

Department of Planning, Housing and Infrastructure

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# Eagleton Quarry Project

State Significant Development Assessment Report (SSD 7332)

April 2024





# Acknowledgement of Country

The Department of Planning, Housing and Infrastructure acknowledges that it stands on Aboriginal land. We acknowledge the Traditional Custodians of the land and show our respect for Elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

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Eagleton Quarry Project (SSD 7332) State Significant Development  
Assessment Report

Cover photo: Panorama of the proposed quarry site (DPHI, 2017).

Published: April 2024

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# Preface

This assessment report provides a record of the Department of Planning, Housing and Infrastructure's (the Department) assessment and evaluation of the State significant development (SSD) application for the Eagleton Quarry Project located at 13 Barleigh Ranch Way, Eagleton, lodged by Eagleton Rock Syndicate Pty Ltd. The report includes:

- an explanation of why the project is considered SSD and who the consent authority is
- an assessment of the project against government policy and statutory requirements, including mandatory considerations
- a demonstration of how matters raised by the community and other stakeholders have been considered
- an explanation of any changes made to the project during the assessment process
- an assessment of the likely environmental, social and economic impacts of the project
- an evaluation which weighs up the likely impacts and benefits of the project, having regard to the proposed mitigations, offsets, community views and expert advice; and provides a view on whether the impacts are on balance, acceptable
- an opinion on whether the project is approvable or not, along with the reasons, to assist the Independent Planning Commission in making an informed decision about whether development consent for the project can be granted and any conditions that should be imposed.

# Executive Summary

On 3 February 2017, Eagleton Rock Syndicate Pty Ltd (Eagleton Rock Syndicate) submitted a State significant development application and accompanying Environmental Impact Statement for the Eagleton Quarry Project (the Project) under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The application sought approval to develop a new hard rock quarry to extract, process and transport up to 600,000 tonnes per annum of hard rock material over a 30-year period.

## Strategic context

The Project is located in the locality of Eagleton, approximately 12 kilometres north of Raymond Terrace, within the Port Stephens local government area. It is a greenfield development that would be situated in a rural setting dominated by vegetated hills and drainage lines. An existing hard rock quarry (Seaham Quarry) is located a few hundred metres to the north of the site and a number industrial and recreational facilities (including a landscaping supply centre, car racing circuit, motocross track and paintball centre) are located to the east of the site. Several rural residential dwellings and a respite centre are located approximately 1-1.5 km to the south along Six Mile Road. There are also several rural residential dwellings to the north and north-east of the site along Italia Road and adjacent to the Wallaroo State Forest.

The proposed quarry would primarily supply hard rock products to the Hunter, Central Coast and Sydney construction markets. The construction sector is a key contributor to economic growth in NSW, employing approximately 370,000 workers and contributing 45% of the NSW taxation revenue base. Competitive and reliable supplies of quarry products are critical to the NSW construction industry. Demand for these products is driven by government spending on public infrastructure and private investment in commercial, industrial and residential development.

The need for infrastructure investment in NSW, including within the Hunter region, is identified in several key State and regional strategy documents. This infrastructure pipeline includes multi-billion-dollar road and rail projects in the Sydney metropolitan area, new and upgraded education and health infrastructure throughout the State, and several major infrastructure projects within the Hunter region that will require a reliable and affordable supply of hard rock quarry products over the next few years. The increased demand for construction materials that could be partially met by the Project, combined with the surrounding rural and residential development and the recognised historic, tourism and ecological values of the region, prompts the need for careful and balanced consideration of these potentially competing land uses.

## Assessment process

The Project is an extractive industry development that would extract more than 500,000 tonnes of extractive materials per year, and from a total resource of more than 5 million tonnes. Accordingly, the Project is declared to be State significant development under section 4.36 of the EP&A Act, as it meets the criteria specified in clause 7 of Schedule 1 of the *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP).

The NSW Independent Planning Commission is the declared consent authority under section 4.5(a) of the EP&A Act and section 2.7(1) of the Planning Systems SEPP as more than 50 unique public submissions objecting to the Project were received.

The Department publicly exhibited the Project from 3 February to 2 March 2017 (28 days). Eagleton provided a submissions report on 13 October 2017. The report provided Eagleton Rock Syndicate's consideration of issues raised in submissions and government agency advice. Then, on 11 September 2023, in response to further agency feedback on the submissions report, Eagleton Rock Syndicate revised the proposed site access and road haulage route for the Project, completed updated environmental assessments and lodged an amended development application. All other aspects of the Project remained consistent with the original application.

The amended Project was also publicly exhibited for 28 days from 10 October to 6 November 2023. In response to the issues raised in relation to the amended Project, Eagleton Rock Syndicate prepared a Project amendment submissions report. The Department also forwarded this report to relevant government agencies for comment.

In assessing the Project, the Department sought advice from affected government agencies and provided it to Eagleton Rock Syndicate in conjunction with several requests for other additional information. Eagleton Rock Syndicate's responses to these requests have been carefully considered in the Department's assessment and evaluation of the Project.

The Department's assessment report and recommended conditions will now be referred to the NSW Independent Planning Commission to make a determination on the Project.

## Engagement

During the public exhibitions of the original and amended Project, the Department received 70 public submissions overall, including 64 from individuals and 6 from special interest groups. A total of 67 submissions objected to the Project, and three commented on the Project. Of the 67 objecting submissions, 63 were considered unique submissions.

The Department also received advice from 10 State government agencies and Port Stephens Council.

The Department carried out site visits in 2017 and 2023.

The Department considers that its engagement process met the community participation requirements of the EP&A Act and associated Regulation.

## Assessment

Owing to the Project's potential for amenity impacts on nearby residents, noise and air quality were key assessment issues for the Department. Due to the proposed road haulage of quarry products and concerns over the use of the Italia Road intersection with the Pacific Highway, impacts on the safety and efficiency of the road network was another focus of the Department's assessment. Lastly, given that the Project proposes the clearing of remnant vegetation within the Grahamstown Dam drinking water catchment, impacts to biodiversity and water resources were also key assessment issues for the Department.

## Noise

The key issue raised in public submissions was potential noise impacts on nearby residents. A respite centre (Eagle Ridge Respite Centre), which is located approximately 1 km to the south, was identified as a particularly sensitive receiver and several submissions from its residents and employees raised objections on the basis of potential noise and other amenity impacts. Notwithstanding these concerns, the Department accepts that the Project is unlikely to exceed the recommended noise limits at any of the affected sensitive receiver locations during operation of the Project, including at the Eagleton Ridge respite centre.

The Department supports the design mitigation, monitoring and management measures proposed by Eagleton Rock Syndicate to reduce predicted noise levels to acceptable levels during operation of the Project in accordance with the Noise Policy for Industry. The Department has also recommended stringent operational noise conditions to ensure this is the case.

## Traffic

Due to the proposed road haulage of quarry products, and potential interactions with existing road users along Italia Road and the intersection with the Pacific Highway, potential impacts to the safety and performance of the local road network were another key concern for the community. These concerns were also reflected in the advice provided by Council and TfNSW following their review of the EIS for the Project.

In response to these concerns, Eagleton Rock Syndicate amended the Project and proposes to upgrade the Italia Road / Pacific Highway intersection prior to commencing quarry product haulage. It has also proposed that all quarry related heavy vehicles would turn left from the intersection when accessing the Pacific Highway, eliminating the need for quarry trucks to undertake an at-grade

crossing of the highway. This would improve the efficiency and safety of this intersection, when compared to existing conditions.

The traffic impact assessment also found that a satisfactory level of service would be experienced by motorists on the broader local and regional road network over the life of the Project. The Department, Council and TfNSW accept these assessment findings.

The Department has recommended conditions requiring Eagleton Rock Syndicate to construct the road and intersection upgrades, prepare a traffic management plan prior to the commencement of road haulage of quarry products, and pay road maintenance contributions in accordance with Council's local infrastructure contributions plan. The recommended conditions also require strict monitoring of road haulage rates. Subject to these conditions, the Department considers that the traffic and transport impacts of the Project are acceptable.

### **Air quality**

The Department understands that potential air quality impacts were another key issue raised in public submissions. However, Eagleton Rock Syndicate has demonstrated that the Project would comply with applicable air quality impact assessment criteria at the vast majority of receptor locations, including at the nearby Eagleton Ridge respite centre and proposed Kings Hill residential area. The small number of predicted exceedances would be relatively minor and only occur at recreational facilities that would be occupied intermittently. The Department and EPA consider it unlikely that these exceedances would cause adverse health impacts associated with prolonged exposure.

Notwithstanding these assessment findings, the Department has taken a precautionary approach in recommending strict air quality limits and operating conditions, consistent with EPA's recommendations. These include a requirement to operate a proactive and reactive air quality management system that incorporates the use of real-time monitoring to manage the day-to-day operations of the quarry. Subject to these conditions, the Department considers the air quality impacts of the Project are acceptable.

### **Biodiversity**

The Project would result in a range of impacts on biodiversity through the disturbance of 32.03 hectares of native vegetation, including habitat for two threatened fauna species (Koala and Southern Myotis). However, the Department considers that the Project has been designed to avoid, mitigate and manage biodiversity impacts where practicable. The final disturbance footprint has been minimised and would avoid the majority of native vegetation (approximately 63%), Koala habitat (approximately 79%) and Southern Myotis breeding habitat (approximately 67%) in the study area. It would also avoid all 2nd order and the vast majority of 3rd order streams.

The Department has carefully considered these impacts on biodiversity values and considers that they would be suitably mitigated, managed and/or offset under the proposed biodiversity offset strategy. Additionally, the recommended conditions of consent would provide for sound management of retained biodiversity values on the site and assurance to the community and regulatory agencies over the management of residual biodiversity impacts. Overall, the Department considers the impacts of the Project on biodiversity are acceptable, subject to the recommended conditions.

## Water resources

The Department acknowledges the community's concerns regarding potential water resources impacts from the Project, particularly given the quarry would be located within the Grahamstown Dam drinking water catchment.

However, the Department considers that the proposed water management system has been suitably designed in accordance with Hunter Water requirements to detain the 500-year ARI storm event in a manner that would ensure a Neutral or Beneficial Effect (NorBE) on the drinking water catchment.

The Department accepts that only relatively minor volumes of treated water would need to be discharged offsite, and EPA has confirmed that these would be regulated by an Environment Protection Licence under the *Protection of the Environment Operations Act 2000*. The predicted water deficits during drier years are also minor and there are measures available to readily manage any water supply shortfalls.

The Department notes that the predicted impacts to groundwater resources would be very localised and limited to a 'less productive' aquifer. The predicted impacts are less than the Level 1 minimal impact considerations set out in the *NSW Aquifer Interference Policy*. Accordingly, the Department considers these impacts acceptable.

With implementation of the recommended conditions, the Department considers that the risks of impact to surface water and groundwater resources and riparian environments are low and that the Project could be suitably managed to avoid any unacceptable impacts.

