

Section 6

Evaluation and Justification of the Project

PREAMBLE

This section concludes the assessment of the proposed continued operation (and extension) of Dowe's Quarry. The residual impacts associated with the Proposal are evaluated through consideration of the residual impacts and the principles of ecologically sustainable development (ESD).

A justification for the Proposal is then provided based on the residual impacts to the biophysical environment, the likely economic and social benefits that would continue to be generated, the consequences of the Proposal not proceeding and assessment against the objects of the EP&A Act.

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6.1 INTRODUCTION

As a conclusion to the *Environmental Impact Statement*, the Proposal is evaluated and justified through consideration of its potential impacts on the environment and potential benefits to the local and wider community.

An evaluation of the Proposal is undertaken by assessing the residual environmental risks posed to the local environment after the implementation of the commitments for controls, safeguards or mitigation measures outlined in Section 4 and summarised in Section 5. 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, as presented in the *Environmental Impact Statement*.

A justification of the Proposal is provided by revisiting the predicted residual impacts on the biophysical environment, considering the socio-economic benefits which would continue to be provided, assessing the consequences of not proceeding with the Proposal and reviewing the Proposal against the objects of the EP&A Act. Finally, general conclusions regarding the acceptability of the Proposal are presented.

6.2 EVALUATION OF THE PROPOSAL

6.2.1 Residual Environmental Risks and Impacts

The principal residual impacts that would result from the Proposal concern the necessary removal of vegetation and short term removal of areas from use for nature conservation during extraction of the quartzose resource. Ecological surveys of the Project Site either sighted or found evidence of three threatened fauna species, namely; the Koala, the Scarlet robin and the Flame robin. No threatened flora or vegetation communities were identified (see Section 4.7). Assessment of potential impacts to threatened species determined that the Project Site would not be considered critical habitat for the threatened fauna species and that the preservation of remnant vegetation within and surrounding the Project Site would provide suitable alternative habitat given the mobile nature of these species (see Section 4.7.7). While it has been determined that the Proposal is not likely to directly impact identified threatened flora or fauna within the Project Site, indirect impacts from the removal of small areas of habitat may cause stress to native fauna species that have the potential or are likely to use this area as habitat. In addition, removal of a 2.1ha section of the Dry Open New England Blackbutt community present within the Project Site would include removal of several mature trees including a large habitat tree and some with hollows. The removal of vegetation within the extended extraction area and the proposed clay fines storage area is unavoidable. However, development of a procedure for vegetation removal will allow fauna to escape injury. Furthermore, the plans to retain available topsoil, as much as possible, for rehabilitation processes (see Section 4.7.6) would assist in the long term revegetation of the disturbed areas. Rehabilitation of the Project Site at the end of quarry life would involve a return of a considerable proportion of the disturbed area to passive nature conservation through the re-establishment of endemic native vegetation consistent with the nearby vegetation, such that the area would be integrated with the surrounding remnant vegetation as much as practically possible (see Section 2.13).

Changes to the environmental setting as a result of blasting, operational and transportation related dust and noise as well as sediment movement due to disturbance and clearing are typical of quarrying operations and would be expected to occur under the Proposal. The Applicant has been operating Dowe's Quarry since 1987 and would continue to manage changes to the environmental setting to preserve the safety of the workforce and amenity of nearby residents. In anticipation of a range of impacts arising from the ongoing quarrying activities, the Applicant has, where necessary, commissioned specialist assessments to address potential impacts and provide recommendations for measures to manage these impacts. As a result, the Applicant would implement a series of operational controls and safeguards as well as mitigation measures to limit potential impacts resulting from operations. These are described throughout Section 4 and summarised in Section 5 of the EIS. Many of these are standard controls used throughout the quarrying industry. Measures specific to the Project Site that would be implemented would include the sealing of a 400m section of the quarry access road from the intersection with the Mount Lindesay Road (see Section 4.2) and enlargement of water control structures to manage rainfall events, erosion and sedimentation issues (see Section 4.6). The implementation of these standard and site-specific controls would ensure that potential impacts from quarrying activities would remain minimal.

