within a mine site which fall within its scope.
- 4.4 In particular, the EW Exemption is relied on to securely capture and manage mine/dirty water drainage in operational water storages (e.g. sediment dams) and beneficially reuse this water for operational purposes including dust suppression.<sup>41</sup> An effective dirty/mine water management system is important to prevent the contamination of downstream watercourses and to minimise the use of higher value clean water extracted from external water sources. In this regard, it is relevant to reiterate that disturbed catchments within a mine site generate significantly more runoff than the pre-mine catchments.
- 4.5 The Project's operational water management system will manage dirty/mine water runoff so that this water is not discharged from the site (i.e. a "nil discharge site"). The Project will prioritise the beneficial reuse of this mine/dirty water to meet operational demands for water.
- 4.6 The Project's separate clean water diversion system<sup>42</sup> will temporarily capture clean water runoff and efficiently divert this water to the Belubula River catchment downstream of the Project's disturbance area. This system will prevent clean water runoff from becoming contaminated within the mine site, and significantly reduce the downstream inflow impact on the Belubula River.<sup>43</sup> LFB has committed to diverting the captured clean water runoff to the Belubula River catchment downstream of the Project's disturbance area and LFB would be required to do so under DPE's recommended conditions of consent (see paragraph 4.13(d) below).
- 4.7 Where it is entitled to do so,<sup>44</sup> LFB proposes to rely on the EW exemption to:<sup>45</sup>
- (a) capture dirty/mine water drainage within the disturbed mine site (in operational water facilities) and beneficially reuse this water for operational purposes; and
  - (b) temporarily capture clean water runoff (in clean water facilities "upstream" of the Project's disturbance area) and efficiently divert this water (using pipes and other

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<sup>39</sup> The expression "minor stream" is defined under the WM Regulation. Whether a dam is located on a "minor stream" is determined by reference to online spatial data ("hydroline spatial data"). We understand that DPE Water intends to implement a regular update/refresh of the hydroline spatial data which could affect whether certain dams for the Project are located on a "minor stream": see the October 2022 Response, pp 2-7 and 11-12.

<sup>40</sup> A similar version of the EW Exemption was item 3 in Schedule 1 to the repealed *Water Management (General) Regulation 2004*.

<sup>41</sup> We note that proposed condition B50 requires LFB to ensure that the development maximises the reuse of captured dirty water to meet operational demands for water and minimises the use of make-up water from licensed external sources.

<sup>42</sup> The clean water diversion system will ensure that the captured clean water runoff is kept separate from mine/dirty water.

<sup>43</sup> For example, it is estimated that the peak water "take" for CWF1 would be 202 ML/year (in a wet 80th percentile rainfall year) or up to 1,751 ML/year (in an extremely wet 98th percentile rainfall year): October 2022 Response, pp 3-4.

<sup>44</sup> That is, where a storage for the Project falls within the scope of the EW Exemption.

<sup>45</sup> See the October 2022 Response at pp 12-13 and Appendix A.

works) to the Belubula River catchment downstream of the Project's disturbance area.<sup>46</sup>

- 4.8 With respect to 4.7(b) above, we note that DPE Water's draft factsheet advises that: the EW Exemption can apply to the capture of clean water runoff if that runoff would have otherwise flowed over land which would result in it contaminating a water source; dams should be categorised as either dirty water or clean water dams (noting that dirty water should be managed separately from clean water); and captured water can be released into a water source (provided it would not contaminate that or another water source).<sup>47</sup>
- 4.9 We are instructed that the relevant operational water facilities and clean water facilities would be constructed and operated consistently with best management practice for mines.<sup>48</sup>

*Response to the Exemptions Letter*

- 4.10 In the Exemptions Letter, the EDO states at [19] that "it would not be appropriate for clean water captured under the excluded works exemptions to be used for a purpose inconsistent with the general intent of the provisions (i.e. for a purpose other than the prevention of contamination)."
- 4.11 The EDO then addresses a hypothetical scenario on pages 4-5 where the clean water captured by the Project's clean water diversion system is not diverted to the downstream Belubula River catchment, but is instead used for the processing of ore, dust suppression or for another purpose.
- 4.12 In our opinion, there is no basis for any suggestion that LFB would not divert clean water captured by the Project's clean water diversion system and would instead use this clean water for operational purposes (i.e. that the clean water facilities would supply water to the Project for consumptive use).
- 4.13 In this regard, we emphasise the following:
- (a) as is made crystal clear in the relevant materials before the IPC, the clean water runoff captured by the Project's clean water facilities would be diverted to the downstream Belubula River catchment and would not be used for the Project;<sup>49</sup>
  - (b) in our view, LFB could not rely on the EW Exemption with respect to the Project's clean water facilities, if those facilities were used for the purpose of supplying clean water for the Project rather than to divert the runoff to the downstream Belubula River catchment. For the avoidance of doubt, we are instructed to confirm that LFB will not seek to rely on the EW Exemption to use this clean water runoff for the Project (including for the processing of ore or dust suppression);
  - (c) the EDO's statement that "the proponent ... purports to either direct that water to existing gully lines or pump it back into the Belubula River ..." is inappropriate. LFB is committed to diverting the clean water runoff captured by the Project's clean water facilities; and
  - (d) the proposed conditions of consent would require LFB to divert the clean water runoff captured by the Project's clean water facilities to the downstream Belubula River