## Other issues

The Department has also assessed the impacts of the Project on other values including social impacts, economic impacts, human health, blasting, hazards and waste, greenhouse gas emissions, Aboriginal cultural heritage, historic heritage, visual amenity, and rehabilitation and final landform impacts. The Department considers that, following the implementation of reasonable and feasible mitigation measures, the residual impacts of the Project can be suitably managed.

## Conclusion

The Department has carried out a detailed assessment of the merits of the Project, having regard to Eagleton Rock Syndicate's Project documentation, advice from NSW government agencies, and all public submissions. The Department has also considered the objects of the EP&A Act and relevant considerations under Section 4.15(1) of the EP&A Act.

The Department acknowledges the considerable public interest in the Project, and in particular the community's concerns regarding the potential noise, traffic, air quality, biodiversity, and water impacts from the Project.

The Department has carefully considered all the issues raised throughout its assessment process, including Eagleton Rock Syndicate's responses to the community concerns raised in submissions and feedback from government agencies. It has also considered the suitability of the site and whether it is in the public interest to allow the Project to proceed. Based on this assessment, the Department considers that Eagleton Rock Syndicate has designed the Project in a way that would achieve a practicable balance between maximising resource recovery and minimising associated impacts on the surrounding landholders and the environment through contemporary practices and mitigation measures. The Department recognises that the Project's ability to avoid impacts is restricted by the location of the resource and that complete avoidance is impractical.

The Department has recommended a comprehensive and precautionary suite of conditions to ensure that the Project complies with contemporary criteria and standards, and that residual impacts are effectively minimised, managed, offset and/or compensated for. The recommended conditions were provided to key NSW Government agencies and their comments taken into account in finalising the conditions. Eagleton Rock Syndicate has reviewed and accepted the recommended conditions. The Department considers that the conditions reflect current best practice for the regulation of hard rock quarrying projects in NSW and would lead to acceptable environmental outcomes.

The Department recognises that the proposed quarry would contribute a range of high-quality construction materials to local and regional markets. It would contribute significantly to the supply of materials for the construction of housing and major regional infrastructure projects. The Department also recognises that the proximity of the Project's hard rock resources to the Pacific Highway via Italia Road would allow for the safe and efficient distribution of products to the market. The Department accepts there is a strategic need for hard rock quarry materials in the Hunter, Central Coast and Sydney regions and considers the site to be well-suited for the Project.

The Department also considers that the Project would result in significant economic benefits to the region and to the State of NSW through the supply of materials critical to the construction industry and is therefore justified from an economic efficiency perspective.

The Department has carefully weighed the environmental impacts of the Project against the significance of the Project's identified hard rock resource and the wider socio-economic benefits associated with operating the quarry for 30 years under a contemporary development consent. On balance, the Department considers that the benefits of the Project outweigh its residual costs, the site is suitable for the proposed development, and that the Project is in the public interest and is approvable, subject to the recommended strict conditions of consent.

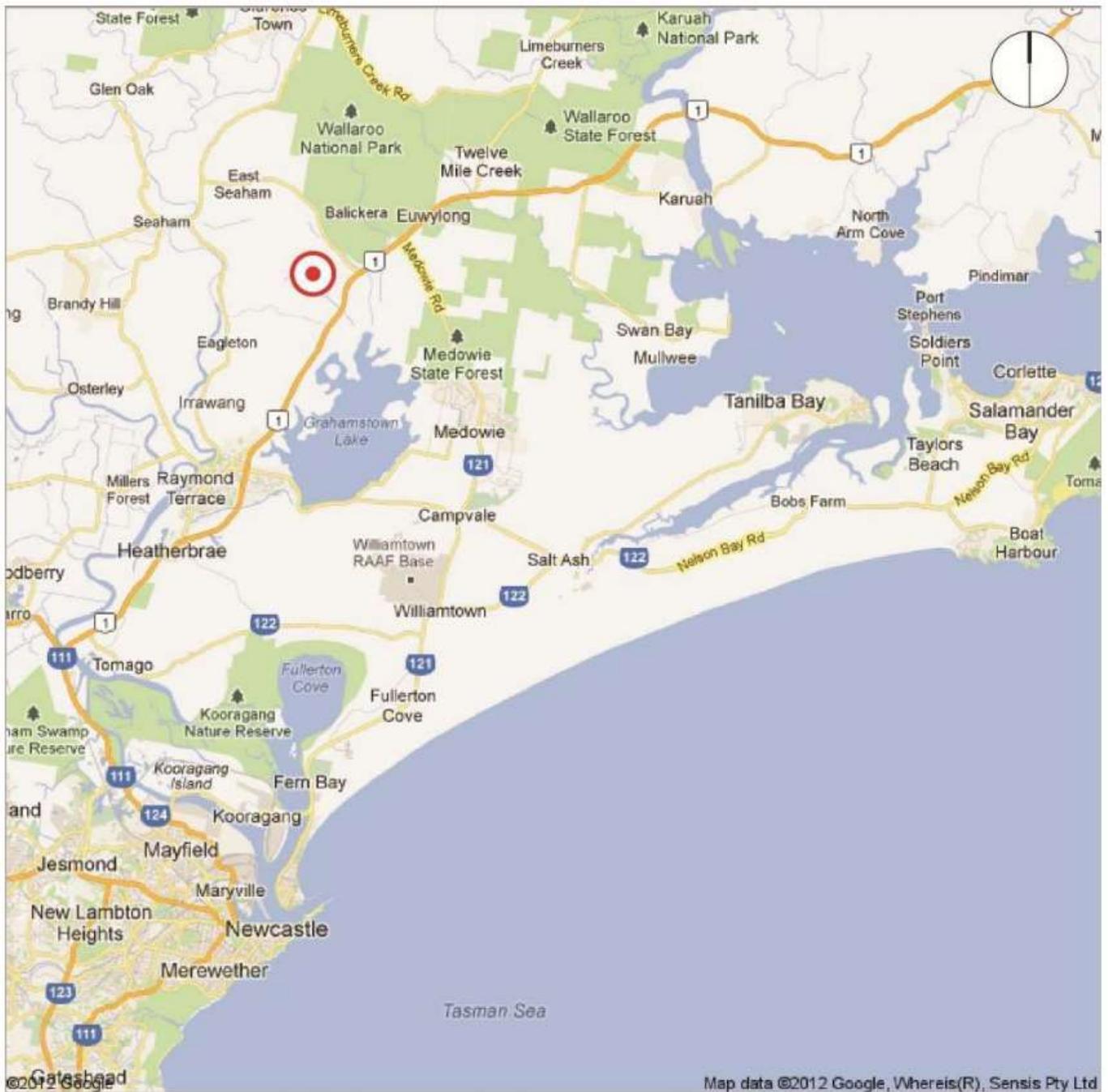
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# 1 Introduction

1. Eagleton Rock Syndicate Pty Ltd (Eagleton Rock Syndicate) proposes to establish a new hard rock quarry called Eagleton Quarry. The proposed quarry is located on Lot 2 DP 1108702 Barleigh Ranch Way, Eagleton, approximately 12 kilometres (km) north of Raymond Terrace, within the Port Stephens local government area (see Figure 1-1).



⊙ The Site

Figure 1-1 | Regional context map

## 2 Project

2. On 3 February 2017, Eagleton Rock Syndicate submitted a State significant development (SSD) application and accompanying Environmental Impact Statement (EIS) for the Eagleton Quarry Project, under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The application sought approval to develop a new hard rock quarry to extract, process and transport up to 600,000 tonnes per annum (tpa) of hard rock products over a 30-year period (the Project).
3. During exhibition of the Project, the then Roads and Maritime Services (now Transport for NSW (TfNSW)) raised several road safety concerns with the proposed road haulage route. The Project was delayed between 2017 and 2023 whilst the applicant engaged with TfNSW to address the road safety concerns. Then, on 11 September 2023, Eagleton Rock Syndicate lodged an amended development application that proposed a revised site access and road haulage route for the Project based on feedback from TfNSW. All other aspects of the Project remained consistent with the original SSD application.
4. A summary of the key features of the project is provided in **Table 2-1**. The site layout is shown in **Figure 2-1**.
5. A summary of the key amendments made to the Project since lodgement of the original SSD application is provided in **Appendix A**. Detailed descriptions of the Project and amendments are provided in the EIS and Amendment Report (see **Appendix B**).

Table 2-1 | Key aspects of the project

Component	Proposed development
<b>Project life</b>	30 years
<b>Extraction method</b>	Open cut extraction methods, including excavation, drill, blast, load and haul
<b>Extraction depth</b>	45 m AHD (Australian height datum)
<b>Processing</b>	On site crushing, screening and stockpiling
<b>Quarry products</b>	Hard rock aggregates
<b>Production limit</b>	600,00 tpa quarry products
<b>Hard rock resource</b>	Approximately 10 Million tonnes (Mt)
<b>Disturbance</b>	33 hectares (ha)

Component	Proposed development
<b>Operating hours</b>	<ul style="list-style-type: none"> <li>• Extraction and processing operations: 7 am – 6 pm Monday to Friday and 7 am – 4 pm Saturday</li> <li>• Loading and dispatch of quarry products: 5 am to 6 pm* Monday to Friday and 5 am to 4 pm Saturday</li> <li>• Blasting: 9 am – 4 pm Monday to Friday</li> <li>• Urgent unscheduled maintenance: 24 hours, 7 days per week</li> <li>• No work on Sundays or public holidays (excluding urgent maintenance)</li> </ul>
<b>Product Transport</b>	<ul style="list-style-type: none"> <li>• Up to 85 laden trucks per day (170 movements per day)</li> <li>• Up to 10 laden trucks per hour (20 movements per hour)</li> </ul>
<b>Transport Route*</b>	All trucks exiting quarry site along Italia Road use upgraded Italia Road/Pacific Highway intersection** and travel north on Pacific Highway. Southbound trucks then use the Pacific Highway/ Tarean Road interchange to perform a U-turn and head south on Pacific Highway
<b>Project Access*</b>	Right of carriageway connecting Barleigh Ranch Way with Italia Road**
<b>Workforce</b>	<ul style="list-style-type: none"> <li>• Approximately 10 employees and 10 specialist contractors during operation</li> <li>• 20-25 full time haulage operators (at peak production)</li> </ul>
<b>Infrastructure</b>	Crushing and screening plant, weighbridges, stockpiles, office and workshops, car parking
<b>Rehabilitation</b>	Rehabilitation to achieve a safe, stable, free-draining landform revegetated with native vegetation.