The Proposal is also likely to result in changes to the surrounding landscape through removal of topsoil and extraction of the quartzose resource. Although soil resources are skeletal within the Project Site, the Applicant would take all necessary precautions to effectively retain topsoil and subsoil (where this exists) for rehabilitation (see Section 4.9). The proposed rehabilitation of the disturbed areas within the Project Site to provide for passive nature conservation would endeavour to restore disturbed areas and integrate them as much as practically possible with the surrounding vegetation.

Cultural heritage surrounding the Project Site was reviewed during preparation of the EIS and existing and potential Aboriginal and non-Aboriginal heritage items and values considered (see Section 4.8). The lack of cultural material or association within the Project Site indicates that the Proposal would not adversely impact heritage values. Procedures would be adopted in the event an item is discovered unexpectedly to ensure potential impacts to unidentified artefacts would be minimised.

The Proposal is also likely to result in a range of negligible impacts outside the Project Site at surrounding residences and within the Tenterfield community. These would principally relate to visual amenity (see Section 4.10), transportation activities (see Section 4.2) and socio-economic impacts, including economic benefits from continued operation of the quarry (see Section 4.11). It is considered that the composition of remnant vegetation and intervening topography together with the orientation of the upper bench would limit visual impacts from the Proposal. The Applicant would continue to implement the Driver's Code of Conduct to ensure truck drivers are aware of their responsibility while transporting the raw material from the Project Site. In addition, the Applicant would contribute to the maintenance of the local and regional roads through the *Tenterfield Shire Council Section 94 Development Contributions Plan 2013*. Finally, the Proposal is not expected to impact the viability of local agricultural enterprises or tourism in the Tenterfield LGA but would rather provide for continued economic growth through revenue sourced predominantly from outside the LGA and distributed through the community through local spending and wages.

In summary, while a range of residual risks and impacts would occur as a result of the ongoing quarrying activities, the proposed design and operational control measures would result in many impacts being avoided, minimised or would allow these to be suitably managed to reduce their significance. Rehabilitation of the Project Site would aim to return much of the area disturbed within the Project Site for nature conservation and integrate this with the surrounding native vegetation.

6.2.2 Ecologically Sustainable Development

Sustainable practices by industry, all levels of government and the community are recognised to be globally important for future prosperity and well-being. The principles of Ecologically Sustainable Development (ESD), recognised for over two decades, are based upon meeting the needs of the current generation while conserving our ecosystems for the benefit of future generations. In order to achieve sustainable development, recognition needs to be placed upon the integration of both short-term and long-term environmental, economic, social and equitable objectives.

Throughout the planning and design of ongoing operations and the proposed extension of Dowe's Quarry, the Applicant has endeavoured to address each of the sustainable development principles. The following subsections draw together the features of the Proposal that reflect the four principles of sustainable development, namely:

- the precautionary principle;
- the principle of intergenerational equity;
- the principle of the conservation of biodiversity and ecological integrity; and
- the principle for the improved valuation, pricing and incentive mechanisms.

6.2.2.1 The Precautionary Principle

Throughout the preparation of the EIS the Applicant has engaged specialist consultants to examine the existing environment, predict possible impacts and recommend controls, safeguards and mitigation measures in order to ensure that the level of impact satisfies statutory requirements or reasonable community expectations. This ensured that an appropriate level of research and baseline investigations and environmental evaluation was included in the assessment. The controls, safeguards and mitigation measures have therefore been planned with a comprehensive knowledge of the existing environment and the potential risk of environmental degradation posed by Proposal activities. In doing this, an anticipatory approach was taken to potential impacts and where data was not available a predictive assessment was completed using a conservative approach to likely scenarios and impacts.

The implementation of the environmental safeguards, controls and mitigation measures has been formalised by the Applicant as the Statement of Commitments presented as Section 5.

