



Section 5

Evaluation and Justification of the Proposal

PREAMBLE

This section concludes the document with an evaluation and justification of the Proposal in terms of the biophysical and socio-economic considerations, as well as in the context of the principles of Ecologically Sustainable Development (ESD) and the consequences of not proceeding.



ENVIRONMENTAL IMPACT STATEMENT

Grantham Park Holdings Pty Limited
Bungendore Sands Extension Project

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5.1 Introduction

This section concludes the *Environmental Impact Statement*. The extension and ongoing operation of the Bungendore Sands Quarry is evaluated and justified through consideration of its potential impacts on the environment and potential benefits to the local and wider community.

The evaluation of the Proposal is undertaken by firstly the relevant biophysical and socio-economic considerations applicable to the proposed activities. The Proposal has also been evaluated against the principles of Ecologically Sustainable Development (ESD) in order to provide further guidance as to the acceptability of the Proposal.

Section 5.3, which represents the justification of the Proposal, considers the Objects of the *Environmental Planning and Assessment Act 1979*, and assesses the consequences of not proceeding with the Proposal.

5.2 Evaluation of the Proposal

5.2.1 Biophysical Considerations

The Proposal has been designed in a manner that would:

- maximise the recovery of sand resources from within the Project Site;
- minimise the total disturbance footprint through targeting of high-quality resource areas;
- minimise disturbance to items of Aboriginal heritage significance and maximise the protection of those items that would remain;
- minimise the potential for surface water and groundwater pollution to the environment surrounding the Project Site;
- minimise risks associated with traffic generated by the Proposal;
- rehabilitate the disturbed areas of the Project Site to create a final landform that maximises value for future land users.

Inevitably, despite the proposed operational controls and safeguards to be implemented, there remains the potential for some residual impacts on the biophysical environment to occur. The assessed biophysical impacts that the Proposal would have on the local environment are set out below.

Aboriginal Heritage

The Project Site is located in an area with approximately 150mm of post European settlement deposited material with no Aboriginal objects visible at the surface. Based on previous extensive test pitting and heritage assessments, two potential archaeological deposits (PADs), namely PAD1 – Woodduck South and PAD2 – Currandooley South were identified within the proposed Extraction Area. The Proposal would disturb both of these PADs. In addition, a previously identified PAD, namely the Wood Duck PAD, exists within a section of the Project Site that would not be disturbed.



The Applicant, in consultation with the Aboriginal community, has determined to:

- establish a Heritage Conservation Zone to protect the Wood Duck PAD in perpetuity;
- undertake a test pitting and salvage program for both PAD1 – Wood Duck South and PAD2 – Currandooley South prior to disturbance; and
- apply for an Aboriginal Heritage Impact Permit.

In light of these commitments and with the concurrence of the Aboriginal community, it is assessed that the proposed disturbance of Aboriginal heritage would not be significant.

Traffic and Transportation

The Proposal would not increase the volume of traffic originating from the Quarry and therefore would not adversely impact existing road network and intersection performance, road safety, school and public transport services or pedestrians and cyclists along the proposed transport routes. Additionally, a SIDRA analysis of the Kings Highway intersection (i.e. the intersection of Molonglo Street and Malbon Street) undertaken by Constructive Solutions (2020) indicates that the intersection would operate at a Level of Service A level during peak hour traffic conditions at both background (2019) and forecast (2029) traffic volumes.

The Operator would develop a Driver's Code of Conduct and undertake shoulder widening at the site entrance on Tarago Road. Consequently, there would be no significant adverse impacts on traffic conditions or road safety associated with the Proposal.

Biodiversity

A total of 76.4ha of vegetation, representing pasture vegetation communities dominated by exotic species, would be disturbed. The *Biodiversity Development Assessment Report* concluded that this clearing would not trigger entry into the NSW Biodiversity Offsets Scheme and would not significantly impact threatened species. As the proposed activities would be consistent with activities already undertaken within the Project Site, indirect impacts including noise, dust and edge effects are unlikely to have significant adverse impacts on adjacent vegetation and fauna habitat.