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<sup>46</sup> We note that the October 2022 Response also identifies other options to authorise the "take" of clean water runoff by the proposed clean water facilities: see p 13.

<sup>47</sup> Pages 1-2. See also the October 2022 Response at p 13.

<sup>48</sup> Page 3 of DPE Water's draft factsheet comments on best management practice obligations.

<sup>49</sup> See, eg, the October 2022 Response at p 13 and Appendix A at pp A.14-A.15.

catchment. Among other relevant conditions, condition B50 requires LFB to ensure that the development complies with the following water management performance measures: "maximise, as far as reasonable, the diversion of clean water around disturbed areas on the site" and "transfer water captured in all clean water facility dams to the Belubula River downstream of the site in accordance with commitments in documents in condition A2(c)".<sup>50</sup> In addition to any enforcement action which could be taken under the WM Act regime, LFB would be liable to enforcement action (including criminal prosecution) under the EP&A Act if it fails to properly divert clean water runoff captured by the clean water facilities.

4.14 With respect to the balance of the Exemptions Letter, we note that:

- (a) except for addressing the abovementioned hypothetical scenario, the Exemptions Letter does not comment on the Project's water management system and we consider that the Exemptions Letter is of limited relevance to the IPC's determination of the development application for the Project;
- (b) in our view, the Exemptions Letter focuses on the risk of a person seeking to rely on the EW Exemption to capture clean water runoff for the purpose of consumptive use (in contrast to a mining operator capturing and reusing mine/dirty water runoff or capturing clean water runoff and diverting it to downstream watercourses). In our view, DPE Water's draft factsheet should not be read as representing that the EW Exemption could be relied on for that purpose. In this respect, DPE Water's draft factsheet indicates that the EW Exemption can be used to capture clean water in limited circumstances and that the operation of a dam under the EW Exemption must be consistent with best management practice (unless the dam is required by a public authority to prevent the contamination of a water source);<sup>51</sup>
- (c) our clients disagree with the EDO's criticisms of DPE Water's draft factsheet and the EDO's claims that it contradicts the accepted interpretation of the exemption or will likely lead to a broad application of the exemption that is contrary to the objects of the WM Act and perverse outcomes; and
- (d) LFB would have regard to DPE Water's finalised factsheet (when available) in constructing and operating the Project's water management systems.

If you wish to discuss this memorandum, please contact Mark Brennan [REDACTED]  
or Tristan Orgill [REDACTED]

**Ashurst**

<sup>50</sup> Condition A2(c) refers to the "EIS", which is defined in the definitions section to include various relevant documents (including LFB's additional information responses in support of the application).

<sup>51</sup> Pages 1-2 ("Clean water can be captured") and p 3 ("Best management practice obligations").

**MCPHILLAMYS GOLD PROJECT – RESPONSE TO THE SIA REVIEW PREPARED FOR ENVIRONMENTAL DEFENDERS OFFICE BY DR ALISON ZILLER**

This memo responds to Dr Alison Ziller’s *SIA Review re. proposed McPhillamys Gold Project 2023* (the review) relating to the social impact assessment (SIA) of the McPhillamys Gold Project (the project). The review was part of the material submitted by the Environmental Defenders Office (EDO) on behalf of the Belubula Headwaters Protection Group (BHPG) to the Independent Planning Commission (the Commission) on 17 February 2023.

[Redacted] Specific points made by Dr Ziller, and responses, are outlined below.

**1. Likely social impacts**

**Submission comment:** Dr Ziller’s submission provides a summary list of the social impacts and benefits identified for the project. She states that the summary shows “there are twelve likely adverse social impact categories and four beneficial ones. There is no direct relationship between the two lists, that is, the benefits do not directly address any of the likely adverse impacts.”