Examples of matters relating to the precautionary principle that were considered during the various stages of the Proposal are listed as follows.

Objectives of the Proposal

One of the objectives of the Proposal is to develop and operate Dowe's Quarry in a safe and environmentally responsible manner which meets the requirements of the Tenterfield Shire Council and State government agencies, accepted industry standards and reasonable community expectations. The Applicant recognises that only through comprehensive environmental assessment, consideration of feasible mitigation measures and offset strategies and an environmentally responsible approach to the design and operation of the Proposal, can the risk of harm to the environment be minimised. Considerable reliance has been placed upon the experience gained since 1987 in operating the quarry with minimal impacts.

Design of Controls and Safeguards

In nominating controls, safeguards and/or mitigation measures that would continue to be implemented under the Proposal, the Applicant has assumed worst case scenarios such that these measures are adequate to ensure that, where possible, environmental management performance remains at suitable levels during unexpected or unlikely events. This approach is evident in the development of controls for potential noise and air quality impacts, the continued use of a Driver's Code of Conduct to direct transport activities and in the design of water management structures.

Integration of Safeguards and Procedures

The framework for ongoing environmental management, operational performance and rehabilitation would be provided through the development consent and use of a procedure to guide the removal of vegetation prior to extractive activities commencing. The Applicant would continually review the progress of the operation and provide an opportunity to review the effectiveness of the environmental management strategies adopted.

Rehabilitation and Subsequent Land Use

Long term adverse impacts on the environment would be avoided through:

- progressive rehabilitation;
- creation of a safe, stable, vegetated final landform; and
- a final land use of predominantly nature conservation with some use for stock sheltering.

Conclusion

The precautionary principle has been considered during all stages of the design and assessment of the Proposal. The experience gained since 1987 and the approach adopted to preparation of the EIS, i.e. planning and design, initial assessment, consultation, specialist investigations and development of safeguards, controls and mitigation measures, provides a high degree of certainty that the Proposal would not result in any major unforeseen impacts.

6.2.2.2 Intergenerational Equity

Intergenerational 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. This provides for both inter-generational (between generations) and intra-generational (within generations) equity considerations.

Equity within generations requires that the economic and social benefits of the development be distributed appropriately among all members of the community. Equity between generations requires that the non-material well-being or “quality of life” of existing and future residents of the local community would be maintained throughout and beyond the life of the Proposal.

Both elements of social equity are addressed through the design of the Proposal itself, the implementation of operational safeguards to mitigate any short-term or long-term environmental impacts, and the proposed rehabilitation of the areas directly disturbed. Examples of matters relating to social equity that are relevant to the various stages of the proposed development are provided below.

Identification of Proposal Objectives

The Proposal has been designed with an objective to continue to operate Dowe's Quarry in a safe and environmentally responsible manner. This includes development of the extended extraction area, overburden emplacement and stockpiles in a manner that maximises social and economic benefits to the local and regional community whilst minimising both short term and long term environmental impacts, including impacts to surrounding residents.

The Proposal also aims to contribute to the continued conservation of native flora and fauna occurring at the nearby Bald Rock National Park through progressive rehabilitation that would minimise any loss of biodiversity values as a consequence of the Proposal.

Design of Proposal Components

The Proposal has been designed to maintain inter-generational equity through recognition that quarry operations are a comparatively short-term land use. Therefore, the proposed rehabilitation of the Project Site and a preferred final land use of predominantly passive nature conservation would ensure that the biodiversity and amenity value of the Project Site is maintained both in the short and long term. At the same time, the continued operation of Dowe's Quarry would provide raw materials for the ongoing development of infrastructure that would not only benefit today's generation but many generations to come.