The Operator would progressively rehabilitate disturbed sections of the Project Site to create a mixture of wetlands and grassland and would undertake revegetation of that section of the Butmaroo Creek riparian zone adjacent to the Project Site. As a result, the Proposal would likely enhance biodiversity values within and adjacent to the Project Site.

Surface Water Resources

The operational water requirements for the Proposal would be met through the extraction of up to 3ML per year from Butmaroo Creek under existing WAL 33014 and the use of water stored in artificial wetlands and ponds which form part of the existing operational water management system. The Operator has committed to the adoption of a range of design controls and the implementation of water management structures which would ensure that clean water flows would be diverted around the Project Site and potentially sediment-laden water would not be discharged from the Project Site. Additionally, the Applicant and/or Operator would revegetate the section of Butmaroo Creek adjacent to the Project Site. As a result, it is not anticipated that the Proposal would result in significant adverse surface water impacts.



Groundwater

The aquifer within the Project Site may be characterised by thin and laterally discontinuous bands of permeable, saturated sand-rich material and impermeable silt and clay-rich material. When intersected the permeable sandy bands drain but flows quickly cease because the transmissivity of the aquifer, or its ability to transmit water, is limited due to the impermeable clay material. The Operator estimates that seepage into the existing Extraction Area is approximately 1.4ML per year.

Given the limited ability of the aquifer to transmit groundwater and the distance to surrounding groundwater users and Butmaroo Creek, it is assessed that the Proposal would not have significant groundwater-related impacts.

Noise

Noise modelling indicated that operational noise levels are not anticipated to exceed the relevant Project Noise Trigger Levels at any residence. Additionally, that modelling indicated that the anticipated road noise levels associated with Proposal-related traffic would remain well below the relevant criteria for receivers located in close proximity to local roads. As a result, the Proposal would not result in significant adverse noise-related impacts.

Air Quality

The Operator would implement a range of management and mitigation measures targeting air quality impacts, including active dust suppression, progressive rehabilitation, and operational responses to air-quality related complaints. Air quality modelling determined that dust levels generated by the Proposal would not result in air quality-related impacts at surrounding residences that would exceed the relevant assessment criteria.

Visibility

The Proposal would not result in the intensification of existing extractive operations disturbed areas would be progressively rehabilitated to support agricultural (cropping and/or grazing) and nature conservation (wetland and grassland) land uses.

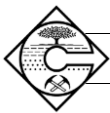
Observers located in close proximity to the Project Site would be unlikely to notice any change in the visual character of the area because there is insufficient elevation to be able to see into the active sections of the Project Site. Observers at residences and publicly accessible vantage points along the Lake George Range may notice a gradual expansion of the Extraction Area. However, this would be offset by progressive rehabilitation and would be unlikely to be noticeable as these vantage points are a minimum of 5km from the Project Site.

Other Impacts

Impacts on historic heritage, hazards and land resources and capability associated with the proposal would be negligible.

5.2.2 Socio-Economic Considerations

The impacts of the Proposal on the socio-economic environment would be largely positive. Through the payment of wages, purchase of consumables and local goods and services and commissioning of local contractors, the Proposal would continue to contribute approximately \$17 million per year to the Queanbeyan-Palerang, ACT and NSW economies.



The Proposal would continue to provide direct full-time-equivalent employment for between 10 and 12. As these individuals would reside within the Queanbeyan-Palerang LGA, this would have a positive impact on economic activities within the LGA.

Overall, the Proposal has been designed to ensure all potential adverse impacts are, to the maximum extent practicable, controlled which, in turn, would result in limited negative social impacts.

5.2.3 Ecologically Sustainable Development

5.2.3.1 Introduction

Throughout the design of the Proposal, the Applicant has endeavoured to address each of the following Ecologically Sustainable Development (ESD) principles, where applicable.