\* Revised through Project amendments or additional information provided during the Department's assessment

\*\*Approval for construction sought under a separate local development application through Port Stephens Council

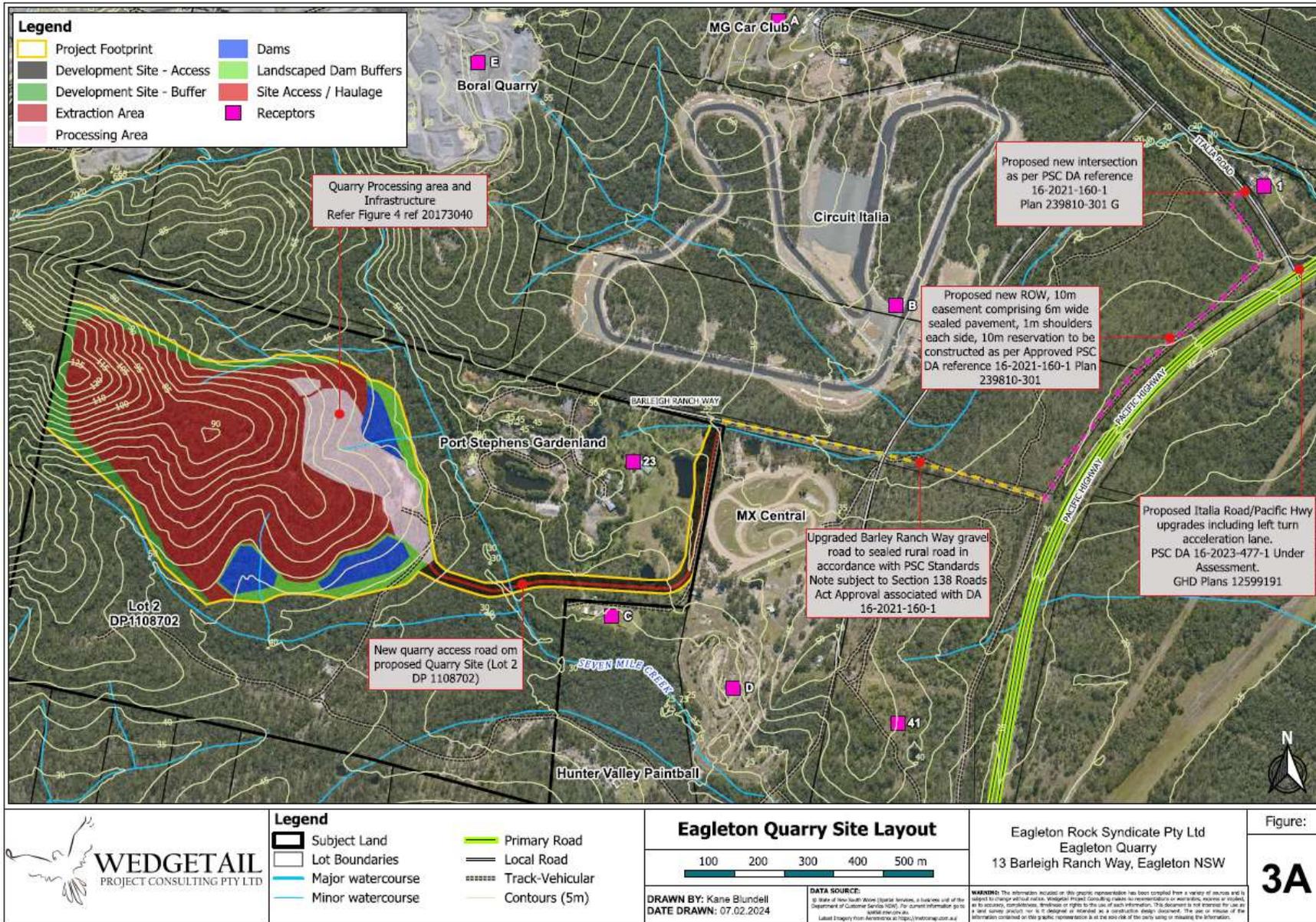


Figure 2-1 | Site layout

## 3 Strategic context

### 3.1 Project setting

6. The Project is in a rural setting dominated by vegetated hills and drainage lines. An existing hard rock quarry (Seaham Quarry) is located a few hundred metres to the north of the site. A number of industrial and recreational facilities (including a landscaping supply centre, car racing circuit, motocross track and paintball centre) and the Pacific Highway are located to the east of the site.
7. Several rural residential dwellings and a respite centre are located approximately 1-1.5 km to the south along Six Mile Road. There are also several rural residential dwellings to the north and north-east of the site along Italia Road and adjacent to the Wallaroo State Forest.
8. The Project site is also traversed by Seven Mile Creek, which flows into Grahamstown Dam, located approximately 2.5 km to the south-east. Grahamstown Dam provides approximately 40 percent of the drinking water supply for the Lower Hunter Region.
9. A future residential area known as the Kings Hill Estate (Kings Hill) is located approximately 1 km from the Project site, to the south of Six Mile Road and adjacent to the Pacific Highway. Kings Hill is an Urban Release Area with potential for up to 4500 residential lots.

### 3.2 Strategic policy

10. The *Hunter Regional Plan 2041* (NSW Government, 2022) sets out the NSW Government's strategic vision for the Hunter region. It aims to strengthen the region's economic resilience, maintain its well-established economic and employment bases, and build on its existing strengths to foster greater market and industry diversification. It also aims to protect its diverse terrestrial and aquatic ecological systems, conserve its heritage values, and create thriving communities that enrich the quality of life and wellbeing of their residents.
11. Importantly, the Plan emphasises the need to manage different land uses in pursuit of complementary outcomes and attainment of its overriding goals. The increased demand for construction materials that could be partially met by the Project, combined with the surrounding rural and residential development and the recognised historic, tourism and ecological values of the region, prompts the need for careful and balanced consideration of these potentially competing land uses.

### 3.3 Resource and markets

12. The hard rock resource comprises a mixture of rhyolite, rhyodacite and conglomerate. Products from the quarry would be suitable for road bases, and a range of aggregates used for ballast, drainage, concrete and road surfaces.
13. Testing commissioned by Eagleton Rock Syndicate indicates that the rhyolite and rhyodacite resource would meet Transport for NSW (TfNSW) specifications for high Polishing Aggregate Friction Value<sup>1</sup> (PAFV). These high PAFV aggregates are typically used in the construction of intersections, roundabouts and other areas where high-grip road surfaces are required.
14. The quarry would primarily supply the Hunter, Central Coast and Sydney construction markets. Owing to their relative proximity to these markets and key transportation corridors including the Pacific Highway, Hunter Expressway and New England Highway there are several other existing and proposed hard rock quarries within approximately 25 km of the Project (see **Table 3-1**). While it is difficult to quantify the amount of hard rock material required over the next few years, the recent influx of SSD applications for hard rock quarries in the region points to a strong demand for hard rock material in the short-to-medium term.

**Table 3-1 | Proposed, approved and operating SSD hard rock quarries within 25 km of the Project**

Proposal / Project	Location	Production rate	Status
<b>Hillview Quarry</b>	Stroud	750,000 tpa over 20 years	Applicant preparing EIS
<b>Seaham Quarry</b>	Eagleton	2 Mtpa over 30 years	DA lodged, under assessment
<b>Stone Ridge Quarry</b>	Balickera	1.5 Mtpa over 30 years	DA lodged, under assessment
<b>Karuah South Quarry</b>	Karuah	600,000 tpa over 30 years	DA lodged, under assessment
<b>Deep Creek Quarry</b>	Allworth	500,000 tpa over 30 years	Approved in 2024, not yet operating
<b>Brandy Hill Quarry</b>	Brandy Hill	1.5 Mtpa until July 2050	Operating quarry approved in 2020
<b>Karuah East Quarry</b>	Karuah	1.5 Mtpa until December 2034	Operating quarry approved in 2014

<sup>1</sup> PAFV refers to a test result for aggregates obtained through skid resistance testing in a laboratory.

### 3.4 Demand for construction materials

15. The construction sector is a key contributor to economic growth in NSW, employing approximately 370,000 workers and contributing 45% of the NSW taxation revenue base.
16. The need for infrastructure investment in NSW, including within the Hunter region, is identified in several key State and regional strategy documents, including:
  - *Future Transport Strategy: Our vision for transport in NSW* (TfNSW, 2022), which sets the strategic direction for TfNSW to achieve world-leading mobility for customers, communities, businesses and people. Within the Lower Hunter and Newcastle regions this includes establishing better road, rail and freight connections with the aim of creating ‘30-minute cities’;
  - *Hunter Regional Plan 2041* (NSW Government, 2022), which predicts that the Hunter region will require an additional 101,800 dwellings by 2041 to meet the needs of a growing population. The Plan also recognises the Hunter region as a leading regional economy and identifies the need for additional employment land, expanded freight and passenger rail networks, and better inter-regional transport connections; and
  - *State Infrastructure Strategy 2022-2042: Staying ahead* (NSW Government, 2022), which sets out Infrastructure NSW’s independent advice to the NSW Government on the State’s needs and strategic priorities for infrastructure over the long term. The Strategy identifies that the future infrastructure investment pipeline in NSW remains healthy and consistent with the commitments of the past 10 years. It also recommends that infrastructure spending should target freight and energy infrastructure and provide for productive regional industries and connected regional communities.
17. To meet the identified infrastructure needs, the NSW Government has committed over \$108 billion in infrastructure spending over the four years to 2025. This infrastructure pipeline includes multi-billion dollar road and rail projects in the Sydney metropolitan area, new and upgraded education and health infrastructure throughout the State, and several major infrastructure projects within the Hunter region, including the Newcastle Power Station, Jesmond to Rankin Park Bypass, M1 Pacific Motorway Extension to Raymond Terrace, and Lower Hunter Freight Corridor, that will require a reliable and affordable supply of hard rock quarry products over the next few years.

# 4 Statutory context

## 4.1 Permissibility and assessment pathway

18. Details of the legal pathway under which consent is sought and the permissibility of the project are provided in **Table 4-1** below.