Integration of Safeguards and Procedures

The Applicant recognises that all members of the local and regional community should benefit appropriately from the Proposal either directly or indirectly. The employment of four staff directly and up to 20 more people indirectly, through operations at the Sunnyside Crushing and Screening Plant, would indirectly support the retail and service industries within the Tenterfield Shire, while continued use of local services to maintain operational levels at the quarry would directly support local businesses. The Applicant would continue to employ local persons and services which would effectively distribute the economic benefits of the Proposal through the local community.

Consultation with the local community would continue so that the Applicant is aware of any impacts that may not be easily recognisable to staff and may implement suitable corrective measures. The Applicant also would maintain a proactive approach to issues of interest through their 'open door' policy to interaction with community members. This dialogue would include a system to record, manage and respond to any complaints relating to the operation of the quarry.

Continued implementation of the Driver's Code of Conduct would provide, to the greatest extent possible, for the safety of communities through which the quarry related truck transport operators pass to deliver the products of Dowe's Quarry.

Conclusion

The principle of social equity has been addressed throughout the approach and design of the Proposal. The Proposal would continue the significant contribution to local economic activity within the Tenterfield Shire through the flow-on effects of employment and demand for goods and services. Furthermore, by providing a revenue source that is predominantly outside the Shire, the ongoing operation of Dowe's Quarry will contribute to the economic growth of the Tenterfield Shire.

The Proposal was also designed such that elements of the existing environment available to this generation, including the natural environment and local biodiversity would continue to be available to future generations. The Applicant would adopt a proactive approach in identifying and addressing any concerns identified by the local community.

In terms of cultural heritage, intergenerational equity has been considered through assessment of the cumulative impacts to both Aboriginal and non-Aboriginal objects and places in the region. In the absence of any artefactual material or of known specific cultural heritage association with the Project Site, the impact of the Proposal is assessed to be low.

6.2.2.3 Conservation of Biological Diversity and Ecological Integrity

The protection of biodiversity and maintenance of ecological processes and systems are central goals 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. Details of how the Proposal has been designed to achieve compliance with these principles are set out below.

Identification of Proposal Objectives

The Applicant is committed to undertake all activities in an environmentally responsible manner, and recognises the need to ensure that changes to natural components of the environment do not adversely affect biological diversity or ecological integrity. As such, the Proposal has been designed to avoid or minimise disturbance to biodiversity and progressive rehabilitation would restore native vegetation in areas where activities have been completed.

Integration of Safeguards and Procedures

The Applicant would implement the following safeguards and procedures to maximise the conservation of biological diversity and ecological integrity on and surrounding the Project Site.

- A vegetation clearing procedure would be used to guide the appropriate clearing of vegetation such that impacts to biodiversity are limited.
- Where possible, the clearing of vegetation that contains hollows that may be used as habitat by native fauna would be avoided.

- Measures would be implemented to minimise impacts to water quality and quantity such that water availability would be maintained and contamination would be avoided to minimise impacts to flora and fauna.
- Weed eradication and feral animal management would be continuously reviewed and undertaken, as required.
- Speed limits of 30km/hr are included within the Driver's Code of Conduct for the quarry access road to be signed by all employees to limit potential accidents involving native fauna.

Other ecological management commitments are included in Section 4.7 as well as the Statement of Commitments (**Table 5.1**).

Rehabilitation and Subsequent Land Use

The final landform has been designed to re-instate as much as practically possible the natural landforms and vegetation communities.

Conclusion

The Proposal would address the principle of conservation of biological diversity and ecological integrity through the minimisation of disturbance to areas of native vegetation and re-establishment of areas of native vegetation. The implementation of weed eradication and feral animal management programs would further assist in addressing the principle of sustainable development.

6.2.2.4 Improved Valuation and Pricing of Environmental Resources

The issues that form the basis of this principle relate to the acceptance that the polluter pays, all resources are appropriately valued, cost-effective environmental stewardship is adopted and the adoption of user-pays principles based upon the full life cycle of the costs. A reflection of these issues relative to the Proposal is set out below.