**Response:** The precautionary approach (correctly) adopted by the SIA orientates towards identification and assessment of negative impacts. There should be no correlation between benefits addressing likely adverse impacts. The benefits and impacts are unrelated. Instead, mitigation measures are identified in the SIA to avoid, mitigate or minimise the identified impacts.

**2. Reason for proceeding**

**Submission comment:** Dr Ziller claims that the Department of Planning and Environment (DPE) states the gold should be mined because it is there, and that the mine is supported by the DPE despite the “imbalance between positive and adverse impacts on the grounds of revenue to the state.”

**Response:** Regis disagrees with the selective referencing of DPE Assessment Report (DPE 2022). The Assessment Report does not state that the reason for proceeding is that “...the gold should be mined because it is there...” nor to only make a “...contribution to state coffers...” (Ziller, pg 6).

The Executive Summary and Evaluation (Section 7) of the Assessment Report outlines the thoroughly considered, evidence-based rationale for the DPE’s conclusion that the project is in the public interest and could be delivered with strict conditions (DPE 2022, pg viii-ix). Further, Section 7 of the Assessment Report clearly states that “on balance, the benefits of the project outweigh its residual costs.”

**3. Adequacy of mitigation measures**

**Submission comment:** Dr Ziller states that “for a proposed action to be considered a mitigation, it must be tangible, deliverable and durably effective.” Dr Ziller also claims that “the social impact risks identified by the proponent...have no tangible mitigations that can be delivered by the proponent and are likely to have any effect.”

**Response:** Regis disagrees with the statement that the extensive mitigation measures identified for the project, and committed to, are not tangible, deliverable, or enduring. Over the course of the assessment of the project Regis has applied the hierarchy of controls to manage potential impacts, including the redesign of the site to mitigate through elimination as many impacts as possible. Other impacts have been reduced by substitution of equipment, isolation or engineering and administrative controls, in that order. This very structured approach has, and will continue to, deliver tangible and enduring mitigation measures. Dr Ziller’s review ignores this widely recognised approach to effective impact control and its application to the project.

Dr Ziller has labelled a number of mitigations “statements of good intent only.” This is incorrect as shown in the table below, which lists some, but not all, of the commitments made by Regis:

Potential Impact	Commitments (tangible, deliverable, enduring)
Noise in excess of trigger levels	<ul style="list-style-type: none"> <li>• Specific sound power levels on equipment and reduced fleet size</li> <li>• Specific scheduling of construction and waste emplacement</li> </ul>

	<ul style="list-style-type: none"> <li>• Operation of a real time monitoring network</li> <li>• Proactive management under varying weather conditions</li> <li>• Construction of the pit amenity bund</li> </ul>
Ecosystem losses	<ul style="list-style-type: none"> <li>• Establishment of a biodiversity stewardship site</li> <li>• Establishment of an aquatic offset area</li> <li>• Restore 22ha of Box Gum Woodland</li> <li>• Commitment to planting a further 100,000 trees (over 10,000 planted to date)</li> </ul>
Loss of Aboriginal values	<ul style="list-style-type: none"> <li>• Developed specific mitigation measures for identified impacts on Aboriginal heritage (in consultation with the Registered Aboriginal Parties for the Project, and agreed as appropriate by Heritage NSW)</li> <li>• Development of a Heritage Management Plan</li> <li>• Commitment to undertake cultural mapping study in consultation with Orange Local Aboriginal Land Council</li> </ul>
Impacts on properties in the Kings Plains settlement	<ul style="list-style-type: none"> <li>• Property-specific mitigation measures as listed in Section 7 of this response.</li> <li>• Negotiated Agreements</li> <li>• Ongoing monitoring (with associated TARP trigger levels)</li> <li>• Ongoing operation of the Community Consultative Committee</li> </ul>

Dr Ziller states that many of the other mitigation measures such as the groundwater management plan and the social impact management plan are a “statement of good intent only”. This is incorrect. These plans are required by the conditions of development consent to be developed and implemented in consultation with relevant government agencies and relevant stakeholders. The management plans would be required to be approved by the DPE prior to commencement of activities for the project.

#### 4. Conditions, consequences and penalties

**Submission comment:** One of the key premises of Dr Ziller’s argument is the incorrect assumption that the draft consent conditions developed by the DPE are weak and ineffectual because they do not include penalties or consequences for inadequate implementation or effectiveness (Ziller, pg 22).