**Table 4-1** | Permissibility and assessment pathway

Consideration	Description
<b>Assessment pathway</b>	<p><b>State significant development</b></p> <p>The Project is an extractive industry development that would extract 600,000 tonnes of extractive materials per year from a total resource of more than 5 million tonnes. Accordingly, the Project is declared to be State Significant Development (SSD) under section 4.36 of the EP&amp;A Act, as it meets the criteria specified in clause 7 of Schedule 1 of the <i>State Environmental Planning Policy (Planning Systems) 2021</i> (Planning Systems SEPP).</p>
<b>Consent authority</b>	<p><b>Independent Planning Commission (the Commission)</b></p> <p>The Commission is the declared consent authority under section 4.5(a) of the EP&amp;A Act and section 2.7(1) of the Planning Systems SEPP as more than 50 unique public submissions objecting to the Project were received.</p>
<b>Permissibility</b>	<p><b>Permissible with consent</b></p> <p>The site is zoned RU2 Rural Landscape under the <i>Port Stephens Local Environmental Plan 2013</i> (PSLEP 2013). The Project is defined as an extractive industry under PSLEP 2013. Extractive Industries are permissible with consent in the RU2 land use zone.</p> <p>Furthermore, clause 2.9(b)(i) of the <i>State Environmental Planning Policy (Resources and Energy) 2021</i> provides that development for the purpose of extractive industry is permissible with development consent on land on which development for the purpose of agriculture may be carried out, which includes the proposed Project site.</p> <p>Therefore, the Department considers that the Project is permissible with development consent</p>

## 4.2 Integrated and other NSW approvals

19. Under Section 4.41 of the EP&A Act, several approvals are integrated into the SSD approval process and consequently are not required to be separately obtained for the proposal. These include:
- approvals relating to heritage required under the *National Parks and Wildlife Act 1974* and the *Heritage Act 1977*; and
  - certain water approvals under the *Water Management Act 2000*.
20. Under Section 4.42 of the EP&A Act, several other approvals (if required) cannot be refused and must be granted in terms substantially consistent with any consent granted for the Project. This includes:
- consents under the *Roads Act 1993*; and
  - an EPL under the *Protection of the Environment Operations Act 1997*.
21. The Department has consulted with and considered the advice of the relevant government agencies responsible for these other approvals (see **Section 32**) and considered their advice in its assessment of the Project (see **Section 6**).

## 4.3 Water licensing

22. The Project is predicted to require a maximum of 7.5 megalitres per year (ML/year) of licensed groundwater allocation from the *Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources 2016* (Sydney Basin – North Coast Groundwater Source) to account for the inflow of groundwater into the quarry pit. Eagleton Rock Syndicate notes that there are available entitlements and has committed to obtaining the requirement groundwater entitlements for the Project.
23. The Project is not expected to require any licensed surface water entitlement. The surface water demand for the Project is predicted to remain within the harvestable rights provisions for landholders set out in the *Water Management Act 2000* (WM Act).

## 4.4 Mandatory matters for consideration

### 4.4.1 Matters of consideration required by the EP&A Act

24. Section 4.15 of the EP&A Act sets out matters to be considered by a consent authority when determining a development application. The Department's consideration of these matters is shown in **Table 4-2** below.

**Table 4-2 | Matters for consideration**

Matter for consideration	Department's assessment
Applicable environmental planning instruments	<b>Appendix C &amp; Appendix D</b>
Issues raised in submissions	<b>Section 32</b> - Engagement & <b>Section 6</b> - Assessment
The likely environmental, social and economic impacts	<b>Section 6</b> - Assessment
The suitability of the site for the development	<b>Section 3</b> - Strategic Context and <b>Section 6</b> - Assessment
EP&A Regulation	<b>Appendix C</b>
The public interest	<b>Section 32</b> - Engagement, <b>Section 6</b> - Assessment & <b>Section 7</b> - Evaluation

#### 4.4.2 Objects of the EP&A Act

25. In determining the application, the consent authority should consider whether the project is consistent with the relevant objects of the EP&A Act (s 1.3) including the principles of ecologically sustainable development. Consideration of those factors is described in **Appendix C**.
26. As a result of the analyses in **Appendix C**, the Department is satisfied that the development is consistent with the objectives of the EP&A Act and the principles of ecologically sustainable development (ESD).

#### 4.4.3 Biodiversity assessment report

27. Section 7.9(2) of the *Biodiversity Conservation Act 2016* (BC Act) generally requires all SSD applications to be accompanied by a Biodiversity Development Assessment Report (BDAR). However, clause 28(1) of the *Biodiversity Conservation (Savings and Transitional) Regulation 2017* provides that “The former planning provisions continue to apply ... to the determination of a pending or interim planning application”.
28. The Department notes that the Project is a “pending or interim planning application” under this regulation. As a result, although the *Threatened Species Conservation Act 1995* (TSC Act) was

repealed by the BC Act, some provisions of the TSC Act that would be in force if it had not been repealed (such as assessment guidelines) continue to apply to the Project.

29. For this reason, the application was accompanied by a Biodiversity Assessment Report (BAR) and Biodiversity Offset Strategy (BOS) (see **Appendix B**) prepared in accordance with the 2014 *Framework for Biodiversity Assessment – NSW Biodiversity Offsets Policy for Major Projects* (FBA), rather than a BDAR.
30. Because the development application was lodged before 1 March 2020, the Project must also be assessed under SEPP 44 (see **Section 6.1** and **Appendix E**) as it existed at the time of the application, despite more recent amendments to SEPPs governing impacts of developments on Koalas.

## 4.5 Commonwealth matters

31. The EIS concluded that the Project was not likely to have a significant impact on any Matters of National Environmental Significance listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Therefore, Eagleton Rock Syndicate did not refer the application to the Commonwealth Department of Climate Change, Energy, the Environment and Water (AG DCCEEW) (formerly Department of Agriculture, Water and the Environment) to request a determination on whether the Project was a ‘controlled action’ requiring approval under the EPBC Act. Consequently, AG DCCEEW has not made a determination on whether the project is a controlled action requiring such an approval.
32. Accordingly, the Department has not undertaken an assessment of impacts to MNES in accordance with the Bilateral Agreement between the NSW and Commonwealth Governments. Should the project be declared a controlled action, Eagleton Rock Syndicate would be required to seek approval under the EPBC Act separately from the AG DCCEEW.

# 5 Engagement

## 5.1 Department’s engagement

33. The Department publicly exhibited the original Project from 3 February to 2 March 2017 (28 days). The amended Project was also publicly exhibited for 28 days from 10 October to 6 November 2023.
34. The Department advertised the exhibition of the original and amended Project in the Newcastle Herald and Port Stephens Examiner. The Department also notified adjoining and nearby landowners and sought advice from key government agencies and Port Stephen Council.

35. The Department carried out site visits on 20 November 2017 and 20 June 2023.
36. The Department considers that its engagement process met the community participation requirements of the EP&A Act and associated EP&A Regulation.

## 5.2 Summary of submissions

37. A total of 49 community submissions were received during exhibition of the original Project, including 48 from individuals and one from a special interest group. These submissions comprised:
  - 47 (96%) objecting to the original Project, including 46 from individuals and one from a specialist interest group; and
  - two (4%) individuals commenting on the original Project.
38. Of the 47 objecting submissions, 44 were considered to be unique submissions. The remaining three were duplicates that have not been counted as unique objecting submissions.
39. A total of 21<sup>2</sup> community submissions were received during exhibition of the amended Project, including 16 from individuals and five from special interest groups. These submissions comprised:
  - 20 (95%) objecting to the amended Project, including 15 from individuals and five from special interest groups; and
  - 1 (5%) individual commenting on the amended Project.
40. Of the 20 objections received, 19 were considered to be unique submissions. The remaining objection was a duplicate that has not been counted as a unique objecting submission.
41. In total, the exhibitions of the original and amended Project attracted 63 unique objecting submissions. A link to all submissions in full is provided in Error! Reference source not found.. A summary of the issues raised in community submissions is provided in **Section 5.5**.

## 5.3 Agency advice

42. Several State government agencies raised issues or expressed concerns about specific aspects of the Project and/or provided recommendations relating to their administrative or

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<sup>2</sup> On 22 February 2024, following discussions with Eagleton Rock, a submitter contacted the Department advising that they withdrew their objections to the Project and requested that items raised in the submission would be noted as comments. The Department understands that Eagleton Rock has committed to installing a noise and dust monitor at the submitter's property. The number of objections in this report have been updated accordingly.

regulatory responsibilities. A link to all advice received from agencies is provided in **Appendix B**.

43. A summary of the comments made by State government agencies is provided below in **Table 5-1**.

Table 5-1 | Summary of agency advice

Agency	Summary of advice
<b>Transport for NSW</b>	<ul style="list-style-type: none"> <li>• Objected to the original Project due to concerns with impacts to the safety and efficiency of the Italia Road/Pacific Highway intersection from road haulage of quarry products.</li> <li>• Provided in-principal support for the amended project and the proposed upgrade of the Italia Road/ Pacific Highway intersection.</li> <li>• Advised that it does not object to the amended Project providing no quarry products are transported until the Italia Rd/Pacific Highway intersection is upgraded.</li> </ul>
<b>Hunter Water Corporation (Hunter Water)</b>	<ul style="list-style-type: none"> <li>• Requested additional information to demonstrate that the Project would have a Neutral or Beneficial Effect (NorBE) on water quality. This is discussed further in <b>Section 6</b>.</li> <li>• Advised that its residual concerns regarding potential impacts on water quality (for the original Project), could be addressed through suitable conditions of consent, and a comprehensive Water Management Plan.</li> <li>• Recommended a detailed stormwater drainage plan be prepared and implemented to manage runoff from the new right of carriageway.</li> </ul>
<b>NSW Environment Protection Authority (EPA)</b>	<ul style="list-style-type: none"> <li>• Made recommendations for the management and disposal of mulched vegetation cleared from the site and the existing onsite stockpile of rejected tiles.</li> <li>• Recommended that adequate capacity is maintained within onsite water storages, including installation of level or volume indicators.</li> <li>• Noted an EPL will be required for the site in the event the Project is approved.</li> <li>• Noted the air quality modelling was based on the new right of carriageway and Italia Rd being sealed.</li> <li>• Following review of the amendment report, requested a revision to the Noise and Vibration Impact Assessment (NVIA) to align with the <i>Noise Policy for Industry</i> (NPf); and</li> <li>• Following review of additional information, commented that it's previous concerns with the NVIA had been adequately addressed and provided recommended conditions of consent.</li> </ul>

Agency	Summary of advice
<b>Former OEH (now Biodiversity Conservation and Science group within NSW Department of Climate Change, Energy, the Environment and Water (BCS))</b>	<ul style="list-style-type: none"> <li>• Requested additional information concerning biodiversity matters in the EIS. Following review of the original Submissions Report, advised that the proposed Biodiversity Offset Strategy should be adopted as conditions of consent.</li> <li>• Advised that the EIS adequately addressed any flooding/floodplain management issues.</li> <li>• Advised it had no comments on the amended Project.</li> </ul>
<b>Former DPI Water (now Water Group within NSW Department of Climate Change, Energy, the Environment and Water (Water Group))</b>	<ul style="list-style-type: none"> <li>• Originally provided advice regarding recommended conditions of consent, and water licensing requirements.</li> <li>• Requested to be consulted in the development of any recommended Water Management Plan and Biodiversity Management Plan.</li> <li>• Advised that it had no comments on the amended Project.</li> </ul>
<b>DPI Fisheries</b>	<ul style="list-style-type: none"> <li>• Advised that Seven Mile Creek is a key fish habitat and recommended conditions to ensure safe passage of fish.</li> </ul>
<b>Department of Regional NSW – Mining, Exploration and Geoscience</b>	<ul style="list-style-type: none"> <li>• Recommended a condition requiring Eagleton Rock to provide annual production data.</li> <li>• Advised that it had no comments on the amended Project.</li> </ul>
<b>Heritage NSW (including the Heritage Council of NSW)</b>	<ul style="list-style-type: none"> <li>• Heritage NSW advised that: <ul style="list-style-type: none"> <li>– the additional information provided in the original Submissions Report adequately addressed its concerns; and</li> <li>– the amended Project would not result in any additional heritage impacts beyond those already assessed in original Project.</li> </ul> </li> <li>• Heritage Council of NSW advised: <ul style="list-style-type: none"> <li>– it had no comments on the amended Project; and</li> <li>– recommended conditions for the management of unexpected finds and potential relics.</li> </ul> </li> </ul>
<b>Rural Fire Service (RFS)</b>	<ul style="list-style-type: none"> <li>• Advised that the subject land is considered a high bushfire risk.</li> <li>• Made recommendations for bushfire management requirements during construction and operation of the Project.</li> </ul>