Identification of Proposal Objectives

The Applicant's principal objective is to operate the quarry in a profitable, safe and environmentally responsible manner, which demonstrates that an appropriate value has been placed on elements of the existing environment.

Design of Proposal Components and Integration of Safeguards and Procedures

The extent of research, planning and design of environmental safeguards and mitigation measures to prevent irreversible damage to environmental resources, other than the quartzose material to be extracted, is evidence of the value placed by the Applicant on these resources.

Rehabilitation and Subsequent Land Use

The design of the final landform for the re-establishment of native vegetation, illustrates the value placed by the Applicant on the ecological elements of the Project Site.

Conclusion

The value placed by the Applicant on environmental resources is evident in the identification of Proposal objectives, extent of site-specific research, planning and environmental safeguards and measures to be implemented to prevent irreversible damage to the environment within and surrounding the Project Site. It is planned that the income received from the sale of products would be sufficient to enable the Applicant to achieve an acceptable profit level whilst undertaking all environmentally-related tasks to a high standard and meeting all commitments in this document, a development consent, environment protection licence and those made to the local community.

6.2.2.5 Conclusion

The approach taken in planning the continued operation and expansion of Dowe's Quarry has been multi-disciplinary, involved consultation with potentially affected local residents and various government agencies. The Applicant has committed to the implementation of a variety of safeguards and mitigation or management measures that would minimise potential environmental, social and economic impacts while maximising economic benefits for the local community. The design of the Proposal has addressed each of the sustainable development principles, and on balance, it is concluded that it achieves a sustainable outcome for the local and wider environment.

6.3 JUSTIFICATION OF THE PROPOSAL

6.3.1 Introduction

In assessing whether the development and operation of the Proposal is justified, consideration has been given both to biophysical and socio-economic factors including the predicted residual impacts on the local and wider environment and the potential benefits of the Proposal. This section also considers the consequences of the Proposal not proceeding.

6.3.2 Biophysical Considerations

Section 4 presents a range of residual impacts on the biophysical environment that are predicted should the quarry continue to operate in the manner proposed and, after the adoption of a number of design and operational procedures, mitigation measures and/or offset strategies. The residual impacts considered of greatest significance, and the proposed management of these, are summarised as follows.

Transportation

The continued transportation of quartzose material from Dowe's Quarry to the Sunnyside Crushing and Screening Plant and back-loading of fines would contribute to the degradation of road conditions along the proposed transportation route and present a risk to road safety through the use of heavy vehicles.

The risk of road accidents occurring along the proposed transportation route cannot be completely eliminated. However, the Applicant has committed to the continued implementation of a Driver's Code of Conduct that would guide driver behaviour and transportation operations to preserve road safety, as much as practically possible. The Code of Conduct would also aim to limit impacts to the road surface where possible. The Applicant has also committed to undertake improvements to the quarry access road, including the intersection with the Mount Lindesay Road, and to provide ongoing financial contributions towards the maintenance of local roads, as agreed with Council.

Given the proposed implementation of measures to avoid transport-related impacts where possible, improve internal road surfaces and contribute to ongoing maintenance of local roads the residual impacts associated with transportation under the Proposal would be minimal.

Air Quality

A qualitative assessment of predicted impacts resulting from the Proposal has indicated that given a conservative estimate of background conditions and comparative contributions from the activities relating to the quarry, the likely impacts resulting from airborne and deposited dust would not exceed criteria established by the EPA.

In addition, the Applicant has been operating Dowe's Quarry since 1987 with few complaints from surrounding residences due to impacts from dust emissions and then those issues have been related to the transport route and not the extraction operations. In addition, operations under the Proposal would not alter the equipment, extraction rate or daily transportation rate currently used within the Project Site.

Most notably the commitment to seal a 400m section of the quarry access road will further reduce possible dust impacts for those residents on the eastern side of Mount Lindesay Road in the vicinity of the Project Site.

As a result, dust emissions will remain within reasonable levels and will continue to be suitably managed through operational and management measures.