**Response:** The foundation of the planning assessment process for mines is that operating mines must comply with legislation and associated regulations. Penalties are set down within those instruments and include stop-work notices, significant fines and loss of licence to operate (approval). The same assumption applies where the author refers to unnamed policies (Ziller, pg 12). Legislation, regulations and policies are named in the sections of the EIS to which they apply e.g. *NSW Aquifer Interference Policy in EIS Appendix J – Mine Development Surface Water Assessment*. Referring to legislation, regulation and policy (rather than penalties in place at the time of writing) ensures that operations, compliance and penalties are contemporary for the life of the project.

#### 5. Social impacts and benefits

**Submission comment:** Dr Ziller states that the proposed mine is supported by DPE despite the imbalance between positive and adverse impacts, on the grounds of revenue to the state and jobs created (Ziller, pg 6-7). Only four likely project benefits (rubbish collection, telecommunications, benefits to local businesses and better bushfire fighting capacity) are identified.

**Response:** This claim is not correct. Regis considers Dr Ziller’s benefits review as neither objective nor complete. The benefits of the project are far more extensive, as described in the EIS (EMM 2019), the First Amendment Report (EMM 2020,) the *Regis Response 2022 (RR)* to the SIA Expert Review, and in the DPE’s Assessment Report. The benefits accrue to an area far larger than Kings Plains and the Blayney LGA and include, but are not limited to, the following:

- Blayney Shire LGA will benefit from a VPA of least \$1M on approval then \$212k pa over 15 years, substantial increase in Blayney Shire Council ratings base, employment and training, and community investment (DPE 2022, pg 45, 224).
- At peak construction the project will generate \$531 M in annual direct and indirect regional output or business turnover, \$218 M in annual direct and indirect regional value added, \$114 M in annual direct and indirect household income and 1,289 direct and indirect jobs (DPE 2022, pg 84, 466).
- During the operational phase the project will generate \$492 M in annual direct and indirect regional output or business turnover, \$272 M in annual direct and indirect regional value-added, \$67 M in annual direct and indirect household income and 788 direct and indirect jobs (DPE 2022, pp 84-467).
- NSW and Australian governments will benefit from royalties and various taxes.

## 6. Kings Plains impacts and mitigation

**Submission comment:** Dr Ziller states that for noise and dust mitigations to be effective, some Kings Plains households would reside "...in enclosed environments for the duration of the construction and extraction operations in order for this mitigation to be effective." (Ziller pg 11).

**Response:** This claim is not correct. It ignores a substantial body of noise and air quality modelling that indicates the mine will operate below the NSW government noise and dust trigger levels. As these levels will not be reached, it is difficult to understand how Dr Ziller arrives at her conclusion. The installation of air conditioning and double glazing provides residents with additional choice on how they choose to mitigate any impact if required.

More broadly, stating that approval of the project would be at the unremedied cost of the social wellbeing of Kings Plains ignores that mitigations offered by Regis far exceeds compliance (see 7 below). It also isolates the Kings Plains community from the broader Blayney community, of which it is part, and ignores the substantial benefits that will accrue to it as part of Blayney.

## 7. Negotiated agreements

**Submission comment:** Dr Ziller is critical of the Negotiated Agreements but omits to mention that Regis is under no obligation to offer the agreements. Dr Ziller goes on to say that DPE does not appear to know what the level of compensation is and that the level of compensation may be partial (Ziller, pg 11).

**Response:** The offer of negotiated agreements is a "good neighbour" act on the part of Regis, not an obligation. Both comments about compensation are incorrect. Regis has undertaken substantial consultation with DPE relating to the contents of the negotiated agreements, which are listed in the Assessment Report. These included noise mitigation works at the residence on request (noting that noise and air quality will be continually monitored and a complaint handling process will be in place to manage dissatisfaction with emissions), compensation for electricity costs associated with mitigation measures is included in the agreement (e.g. air conditioning), and vegetation screening is offered to all residences where there are visual impacts.

Procedures for acquisition include valuation at market value (valued as if McPhillamys were not there) and compensation for relocation (e.g. stamp duty, reasonable legal costs and valuation fees, financial costs and moving expenses (DPE 2022, pg 26)). Acquisition on request options are valid for up to 10 years following Final Investment Decision by Regis to proceed with the project (subject to the grant of the development consent).

It is incorrect to claim that it is not possible to say whether the agreed price adequately compensates financial costs to the landholder (Ziller, pg 9). Regis pays for landowners to appoint their own valuer so that they enter negotiations fully informed. It is also noted that mitigation measures (such as landscaping, double glazing and air conditioning installation) will improve amenity of the residence (including substantially reducing existing noise impacts from the Mid-Western Highway) and increase the market value of the property. This would be reflected in the purchase price if the property owner were to exercise the purchase option.