Agency	Summary of advice
<b>NSW Health</b>	<ul style="list-style-type: none"> <li>• Noted some sensitivity in the community associated with nearby development proposals including the future Kings Hill Residential Area and requested ongoing community consultation is undertaken during assessment and (if approved) operation of the Project.</li> <li>• Requested Eagleton Rock Syndicate commit to implementing mitigation measures in the event of unpredicted exceedances of the air quality impact assessment criteria.,</li> <li>• Recommended regular testing of drinking water at facilities with a private supply.</li> <li>• Recommended the wastewater and effluent management system is approved by the relevant authority.</li> <li>• Recommended review of noise and blasting operations in consultation with the community to minimise the effect of noise emissions.</li> </ul>
<b>NSW Resources Regulator</b>	<ul style="list-style-type: none"> <li>• Advised that it had no comments on the amended Project.</li> </ul>

## 5.4 Council submissions and advice

44. Council made the following comments on the original Project:

- raised concerns with:
  - the adequacy of the biodiversity assessment with regard to impacts to hollow-bearing trees, koalas, fauna movement corridors, aquatic ecology and riparian vegetation and questioned whether the proposal may require referral under the EPBC Act;
  - the adequacy of the traffic assessment and proposed transport route;
  - the proposed water management system; and
  - aspects of the social and economic assessments; and
- made recommendations for road maintenance contributions to be provided in accordance with Council’s local infrastructure contributions plan;

45. Council made the following comments on the amended Project:

- recommended a condition of consent requiring the new right of carriageway is constructed prior to the commencement of Project construction;
- requested that biodiversity offsetting for the new right of carriageway be included within the offsetting obligations for the Project;

- requested that determination of the Project is deferred until the separate Italia Road / Pacific Highway intersection upgrade development application (proposed to be lodged with Council) is determined;
  - provided recommendations for the proposed design and operation of Italia Road / Pacific Highway intersection upgrade;
  - recommended conditions of consent for managing early morning and evening night-time noise impacts;
  - provided recommendations for road maintenance contributions in accordance with Council's local infrastructure contributions plan; and
  - requested further consultation regarding recommended conditions of consent prior to determination of the Project.
46. Following review of the Amended Project Submissions Report, Council acknowledged that Eagleton Rock Syndicate had accepted several of Council's recommendations. It also indicated its comments regarding biodiversity offsetting had been addressed and acknowledged that further assessment of traffic and road safety would be undertaken as part of the separate development application for the Italia Road / Pacific Highway intersection upgrade.
47. The Department has considered Council's advice in **Section 6** and in the development of its recommended conditions (see **Appendix D**).

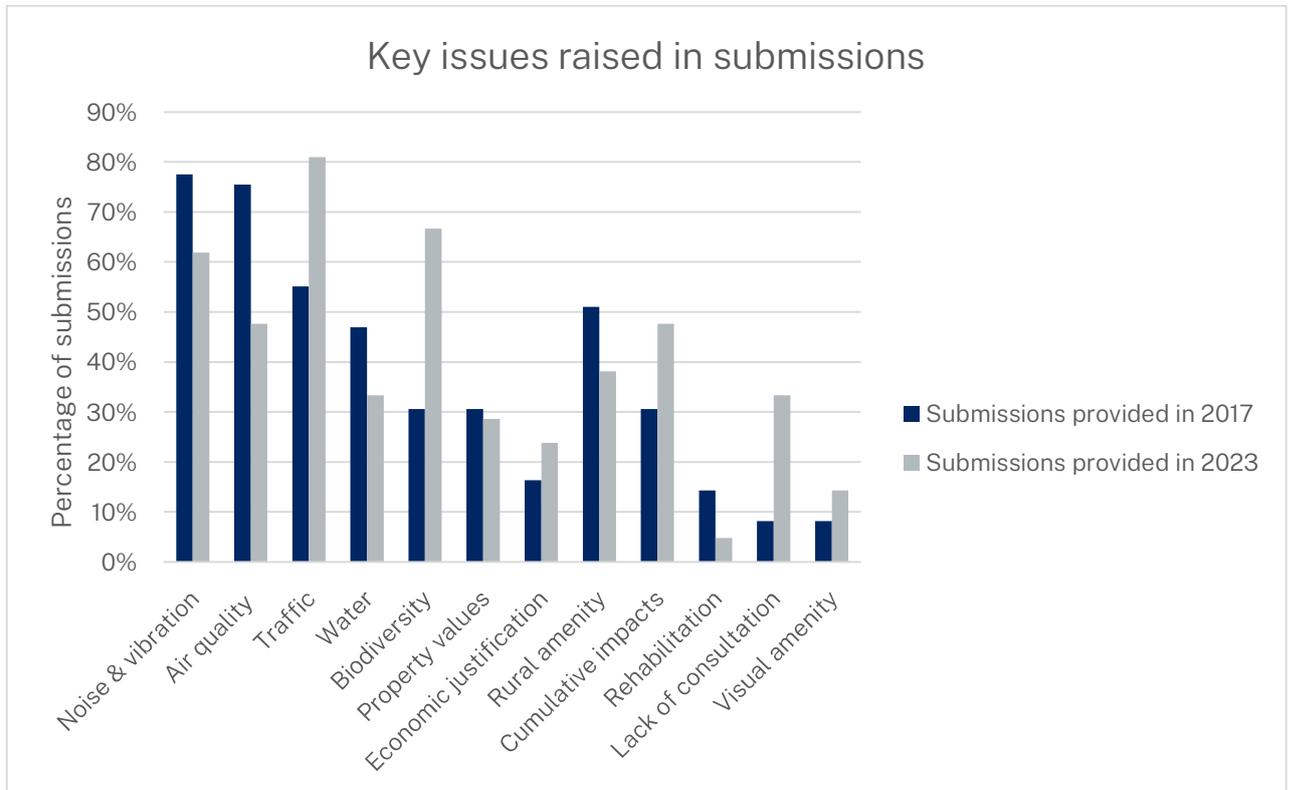
## 5.5 Community submissions

48. The Department received a total of 65 submissions<sup>3</sup> during the public exhibition of the Project (8 submissions from special interest groups and 57 submissions from individuals). Further representations from submitters were received following each exhibition. 64 submissions objected to the project, and one provided comment. A link to all submissions in full is provided in Error! Reference source not found..
49. The majority of submitters were located within 15 km of the Project, with 71% of submitters from the 2017 exhibition and 70% of submitters from the 2023 exhibition from the nearby locations of Eagleton, East Seaham, Seaham, Balickera and Raymond Terrace.

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<sup>3</sup> Each petition or submission that contains the same or substantially the same text is counted as one submission in accordance with section 2.7(6) of the Planning System SEPP.

50. The key issues raised by the community relate to traffic, noise, air quality, biodiversity, rural amenity and cumulative impacts. **Figure 5-1** shows the frequency of issues raised by submitters as a percentage, and also shows how key issues changed between 2017 and 2023.



**Figure 5-1 | Key issues raised by submitters in 2017 and 2023**

51. Submitters remain concerned with the amended Project’s noise and air quality impacts, however submitters are also concerned with the amended Project’s traffic, biodiversity, and cumulative impacts.
52. The key concern with traffic relates to road safety with trucks travelling along Barleigh Way Road and Italia Road. Other concerns include noise from early operating hours, clearing of native vegetation, the number of trucks on the roads in this area in addition to those from other nearby quarry operations.

## 5.6 Response to submissions and amendment report

53. Following each public exhibition period, the Department asked Eagleton Rock to respond to the issues raised in submissions and the advice received from government agencies.
54. Eagleton Rock Syndicate provided to the Department:
- a submissions report on 13 October 2017;
  - an amendment report on 11 September 2023; and

- a Project amendment submissions report on 22 December 2023.

55. The Department published the above documents on the NSW planning portal and forwarded to relevant government agencies and Council for comment. **Appendix B** provides links to the advice received from government agencies and Council.

## 6 Assessment

56. Owing to the Project's potential for amenity impacts on nearby residents, noise and air quality were key assessment issues for the Department. Due to the proposed road haulage of quarry products and concerns over the use of the Italia Road intersection with the Pacific Highway, impacts on the safety and efficiency of the road network was another focus of the Department's assessment. Lastly, given that the Project proposes the clearing of remnant vegetation within the Grahamstown Dam drinking water catchment, impacts to biodiversity and water resources were also key assessment issues for the Department.

### 6.1 Noise

57. Noise was the key issue raised in public submissions, with 86% of objecting submissions raising concerns that noise associated with the Project could affect the sleep and amenity of surrounding residents. Numerous submissions also raised cumulative noise impacts associated with the Boral Seaham Quarry and other recreational operations in the area as a concern, and several submissions indicated that removing the hill between the quarry and receivers would exacerbate these impacts.

58. The Department considers that the aspects of the Project that have the greatest potential for adverse noise impacts are those associated with noise from:

- operation of plant and equipment during extraction, processing and truck loading; and
- road haulage activities, particularly during the early morning shoulder period (i.e. 5 am - 7 am).

59. The EIS included an Acoustic Assessment prepared by Global Acoustics Pty Ltd which assessed the construction, operational and traffic noise impacts associated with the Project. EPA raised several issues in relation to the assessment, including that it did not assess impacts on the future residential land release area of Kings Hill and that the design of the quarry did not incorporate all feasible and reasonable noise mitigation measures, including noise barriers.