Noise and Blasting

Blast noise would continue to be heard at surrounding residences, albeit predicted levels (and ground vibration) would be well within nominated limits. Operational noise attributable to activities within the active extraction area would continue to be rarely heard and well within nominated limits.

The Applicant has been operating Dowe's Quarry since 1987 without any noise-related complaints. The range of controls adopted and design of the extraction area would continue to ensure that impacts from operational noise and blasting would be limited as much as practically possible.

Water Resources

The continued extraction of the quartzose resource, extension to the western section of the Project Site and the proposed stockpiling of overburden and clay and crusher fines would alter the landscape of the Project Site. This is likely to increase the volume of runoff and the potential for erosion and sedimentation of any runoff from these areas. The Applicant would

increase the capacity of the existing Central Sediment Dam and Northern Sediment Dam to ensure these have an adequate capacity to capture runoff generated in a design rainfall event as specified in the Bluebook Volume 2E (Landcom, 2004). In addition, drainage channels and sediment control structures would be installed to further manage water flow and sediment within the Project Site.

It is not anticipated that the Proposal would impact water quality within surrounding watercourses or any of the ephemeral watercourses beyond the Project Site. The Proposal would also not impact the quality or availability of groundwater for local users of these resources.

Biodiversity

The clearing of 2.1ha of native vegetation would be an unavoidable impact of activities associated with the Proposal. Ecological surveys of the Project Site identified three threatened species as occurring or having recently occurred within the Project Site and an additional 16 species likely or potentially likely to occur. Assessment in accordance with Commonwealth and State legislation confirmed that the Proposal would not result in significant impacts to these species. Furthermore, rehabilitation of the Project Site would seek to establish native flora in disturbed areas and aim to incorporate revegetated areas with the surrounding remnant vegetation. The Project Site would be expected to continue to provide foraging, breeding or roosting habitat for these and other native species post quarry life.

A vegetation clearing procedure would also be used to guide the careful removal of vegetation such that impacts to roosting or nesting fauna and soil resources would be limited. This measure together with other impact avoidance, mitigation and offset measures (and their duration of proposed impact) indicates that the Proposal is unlikely to have a significant impact on local biodiversity.

Cultural Heritage

In the absence of any artefactual material in a depositional context, or of known specific cultural association with the Project Site, the residual risk to Aboriginal and non-Aboriginal heritage is assessed to be low. All future clearing operations would be undertaken in accordance with the protocols recorded in Section 4.8.4, which include a procedure to be followed in the event that potential Aboriginal artefacts are uncovered during vegetation clearing activities.

Soil and Land Resources

Residual impacts associated with rehabilitation potential, soils and land capability have been assessed to be low. The soil resources within the Project Site are skeletal or not present. Land capability was assessed to be Class 6 indicating severe limitations for a wide range of land uses with few management practices available to overcome them. As a result, management practices would be adopted to retain as much as practically possible the applicability of soil resources for rehabilitation. The desired result for the Applicant is a final landform comprising land that has been rehabilitated predominantly back to a nature conservation land use with some use for stock sheltering.

Visibility

While the Applicant accepts that the changing landscape resulting from extraction activities may result in areas becoming visible from surrounding roads, the arrangement of existing remnant vegetation surrounding the Project Site, the intervening topography and in some places along Mount Lindesay Road vegetation that screens the Project Site from the road would limit the exposure of quarry surfaces.

Waste Management

It is considered that the storage, placement and rehabilitation of fines generated or stored within the Project Site will not result in adverse impacts within or beyond the Project Site. All non-production wastes would be removed to the Sunnyside Crushing and Screening Plant for appropriate disposal while the continued stockpiling of overburden and clay fines and crusher fines has been accounted for in the design of the Proposal and should a buyer not be found for these products they would be incorporated into rehabilitation of the Project Site.