- The precautionary principle.
- The principle of social equity.
- The principle of the conservation of biodiversity and ecological integrity.
- The principle for the improved valuation and pricing of environmental resources.

5.2.3.2 The Precautionary Principle

The precautionary principle, as outlined in Clause 8(4)(a) of Schedule 2 of the EP&A Reg. 2000, states that *"if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation."*

The environmental safeguards discussed in Section 4 have been provided with a comprehensive knowledge of the existing environment derived from experience of RWC with similar extractive projects and the various studies undertaken by recognised specialist consultants to provide an appreciation of the potential impacts that may result from the Proposal.

RWC has been involved in similar extractive projects throughout the Southern Tablelands of NSW for over 38 years. Throughout this time, RWC has gained a detailed understanding of the physical and social environment associated with quarrying operations similar to that proposed and the environment surrounding the Project Site, resulting in the ability to provide a comprehensive assessment of the potential environmental impacts.

Assisting in the compilation of this document, the following specialist consultants, recognised for being leaders in their respective fields, each undertook detailed impact assessments to provide the Applicant with the most appropriate management and mitigation measures to minimise any potential harm with the surrounding environment as a result of the Proposal.

- Dr. Amy Way (B.A.S., B.A., M.Arch.Sc., Ph.D).
- Michael Bloem (B.C.E, NSW Road Safety Auditor), of Constructive Solutions Pty Ltd.



- Steve Sass (B.App.Sc (Env.Sc.) (Hons), Grad.Cert. Captured Vertebrate Management), of EnviroKey Pty Ltd.
- Neil Pennington (B.Sc. (Physics), B.Math. (Hons), MAIP, MAAS, MASA), of Spectrum Acoustics Pty Limited.
- Philip Henschke (B.Sc), of Todoroski Air Sciences Pty. Ltd.

Following a full evaluation of the potential environmental impacts of the Proposal based upon the consolidated knowledge of the Applicant, the Operator, RWC and the specialist consultant team, there are no activities or features for which there is a level of uncertainty in achieving an acceptable level of environmental performance.

5.2.3.3 Social Equity

The objective of this principle is that *"the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations"* (IGAE, 1992). Essentially, social equity embraces value concepts of justice and fairness so that the basic needs of all sectors of society are met and there is a fair distribution of costs and benefits to the community. Social equity includes both inter-generational (between generations) and intra-generational (within generations) equity considerations.

Inter-generational equity was considered in the design of the Proposal as the nature of the proposed operations would result in the prolonging of a quarrying operation that would continue to provide ongoing employment as well as training to local employees and contractors who could potentially use these skills to benefit the local or regional economy.

Intra-generational equity was considered in the Proposal as the ongoing operations would provide employment to residents of the Queanbeyan-Palerang LGA in close proximity to their residences, adding to the regions' overall economy.

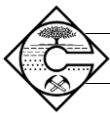
It is concluded that due to the nature of the Proposal and the proposed final landform and land uses, namely agriculture and nature conservation, as well as the proposed management measures as outlined in Section 4, that the objectives of this principle would be maintained as a result of the Proposal and not adversely impact current or future generations.

5.2.3.4 Conservation of Biological Diversity and Ecological Integrity

The protection of biodiversity and maintenance of ecological processes and systems is a central goal of sustainability. It is important that developments do not threaten the integrity of the ecological system as a whole or the conservation of threatened species in the short- or long-term.

The Applicant and Operator have designed the proposal to minimise areas of disturbance, with vegetation clearing for the proposal limited to approximately 76.4ha of pasture associated with the expansion of the Extraction Area.