## 8. Outmigration

**Submission comment:** As noted above, Ziller claims that "negotiated agreements are presented as a mitigation, but they are in fact a financial compensation device to assist outmigration, that is to further the social impact." (Ziller, pg 9).

**Response:** Regis does not accept this statement. The voluntary acquisition clause in the negotiated agreements was added to allay fears initially expressed by affected Kings Plains property owners regarding potential property value depreciation and way of life impacts arising from project activities. If landowners exercise the purchase option, it allows them a cost-neutral relocation. There is no overriding financial incentive to leave Kings Plains (RR, pg 10).

Further, it is noted the comments on this issue by Dr Ziller are contradictory. On one hand, Ziller states that negotiated agreements will hasten the fragmentation of community cohesion (Ziller, pg11). On the other, Ziller states it is unreasonable that "...79% of those within 2km of the mine site, are not being offered this proposed mitigation" (Ziller pg 9) that would, presumably, further hasten the fragmentation of community cohesion (Ziller pg 11).

## 9. Rental properties

**Submission comment:** Dr Ziller claims that renting properties to tenants is not a mitigation measure to out-migration. Further it is claimed that renting out acquired properties would be a financial strategy for Regis.

**Response:** Renting properties in Kings Plains is not a financial strategy and would realise negligible income for a mine operation. Keeping houses occupied is a way Regis can help alleviate undersupply of housing in the Blayney LGA. Tenancing properties is an effective mitigation measure for out-migration.

Regis rejects unsubstantiated assumptions that rental tenants (who may be local people or “mine workers”) are “...no substitute for an established community...”, that they are a negative influence on the composition of an established community (Ziller pg 12), or that they are “less likely” to look after trees (Ziller, pg13). It is improper to infer that new residents need to be property owners in order to be considered part of the community. In the event that Regis-owned properties were rented, people would be living in properties that complied with NSW Fair Trading requirements and fully aware of nearby mining operations, as reflected in draft development consent condition D2.

#### **10. Voluntary Planning Agreement**

**Submission comment:** Dr Ziller raises questions relating to the Voluntary Planning Agreement (VPA) that has been agreed to by Blayney Shire Council (BSC) and Regis, including a claim that BSC has decided to spend some of the funds on existing roads affected by the mine (Ziller pg 18).

**Response:** The VPA, and its contents, were negotiated in accordance with the relevant requirements of the *Environmental Planning and Assessment Act 1979*. Conjecture about the effectiveness of a legally compliant VPA is a criticism of the applicable statutory regime, not the VPA itself, and should be disregarded.

The statement that VPA funds would be spent on roads affected by the mine is incorrect and misleading. BSC has advised Regis that additional funds from the sale of Dungeon Road to Regis (not VPA funds) would be allocated to local, non-project roads in and around the Kings Plains area. Draft development consent condition D70 explicitly prohibits development traffic from using Dungeon, Guyong and Vittoria roads with the exception of rare, clearly defined situations.

#### **11. Adequacy of the Social Impact Management Plan (SIMP)**

**Submission comment:** Dr Ziller puts forward a number of criticisms of the SIMP. The review states that the DPE report accepts the SIMP as credible and effective and has limited the proposed conditions of consent relating to social impact issues to preparation of the SIMP.

**Response:** It is incorrect to say that conditions relating to social impacts are limited to the SIMP. The extensive requirements of the SIMP are outlined in draft development consent condition B101. Importantly, Regis cannot commence construction until the SIMP has been approved by the Planning Secretary (condition B102) and must implement the SIMP (condition B103).

In addition to the SIMP there are further conditions managing social impacts include the Planning Agreement (A12), operation of the Community Consultative Committee (A13), evidence of consultation (A14), compliance with conditions of consent (A23), construction noise (B1-28), noise (B29-37), compensatory water supply (B42-48), transport (B69-76), visual (B77-8), mine closure (B95, table 9), notification of landowners/tenants (D1-2), notification of exceedances (D3-4), independent review of exceedances (D5-7) and incident notification and reporting (App 7). All of these areas contain enforceable outcomes and controls to manage impacts.

#### **12. Accommodation village**

**Submission comment:** A number of references are made to an accommodation village.

**Response:** Discussion about construction of an accommodation village should be disregarded. It is not part of the development application before the Commission.

#### **Reference list**

Department of Planning and Environment (2022), McPhillamys Gold Project Assessment Report  
Dr Alison Ziller (2023), SIA Review re: Proposed McPhillamys Gold Project  
EMM (2019) McPhillamy Gold Project Environmental Impact Statement,  
EMM (2020) McPhillamy Gold Project First Amendment Report