60. In response to the EPA and public submissions, Eagleton Rock Syndicate changed extraction scheduling and redesigned parts of the quarry to minimise noise impacts, including:

- commencing quarrying along the northern side of the natural ridgeline to the south of the quarry, and progressing in a south easterly direction, using the natural topography as a natural acoustic barrier;
  - relocating the processing plant to the northern part of the quarry at an excavated relative level (RL) of 45 m; and
  - maintaining the existing hill along the southern boundary as a barrier to the processing plant to a height of no less than RL 57.5 m until the final year of quarrying operations when it will be removed to provide a suitable final landform and supplemented by a temporary barrier.
61. A new Noise Impact Assessment (NIA) was prepared by Spectrum Acoustics Pty Ltd (Spectrum) as part of the submissions report. This NIA reflected the redesigned quarry and specifically assessed potential noise impacts on the Eagleton Ridge respite centre and the future Kings Hill Estate residential area. A revision to this NIA was subsequently prepared as part of the amended DA to assess the traffic noise impacts associated with the use of the new right of carriageway by quarry haulage trucks.
62. Given the extended period of time between the preparation of the initial acoustic assessment completed in 2017 and the new NIA, the EPA required that the assessment be revised to strictly adhere to the requirements of the Noise Policy for Industry (NPfI) (EPA, 2017) which was released after the original acoustic assessment was prepared. A revised NIA was subsequently prepared to assess the noise impacts associated with the Project with reference to the NPfI, as well as the Voluntary Land Acquisition and Mitigation Policy (VLAMP) (NSW Government, 2018) and NSW Road Noise Policy (RNP) (EPA, 2011).
63. The EPA accepted the revised NIA and provided recommended conditions of consent. On this basis, the Department considers that the revised NIA and additional noise assessment information provided is adequate to assess the noise impacts associated with the Project.

### 6.1.1 Existing noise environment

64. The existing noise environment in the vicinity of the proposed quarry is typical of a rural and rural-residential land use setting. The key contributors to the acoustic environment are vehicles travelling along the Pacific Highway and local roads, the neighbouring quarry and intermittent use of surrounding recreational facilities (i.e. Motocross track and Speedway). A topographic ridgeline along the southern portion of the proposed quarry site provides a natural noise attenuation shield to the site.
65. The location of noise sensitive receptors is shown in **Figure 6-1**. These include 68 residential receptors and 6 commercial/industrial receptors. The majority of the residential receptors are

located to the south of the proposed quarry along Six Mile Road and Winston Road, with the closest being (Receiver 8) located approximately 800 m to the south of the proposed site boundary. The Eagleton Ridge respite centre (Receiver 6) is located approximately 950 m to the south. Receiver IDs 4B and 4C were mapped to provide indicative noise impacts for potential residential dwellings proposed within the closest area of the Kings Hill development approximately 1 km to the south-east.

66. Eagleton Rock Syndicate confirmed it has a negotiated agreement in place with the owners of the adjacent Garland Managers House (Receptor 23), hence the predicted impact on this receiver has not been discussed below. The Department has recommended a condition requiring Eagleton Rock Syndicate to notify it of the terms of this agreement.
67. Spectrum utilised historical noise logging data collected from the area in 2012 (from locations NM1 and NM2 on **Figure 6-1**) to derive background noise levels. When comparing this data with recent background data collected for the proposed Stone Ridge Quarry NIA (Umwelt, 2023), Spectrum considered it conservative and therefore appropriate. Noise enhancing meteorological conditions were determined to be a significant feature of the area during evening and night-time periods. Spectrum confirmed that these conditions were therefore assessed in the revised NIA for the noise predictions during the morning shoulder period. The Project Noise Trigger Levels (PNTLs) derived for the Project were based on the more stringent “intrusive noise” limits specified in the NPfl. EPA accepted this approach.

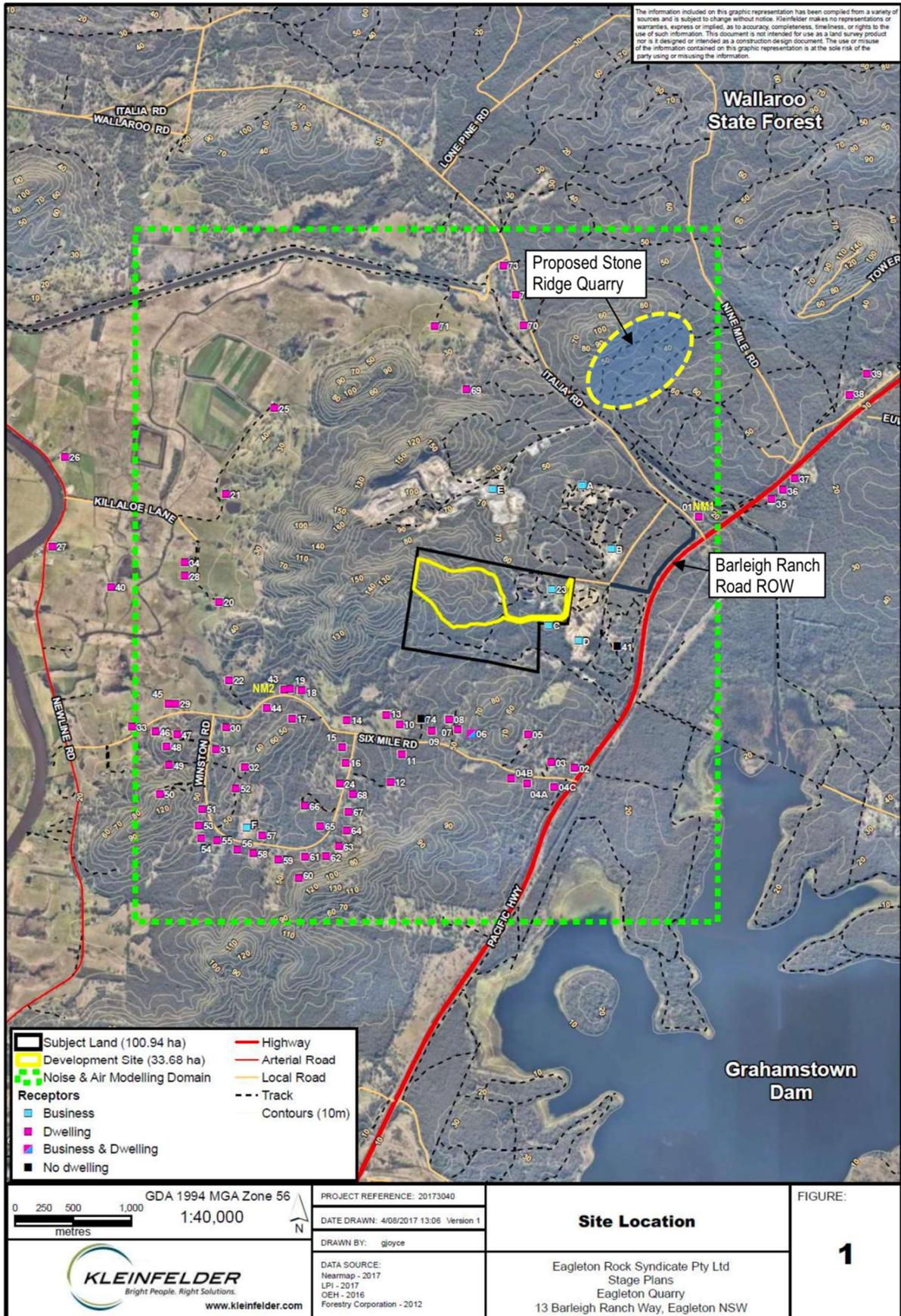


Figure 6-1 Receiver Locations

### 6.1.2 Noise mitigation measures

68. As discussed above, Eagleton Rock Syndicate committed to redesign the quarry to maintain the existing hill along the southern boundary of the site to a height of no less than RL 57.5m until the final year of quarry life. This is designed to provide a significant acoustic shield during quarrying operations. Further, Eagleton Rock Syndicate relocated the processing plant to the northern part of the quarry, on a low elevation further away from residential receptors. In addition, Eagleton Rock Syndicate committed to:
- limit processing and extraction activities to 7 am – 6 pm Monday to Friday and 7 am to 4 pm Saturdays, with none during night-time periods;
  - maintain all vehicles and equipment in correct working order;
  - select quiet equipment and plant where practicable;
  - utilise broadband reversing alarms on mobile plant and equipment;
  - train all personnel in relation to noise issues;
  - implement a community consultation program, including a 24-hour hotline for complaints and procedures for responding to complaints; and
  - prepare and implement a Noise Management Plan.
69. Both EPA and the Department support these measures and consider that they represent acceptable reasonable and feasible noise mitigation.

### 6.1.3 Predicted noise impacts

#### *Operational noise*

70. Spectrum modelled four operational scenarios, including quarrying operations at the start of Year 2; Year 5; Year 30A (extraction behind 5 m bench); and Year 30B (extraction and drilling at natural ground level RL 57.5 m, to provide a worst-case). The worst-case noise level predictions from these scenarios for all sensitive receivers are presented in **Table 6-1**.
71. The noise modelling results predict that noise levels from worst-case quarry operations would be well below the PNTL at all receivers at all stages of the quarry life.
72. In particular, the Department notes that there would be no unacceptable noise impacts at the Eagleton Ridge respite centre (i.e. Receiver 6). Noise levels at this location would range from 25-31 dB(A) at this receiver, which are 10 dB and more below the PNTL of 41 dB(A).

73. Predicted noise levels indicate that no residence or privately-owned land (not under an existing noise negotiated agreement) would be subject to voluntary mitigation or land acquisition rights in accordance with the VLAMP.
74. The Department and EPA accept that the proposed quarrying operations would cause negligible noise impacts at all receptor locations.

*Sleep disturbance (morning shoulder)*

75. Eagleton Rock Syndicate propose to undertake product dispatch activities during the morning shoulder period (i.e. 5 am-7 am) Monday to Saturday, which is classified as part of the ‘night-time’ noise period in accordance with the NPfl. These activities would involve loading of empty trucks and movement of the trucks to and from Italia Road.
76. The relevant PNTL at a residential location during night-time periods is 40 dB(A) LAeq15 min. As indicated in **Table 6-1**, the maximum predicted off-site operational noise level at any assessed receptor is 34 dB(A) at Receiver 8. This is 6 dB(A) below the morning shoulder noise trigger level of 40dB(A). The proposed product dispatch activities are therefore unlikely to cause sleep disturbance at any residential receiver.

Table 6-1 | Predicted worst-case noise levels

Receiver	PNTL dB(A), LAeq(15min)		Predicted worst case noise level dB(A), LAeq(15min)
	Day	Morning shoulder	
<b>1, 2, 3, 04A-04C (indicative Kings Hill dwellings), 14, 63, 65, 66</b>	49	40	<24
<b>5, 10-13, 15, 16, 17, 18-22, 24-40, 43-62, 64, 67-73</b>	41	40	<30
<b>6 (Eagleton Ridge respite centre)</b>	41	40	31
<b>7</b>	41	40	33
<b>8</b>	41	40	34
<b>9</b>	41	40	32
<b>41 (no dwelling)</b>	49	43	35

Receiver	PNTL dB(A), LAeq(15min)		Predicted worst case noise level dB(A), LAeq(15min)
	Day	Morning shoulder	
<b>74 (no dwelling)</b>	41	40	30
<b>A (MG Car Club Hill Climb Track)</b>	65	N/a	29
<b>B (Circuit Italia car racing circuit)</b>	65	N/a	40
<b>C (Hunter Valley Paintball)</b>	65	N/a	45
<b>D (MX Central Motor Cross and Speedway)</b>	65	N/a	42
<b>E (Boral Seaham Quarry)</b>	65	N/a	35
<b>F (Quarry Winston Road)</b>	65	N/a	<20

### *Cumulative noise*

77. The NPfI states that the cumulative daytime amenity noise limit of 50 dB(A) should not be exceeded. Spectrum confirmed that the PNTLs were based on the intrusive noise limits, which are 4 dB(A) less than the amenity noise limits. Since predicted operational noise levels are well below the PNTLs, even further below the amenity noise limit, cumulative noise levels would be acceptable, and no further consideration of cumulative noise is required under the provisions of the NPfI. The Department accepts this outcome.