6.3.3 Socio-economic Considerations

The principal socio-economic impacts of the Proposal would relate to the continued operation and lengthening of the life of Dowe's Quarry. As such, the potential social impacts would generally be similar to those currently experienced by surrounding property owners and the community of Tenterfield and the Tenterfield Shire. Potential social impacts relate to a possible loss of amenity for neighbours living in the vicinity of the Project Site. In addition, social impacts may result from the continued transportation of raw materials from the Project Site and the back-loading of fines from the Sunnyside Crushing and Screening Plant. Assessment of these impacts determined that residual impacts after the implementation of operational controls and mitigation measures would be relatively minor (Section 4.12.4). As a result, it is not anticipated that there would be a significant change in the current level of social impact.

The ongoing provision of economic benefits through revenue sourced predominantly from outside the LGA and distributed throughout the community through local spending and wages would contribute to economic growth within the LGA and support local businesses and services. The Applicant's estimated annual expenditure of \$5 million to \$6 million in the Tenterfield Shire would have considerable direct and indirect economic benefits.

6.3.4 Consequences of Not Proceeding with the Proposal

The consequences of not continuing operations at Dowe's Quarry relate principally to the quartzose rock that would be extracted by the Applicant and used as a supply of raw materials principally used in production of a range of decorative aggregate and landscaping products. Given that the demand for these products would remain, it would be expected that alternative greenfield sources of quartzose would be required, which would almost certainly result in much greater impacts to the biophysical environment than the incremental impacts addressed for the Proposal. The cessation of extraction at Dowe's Quarry would impact the production capability of the Sunnyside Crushing and Screening Plant thereby reducing the viability of this enterprise.

In addition, the opportunity to provide employment for four people directly, 20 people indirectly and the associated benefits to the economy within the Tenterfield Shire would be foregone. This includes the disposable wages for the workforce, a substantial proportion of which would be spent throughout the Tenterfield Shire.

Should the Proposal not proceed, the minor impacts on the local biophysical environment would not eventuate.

It is considered that the benefits of continuing (and extending) the operations of Dowe's Quarry therefore outweigh the minor impacts on the environment that would result. The nominated consequences of not proceeding with the Proposal also weigh heavily in favour of continuing the operation of the quarry.

6.3.5 Objects of the Environmental Planning and Assessment Act 1979

Table 6.1 provides a short description of how the Proposal and this EIS have addressed and satisfy the objects of the EP&A Act.

Table 6.1
Objects of the EP&A Act

Page 1 of 2

Object	EIS Coverage
a) to encourage: <ul style="list-style-type: none"> i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment, 	<p>The agricultural land capability of the Project Site confirms that the Project Site has severe limitations for agricultural development (Section 4.9.2), while the remnant vegetation within and surrounding the Project Site would provide an effective buffer and limit impacts to agricultural resources and production on land surrounding the Project Site (Section 4.1.2.2).</p> <p>The Proposal would incorporate measures to avoid or mitigate impacts to the natural environment arising from the removal of native vegetation (Section 4.7.6) and potential impacts from erosion of the disturbed landscape and sedimentation of nearby watercourses (Section 4.6.5). Operational controls would also be implemented to manage potential impacts from noise (Section 4.4.4) and dust emissions (Section 4.3.5) during extraction and transportation of raw materials. Rehabilitation would return the Project Site to a predominant use of passive nature conservation with the aim of integrating the landscape with surrounding remnant vegetation (Section 2.13).</p> <p>Operational controls and procedures would also be adopted to manage potential impacts to the local community of Tenterfield resulting from raw material transportation (Section 4.2.4) or visual impacts (Section 4.10.3). In addition, Aboriginal heritage values and the historic heritage of the area would be managed through protocols established to guide all employees (Section 4.8.4).</p> <p>Finally, it is considered that the social and economic benefits of the Proposal would outweigh the minimal and short term environmental impacts (Section 4.12.5).</p>
ii) the promotion and co-ordination of the orderly and economic use and development of land,	<p>The Proposal would involve the continued operation and extension of Dowe's Quarry for a further 30 years and would maintain the supply of raw materials to the Sunnyside Crushing and Screening Plant and destinations beyond. The Proposal would be a significant contributor to the local and regional economy and community for the proposed 30 year life.</p>