EnviroKey (2020) assessed existing vegetation and habitat present within the proposed extraction area and assigned it a vegetation integrity score of 1.6/100, noting that the dominance of exotic species and the presence of highly invasive weed species was typical of sites which



have been subject to historical agricultural disturbance. EnviroKey (2020) concluded that an offset for the proposed vegetation clearing is not required and that no species credits for threatened species are relevant to the proposed disturbance footprint. Furthermore, EnviroKey (2020) noted that due to the presence of existing extractive industries in the vicinity of the proposed Extraction Area, indirect impacts associated with the Proposal would be unlikely to have significant adverse impacts on adjacent vegetation and fauna habitat.

5.2.3.5 Improved Valuation, Pricing and Incentive Mechanisms

This principle involves consideration of the Proposal and the surrounding environmental resources (e.g. air, water, land and living things) which may be affected, and the financial resources required by the Applicant and Operator to minimise or manage these impacts on surrounding environmental resources.

The Applicant and Operator's principal objective of the Proposal is the design and operation of an extractive industry in a manner that minimises disturbance and any impact on the environment and surrounding residents. The Applicant and Operator have financially committed to this and other measures and would provide adequate financial resources to reinstate any disturbed habitat through appropriate rehabilitation procedures.

It is expected that the income received from the sale of the quarry products would be sufficient to enable the Applicant and Operator to achieve an acceptable profit level whilst undertaking all environment-related tasks and meeting all commitments in all approvals, licences and permits and those made to the local community, including rehabilitation of the Project Site once extraction operations are complete.

5.3 Justification of the Proposal

5.3.1 Planning and Regulatory Considerations

5.3.1.1 Section 4.15 Considerations

Section 4.15 of the *Environmental Planning and Assessment Act 1979* requires the consent authority, when determining a development application, to take into consideration the following matters:

a) *the provision of:*

i. *any environment planning instrument;*

The relevant environmental planning instruments being:

- *State Environmental Planning Policy (State and Regional Development) 2011;*
- *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007;*
- *State Environmental Planning Policy (Infrastructure) 2007;*



- *State Environmental Planning Policy 33 – Hazardous and Offensive Developments;*
- *State Environmental Planning Policy 55 – Remediation of Land; and*
- *Palerang Local Environmental Plan 2014.*

Each of these instruments are addressed in full in Section 3.2 of this document.

- ii. *any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved); and*

The Applicant is not aware of any proposed instruments that are relevant to the Proposal.

- iii. *any development control plan; and*

The relevant Development Control Plan is *Palerang Development Control Plan 2015*. This plan is discussed in Section 3.2 of this document.

- iii. a) *any planning agreement that has been entered into under Section 7.4, or any draft planning agreement that a developer has offered to enter into under Section 7.4; and*

No planning agreement has been entered into for the Proposal. The Operator would negotiate a suitable road maintenance agreement with Queanbeyan-Palerang Regional Council for transportation operations on Tarago Road in accordance with the relevant contributions policy.

- iv. *the regulations (to the extent that they prescribe matters for the purposes of this paragraph); and*

Clause 19(1)(b) of Schedule 3 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Reg) is considered in determining that the Proposal is considered as “Designated Development” and is discussed in Section 3.2.3.

In addition, this document has been prepared in a manner that is consistent with Parts 3 and 4 of Schedule 2 of the EP&A Reg.

- b) *the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality; and*

The likely impacts of the Proposal, including environmental impacts on both the natural and built environments and social and economic impacts, are assessed in Section 4 of this document.

- c) *the suitability of the site for the development; and*

The suitability of the Project Site for the Proposal, including a description of surrounding lands and land capability, is discussed in Section 4.



d) *any submissions made in accordance with this Act or the regulations; and*

The Applicant anticipates that submissions related to the Proposal will be provided following completion of the public exhibition and that it will be provided with an opportunity to respond to those submissions at that time.

e) *the public interest.*

Information relating to community and socioeconomic setting of the Proposal and the Proposal-related contributions to the local, regional and national economies is presented in Sections 2.10 and 4.13 within this document. Overall, the Applicant contends that the Proposal would satisfy public interest.