### *Road noise*

78. The Project would generate a maximum of 170 heavy vehicle movements per day, with a maximum of 20 movements during the morning shoulder peak hour period traveling along Italia Road, the new right of carriageway and Barleigh Ranch Way to and from the quarry. Spectrum indicated that the potentially most impacted receiver is Receiver 1 located 51 m from Italia Road near its intersection with the Pacific Highway.
79. The RNP recommended criterion for arterial roads such as Italia Road is 50 dB(A), Leq(1 hour). Spectrum conducted point calculation modelling which predicted that the additional trucks associated with the Project would result in a road traffic noise level at Receiver 1 of 43 dB(A), Leq(1 hour) which is significantly below the RNP criterion. If the additional traffic generated by the Stone Ridge Quarry is also added to the noise modelling, Spectrum predicted that a

cumulative noise level of 46 dB(A) would be experienced at the nearest dwelling, which remains below the applicable criterion for the most critical morning shoulder period.

#### **6.1.4 Noise monitoring, mitigation and management**

80. In accordance with EPA recommendations, the Department has recommended conditions requiring Eagleton Rock Syndicate to employ best practice noise management and to take all reasonable steps to manage construction, operational and road noise generated by the Project. The recommended conditions also require Eagleton Rock Syndicate to:

- maintain the existing ridgeline along the southern boundary of the site as an acoustic barrier to the quarrying operations to a height of no less than RL 57.5m until the final year of quarrying operations;
- conduct noise monitoring and assessment prior to removal of the ridgeline in the final year of quarrying operations, to determine the appropriate temporary noise barrier location and design to ensure noise limits set in the consent are met;
- undertake noise monitoring at least quarterly during operations to determine compliance with the applicable noise criteria;
- regularly assess the noise monitoring data, and modify or stop operations on the site to ensure noise compliance; and
- establish suitable protocols for receiving and handling community complaints and investigating any potential exceedances.

81. The Department considers that with implementation of Eagleton Rock Syndicate's proposed design mitigation measures and the recommended noise management and monitoring conditions, noise impacts on affected sensitive receivers can be appropriately mitigated and managed during both construction and operation of the Project.

#### **6.1.5 Summary**

82. The Department and EPA consider that the revised NIA has been prepared in accordance with the relevant government guidelines and policy, including the NPfl, VLAMP and RNP.

83. The Department is aware that increased noise levels associated with the Project was the key issue raised in public submissions. Notwithstanding these concerns, the Department accepts that the Project is unlikely to exceed any of the recommended noise limits at any of the affected sensitive receiver locations, including at the Eagleton Ridge respite centre.

84. The Department supports the design mitigation, monitoring and management measures proposed by Eagleton Rock Syndicate to reduce predicted noise levels to acceptable levels

during operation of the Project in accordance with the NPfl. The Department has recommended stringent operational noise conditions to ensure this is the case.

## 6.2 Traffic

85. Traffic and transport was a key issue raised in public submissions, with 68% of objecting submissions raising concerns primarily in relation to the safety risks and increased wait times at key intersections along the proposed transport route. Several submissions also questioned the accuracy of the traffic count data presented in the traffic assessments.
86. The EIS and Submissions Report included Traffic Impact Assessments (TIAs) prepared by GHD to assess the potential impacts of the Project on the efficiency and safety of the local and regional road networks. The TIAs included Road Safety Audits (RSA) prepared by Samsa Consulting Pty Ltd (Samsa) to identify existing road safety risks.
87. The then Roads and Maritime Services (now TfNSW) raised concerns in relation to potential adverse impacts on the safety and efficiency of the classified (State) road network, specifically the intersection of the Pacific Highway and Italia Road. TfNSW indicated that the intersection would require upgrading to support the proposed quarrying operations. Council made similar comments.
88. In response to these concerns, Eagleton Rock Syndicate undertook further consultation with surrounding landowners and quarry operators, TfNSW and Council and lodged an Amendment Report that outlined a revised approach for road haulage and access to the Project site. The revised approach proposed upgrading the Pacific Highway / Italia Road intersection prior to undertaking haulage of quarry products. It also included revised arrangements for accessing the quarry site from Italia Road via a new right of carriageway. Information accompanying the Amendment Report included:
  - a Strategic Design Statement (SDS) and TIA prepared by GHD for the Italia Road / Pacific Highway intersection upgrade;
  - a Preliminary Traffic Modelling Report (PTMR) prepared by GHD to assess the capacity of the Taren Road Interchange on the Pacific Highway, which is proposed to be used by outbound quarry vehicles traveling southbound on the Pacific Highway; and
  - details of the development application approved by Council for the construction and operation of a new right of carriageway for the use of all properties located along Barleigh Ranch Way to access Italia Road, including the proposed Eagleton Quarry.
89. Following a review of the Amendment Report, TfNSW confirmed that an Agreement in Principle has been reached in relation to the Italia Road / Pacific Highway intersection upgrade

design. The Department notes that construction of the proposed intersection upgrade would be approved via a separate local DA.

### *Pacific Highway/Italia Road intersection upgrade*

90. The proposed upgrade of the Italia Road / Pacific Highway intersection includes:
  - construction of a dedicated left-turn northbound acceleration lane from Italia Road onto the Pacific Highway;
  - widening the existing bridge over the Balickera Canal (to accommodate the northbound acceleration lane); and
  - lengthening the northbound deceleration lane into Italia Road.
91. Eagleton Rock Syndicate has advised the Department that the cost of the intersection upgrade is approximately \$9.5 Million.
92. As requested by Council, the Department has recommended a condition requiring the Pacific Highway / Italia Road intersection to be constructed to the satisfaction of TfNSW and Council prior to the commencement of quarry product transportation.

#### **6.2.1 Transport route**

93. The local and regional road network proposed to be used as the primary haulage route for the Project would involve trucks travelling from the quarry site for approximately 1.5 km along Barleigh Ranch Way and a new right of carriageway before turning right onto Italia Road, travelling 200 m and turning left onto the Pacific Highway. Quarry trucks making deliveries to the south of Italia Road would then make a U-turn at the Tarean Road Interchange (approximately 10.5 km to the north) and head south along the Pacific Highway (see **Figure 6-2**). The Department notes that the proposed haulage route would involve making a detour of approximately 21 km when compared with the original haulage route presented in the EIS. Key features of the roads along the proposed primary haulage route are presented in **Error! Reference source not found.**

Table 6-2 | Key features of the roads along proposed haulage route

Road	Key features
<b>Internal access road</b>	An internal access road off Barleigh Ranch Way. It includes a crossing of Seven Mile Creek immediately prior to the quarry entrance. This is proposed to be a bridge with a 14.2 m single span, 7 m wide (2 lane) with integrated kerb and handrail. DPI Fisheries has confirmed that Seven Mile Creek is mapped as a Key Fish Habitat. Eagleton Rock Syndicate has committed to ensuring the bridge is above the 1:100-year flood level and in accordance with DPI Fisheries requirements for Key Fish Habitat.
<b>Barleigh Ranch Way</b>	An unsealed local road, which currently provides access to an existing right of carriageway for several properties and recreational businesses surrounding the quarry site, including MG Car Club Hill Climb Track, Hunter Valley Paintball and Circuit Italia car racing circuit. This road is proposed to be upgraded as part of the Project to include a 7 m wide sealed carriageway, with 1 m shoulders on both sides, and extended to the east to connect with the new right of carriageway.
<b>Right of carriageway</b>	A new local road approved by Council but yet to be constructed. The right of carriageway will connect Barleigh Ranch Way with Italia Road through two Lots (i.e. Lot 1 DP245116 and Lot 2 DP1158962) and run parallel to the Pacific Highway for the majority of its length. The road is required to be constructed as a gravel graded road. It would be utilised by all properties located along Barleigh Ranch Way to access Italia Road.
<b>Italia Road</b>	A local road under the care and maintenance of Council which connects the rural localities of Seaham and East Seaham to the Pacific Highway. The road is sealed, with a single lane of traffic in each direction, and a posted speed limit of 90 km/hour. The key generator of heavy vehicle traffic on Italia Road is currently Seaham Quarry.
<b>Pacific Highway (A1)</b>	A major highway under the care and maintenance of TfNSW. Near the Italia Road intersection it is a four lane, two-way sealed road with a 100 km/hour speed limit, used to distribute traffic between Northern NSW, Newcastle, Central Coast and Sydney.
<b>Tarean Road Interchange</b>	Tarean Road is a local road under the care and maintenance of Council, which runs through the town of Karuah, linking the Pacific Highway as each end. The road is a two-lane road with sealed shoulders and a speed limit of 80 km/hr. The Tarean Road southern interchange at the Pacific Highway is located approximately 11 km north of the Quarry and is proposed to be utilised by heavy vehicles to undertake a U-turn and travel south along the Pacific Highway (see <b>Figure 1-2</b> ).