Table 6.1 (Cont'd)
Objects of the EP&A Act

Page 2 of 2

Object	EIS Coverage
iii) the protection, provision and co-ordination of communication and utility services,	The Proposal would not require access to local communication or utility services and would therefore not influence the provision of these services throughout the Tenterfield Shire.
iv) the provision of land for public purposes,	The Project Site is located on private freehold land and it is not proposed that this land be available for public purposes. The existing quarry access road crosses Crown Land designated as a Travelling Stock Reserve. The <i>Rural Lands Protection Act 1998</i> prescribes the right of access for an occupier of land and as such the use of this land to provide access to the Project Site is considered lawful and would not limit the public purpose of this land (Section 1.5).
v) the provision and co-ordination of community services and facilities, and	It is considered that the Proposal would not influence access or provision of community services or facilities throughout the Tenterfield Shire. This has been ascertained through consultation with some surrounding neighbours and government agencies (Section 1.8.1). The Applicant would also provide a contribution to the Tenterfield Shire Council for the ongoing maintenance of local and regional roads used by trucks travelling to and from the quarry through the <i>Tenterfield Shire Council Section 94 Development Contributions Plan 2013</i> .
vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and	Ecological surveys and assessment have determined that the Proposal would not impact threatened native vegetation but would have the potential to impact three threatened fauna species. The Project Site is not considered critical habitat for these species and impacts would be managed through a vegetation clearing procedure, limiting removal of trees that may provide habitat for these species and eventual rehabilitation of the Project Site that would return the area to passive nature conservation.
vii) ecologically sustainable development, and	The principles of ecologically sustainable development have been considered in Section 6.2.2.
viii) the provision and maintenance of affordable housing, and	The Proposal would not limit the provision of affordable housing in the Tenterfield Shire.
b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and	The EIS includes a review of the relevant State, regional and local environmental planning regulations, plans and strategies including how these have been addressed under the proposal (Section 3).
c) to provide increased opportunity for public involvement and participation in environmental planning and assessment	<p>The Tenterfield Shire Council, NSW EPA and some surrounding landowners were consulted during the planning of the extension to Dowe's Quarry and preparation of the EIS.</p> <p>The assessment requirements addressed throughout this EIS were provided by the NSW Department of Planning and Environment, other relevant government agencies and Tenterfield Shire Council. These requirements are presented in Appendix 2 and discussed within the relevant text within the document.</p>

6.4 CONCLUSION

The Proposal has been designed to address the issues raised by all levels of government and in discussions with some neighbours, as well as the principles of ecologically sustainable development. The Proposal provides for the continued extraction of raw materials which would be significant in extending employment opportunities and maintaining stimulus to the local economy within Tenterfield Shire. The continued operation of Dowe's Quarry for a further 30 years would provide important raw materials for the production of valuable decorative aggregates and landscaping materials.

In light of the assessments presented throughout the *Environmental Impact Statement*, it is concluded that the proposed continued operation and expansion of Dowe's Quarry would be undertaken in a manner that would satisfy all relevant statutory goals and criteria, environmental objectives and reasonable community expectations.

This document and the range of specialist consultant studies undertaken have identified that the Proposal should proceed because it would:

- contribute towards supply of the raw materials necessary for the continued operation of the Sunnyside Crushing and Screening Plant and to satisfy the demand for decorative aggregates and landscaping materials;
- reduce risk levels associated with possible incidents and impacts on the environment to an acceptable level;
- have a minimal and manageable impact on the biophysical environment;
- satisfy sustainable development principles;
- provide for continuing and future use of the Project Site for nature conservation;
- promote continued economic growth in the Tenterfield Shire; and
- address the actual and perceived social impacts.