5.3.1.2 Objects of the Environmental Planning and Assessment Act 1979

Development Consent is being sought under Section 4.12 of the EP&A Act and must therefore satisfy the objects of the EP&A Act. **Table 5.1** identifies the objects of the EP&A Act and confirms that each has been satisfied by the Proposal and this EIS.

Table 5.1
Objects of the EP&A Act

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Object	Coverage
a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources;	The Proposal would provide for the continuing use of the Project Site for extraction and processing operations, without compromising the rehabilitation objectives of the Quarry.
b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment;	On the basis that the Proposal would have minimal additional residual impacts on the biophysical environment it is considered to conform to the principles of ecologically sustainable development. See also Section 5.2.3.
c) to promote the orderly and economic use and development of land;	The Proposal would result in a beneficial use of land for extractive activities without limiting surrounding land uses.
d) to promote the delivery and maintenance of affordable housing;	The Proposal would not contribute to any additional pressure on local housing.
e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats;	The Proposal would not involve significant impacts to threatened species, populations and ecological communities, and their habitats, as described in Section 4.4.
f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage);	The Proposal would not result in unacceptable impacts to built and cultural heritage (including Aboriginal cultural heritage). The Applicant and Operator would establish a Heritage Conservation Zone for the significant Wood Duck PAD site.
g) to promote good design and amenity of the built environment;	Not applicable to the Proposal.



Table 5.1 (Cont'd)
Objects of the EP&A Act

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Object	Coverage
h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants;	Not applicable to the Proposal.
i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State;	The relevant environmental planning legislation has been reviewed in Sections 3 and 5. It has been concluded that the Proposal would meet the requirements of all relevant legislation and would not constrain the ability of different levels of government in the State to exercise their functions.
j) to provide increased opportunity for community participation in environmental planning and assessment.	The Applicant anticipates that this application will be made publicly available by Council and that the public will be encouraged to make submissions.

5.3.2 Consequences of Not Proceeding with the Proposal

The consequences of not proceeding with the Proposal include the following.

- i. The recoverable sand resources would not be extracted by the Applicant or the Operator. Such an outcome would be contrary to the State's, the Applicant's and Operator's objective to maximise resource utilisation.
- ii. The opportunity to maintain 10 to 12 full-time-equivalent positions would be foregone.
- iii. Expenditure of more than \$900 000 per year on wages (direct employees only) within the Queanbeyan-Palerang LGA, State and National economies would be foregone.
- iv. Expenditure of approximately \$5.9 million per year on contractors and consumables within the Queanbeyan-Palerang LGA, State and National economies would be forgone.
- v. An important source of an essential construction material for the Queanbeyan-Palerang LGA and ACT would be lost, resulting in increased road transportation from other, more distant sand sources, increased construction and maintenance costs and associated economic and employment impacts.
- vi. Minor impacts on the local biophysical environment would not eventuate.

It is considered that the benefits of proceeding with the Proposal therefore far outweigh the impacts on the environment that would result. The nominated consequences of not proceeding with the Proposal also weigh heavily in favour of proceeding with the Proposal.



5.4 Conclusion

The proposed Bungendore Sands Quarry has, to the extent feasible, been designed to address the issues of concern identified by the relevant levels of government and legislation.

- The Proposal provides for the extraction, processing and transportation of sand products whilst minimising the residual impacts on the biophysical environment.
- The produced products, principally washed sand for use in construction, landscaping, and concrete manufacture applications, would supply infrastructure and construction projects in the wider area surrounding the Project Site.
- Given the maintenance of local employment and the contribution of expenditure to the regional economy, the socio-economic impacts of the Proposal are considered to be positive.
- The post-extraction landform would integrate the re-establishment of vegetation conducive to a land use consistent with surrounding land use, namely intermittent grazing and nature conservation.

In light of the conclusions included throughout the *Environmental Impact Statement*, it is assessed that the Proposal could be constructed and operated in a manner that would satisfy all relevant statutory goals and criteria, environmental objectives and reasonable community expectations.