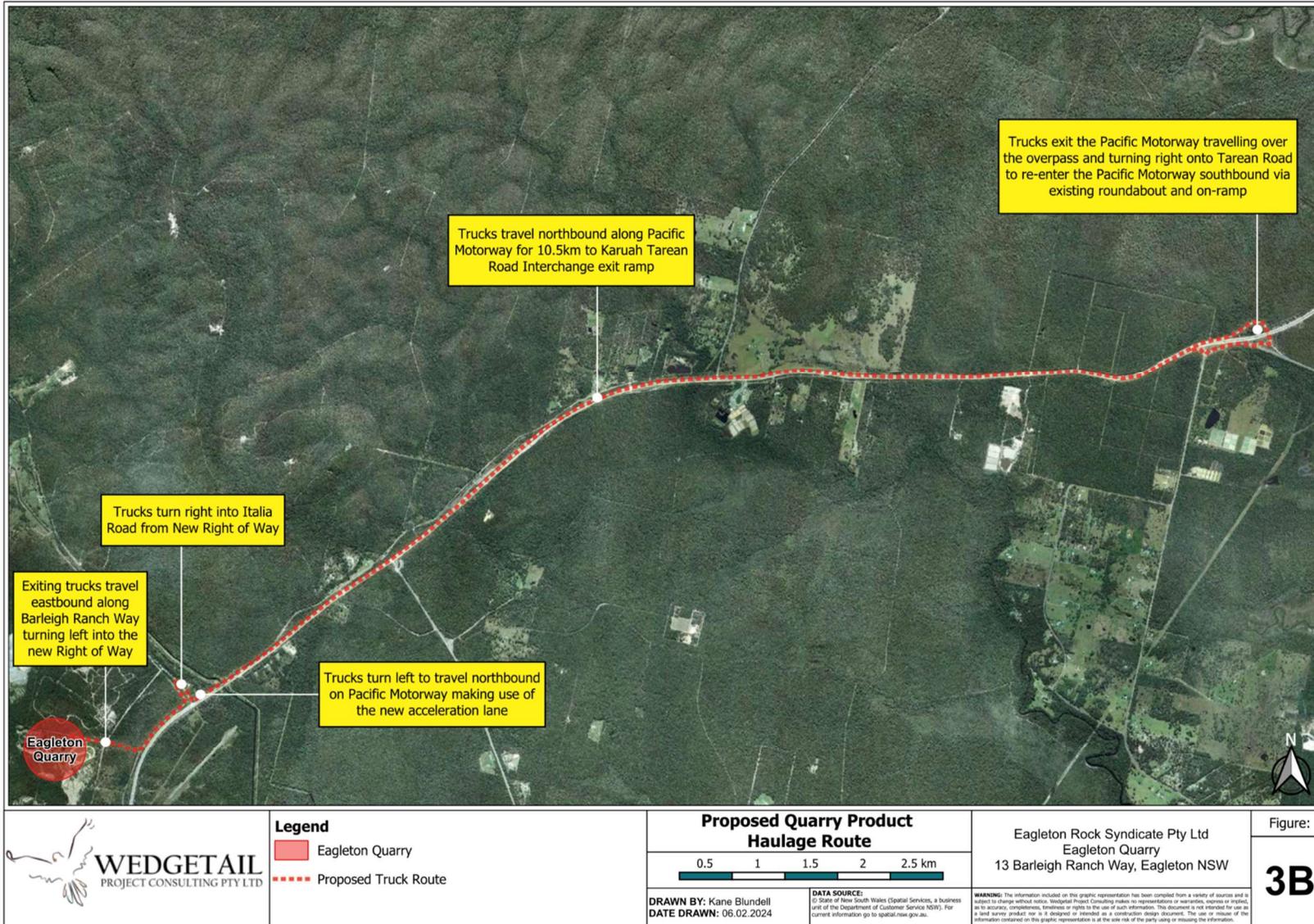


Figure 6-2 Proposed heavy vehicle haulage route for southbound vehicles

## 6.2.2 Traffic predictions and impacts

94. GHD indicated that during operation, the Project would result in maximum traffic movements to and from the site of:
- 192 vehicle trips per day (vtpd), including 170 haulage trucks and 22 light vehicles (employees, service and visitor vehicles); and
  - 31 vehicle trips per hour (vtph) during peak times, including 20 haulage trucks and 11 light vehicles.
95. When compared to existing traffic volumes, the additional maximum vehicle movements associated with the Project represent an increase of around 16% on Italia Road and very minor increases along the Pacific Highway.
96. GHD indicated that during construction of the Project, traffic movements to and from the site are predicted to be less and more sporadic than during operation.

### *Road network and intersection capacity*

97. The TIA modelled the potential impact of the Project on the capacity of the road network and on the performance of the Italia Road / Pacific Highway intersection using the SIDRA Model. The modelling results which represented the upgraded intersection with background growth and additional quarry traffic from all three neighbouring quarries (i.e. the existing Seaham Quarry and the proposed Stone Ridge and Eagleton Quarries) showed that a satisfactory level of service would continue to be experienced by motorists travelling on the Pacific Highway (LoS A).
98. A significantly improved and satisfactory performance was modelled for motorists at the Italia Road / Pacific Highway intersection (once upgraded), with motorists turning left from Italia Road maintaining a LoS of B and motorists turning right experiencing an improved LoS from F to D-E (PM and AM peak, respectively). It is noted that quarry trucks would not be making this right turn movement, instead turning left to use the Tarean Road Interchange for U-turns.
99. Modelling indicated that with the upgrade of the intersection and the diversion of quarry trucks north to the Tarean Road interchange, average wait times for vehicles turning right from Italia Road onto the Pacific Highway would be reduced from 78 seconds (existing conditions) to 42 seconds.
100. The PTMR prepared by GHD identified that there is sufficient capacity at the Tarean Road Interchange to accommodate the additional heavy vehicle movements. The PTMR also assessed the ramp and merge capacity of the Interchange, concluding that there is similarly sufficient capacity to accommodate the additional heavy vehicle movements.

101. Additional information provided during the assessment process confirmed that the proposed intersection of the new right of carriageway and Italia Road would operate at a LoS A, with uninterrupted flow conditions through to and beyond 2034.
102. The Department accepts these outcomes and considers that the increased number of heavy vehicles associated with the Project is unlikely to result in an unacceptable impact to the safety and efficiency of the local and regional road network, provided the Italia Road / Pacific Highway intersection upgrade is constructed prior to the commencement of quarry product transportation.

### **Road Safety**

103. Numerous community submissions raised road safety risks associated with additional heavy vehicles as a concern, particularly in relation to the Italia Road / Pacific Highway and right of carriageway / Italia Road intersections. Safety concerns were also raised about safety impacts to school buses travelling on the local road network.
104. Council and TfNSW previously raised safety concerns regarding the Italia Road / Pacific Highway intersection, particularly for long and heavy vehicles which require larger gaps in the downstream traffic stream to cross and turn. GHD acknowledged that this was due to the intersection configuration as an at-grade sign-controlled intersection on a high speed road with high opposing traffic flows. GHD has confirmed that the proposed upgrade of this intersection (as described above) would significantly reduce the safety risks at this location. TfNSW and the Department are satisfied with this outcome.
105. The additional information provided on the design of the new right of carriageway/ Italia Road intersection confirms that it provides appropriate sight distances which are compliant with relevant Australian Standards, both to the east towards the Pacific Highway and to the west. The construction standard also complies with NSW Rural Fire Services (RFS) requirements allowing two heavy vehicles to pass each other at reasonable speed.
106. GHD confirmed that there are currently no public transport services in the vicinity of the site, and no bicycle lanes or pedestrian/shared paths along Italia Road, the Pacific Highway or the surrounding road network. School bus services operate along Italia Road, however GHD predicted that the Project would not impact these services given there are no bus stops along Italia Road along the transport route, low existing traffic volumes and the fact that quarry trucks would be required to give way to eastbound buses and other traffic when turning right onto Italia Road from the new right of carriageway.
107. The Department has recommended requirements to minimise traffic safety issues and disruption to local road users, including that the road and intersection upgrades be

constructed prior to the commencement of quarry product transportation. On this basis, the Department considers that the additional traffic associated with the Project would not present unacceptable safety risks to existing road users. This conclusion is also consistent with the final advice provided by the relevant roads authorities (TfNSW and Council).

### ***Contributions to Council***

108. Eagleton Rock Syndicate has committed to pay annual Section 7.11 (formally Section 94) contributions to Council in accordance with the relevant Local Infrastructure Contributions Plan for ongoing maintenance of local roads along the vehicle route. It is noted that this is in addition to paying for the upgrade of the Barleigh Ranch Way and the joint funding of the upgrade of the Italia / Pacific Highway intersection. Council indicated that this amount is currently \$0.086/t/km over the life of the quarry. This is estimated to equate to approximately \$41,000 per annum over the life of the quarry.

### **6.2.3 Traffic mitigation and management**

109. Eagleton Rock Syndicate's proposed measures to mitigate and manage traffic and transport impacts include:
- upgrade of the Italia Road and Pacific Highway intersection to include acceleration and deceleration lanes and bridge widening works;
  - a requirement that all quarry related heavy vehicles travelling from the site south along the Pacific Highway utilise the Tarean Road Interchange to perform a U-turn;
  - construction of the new right of carriageway connecting Barleigh Range Way with Italia Road;
  - upgrade the Barleigh Ranch Way between the quarry entry to its intersection with the right of carriageway, including construction a bridge over Seven Mile Creek; and
  - paying annual contributions to Council for ongoing maintenance of local roads over the life of the quarry.
110. In addition, the Department has recommended conditions requiring Eagleton Rock Syndicate to:
- ensure all road and intersection upgrades are completed to the satisfaction of the relevant road authorities prior to the commencement of quarry product transportation;
  - prepare and implement a Traffic Management Plan (TMP) for the construction and operational phases of the Project which defines the vehicle routes and details measures to minimise traffic impacts;

- prepare and implement a drivers' conduct, which stipulates the haulage route, speed limits, quiet driving practices (including compression braking restrictions), driver behaviour expectations and safety requirements;
- weigh haul trucks entering and leaving the quarry to record the quarry product volumes existing the site; and
- limit total truck movements at the site (i.e. arrivals and dispatches) to a maximum of 170 movements per day and 20 movements per hour from 5 am to 6 pm Monday to Friday and 5 am to 4 pm on Saturdays.

#### 6.2.4 Summary

111. The Department acknowledges that traffic and transport impacts from road haulage activities are key community concerns for the Project.
112. To address initial concerns raised by the community, TfNSW and Council, Eagleton Rock Syndicate has committed to upgrading the intersection of Italia Road / Pacific Highway and require all quarry related vehicles to utilise the Tarean Road Interchange when leaving the quarry and travelling south. This would improve the efficiency and safety of this intersection, when compared to existing conditions.
113. Eagleton Rock Syndicate has also committed to upgrade the Barleigh Ranch Way and ensure the right of carriageway and associated intersections are constructed to be suitable for quarry related heavy vehicles.
114. It is predicted that a satisfactory level of service would still be experienced by motorists on the local and regional road network during the construction and over the life of operation of the quarry.
115. Eagleton Rock Syndicate has agreed to pay road maintenance contributions to Council for the ongoing maintenance of the local roads which would be utilised by quarry-related heavy vehicles.
116. Council and TfNSW are satisfied with these outcomes.
117. The Department has recommended conditions requiring Eagleton Rock Syndicate to construct the road and intersection upgrades and prepare a TMP prior to the commencement of construction. The recommended conditions also require strict monitoring of road haulage rates. Subject to these conditions, the Department considers that the traffic and transport impacts of the Project are acceptable.

## 6.3 Air quality

118. Air quality was a key issue raised in public submissions, with 78% of objecting submissions raising concerns regarding increased dust emissions, and particulate matter contaminating rainwater tanks and settling on solar panels and windows. Submissions also requested more information on dust mitigation measures proposed to be implemented at the quarry.
119. The EIS included an Air Quality & Greenhouse Gas Assessment (AQGHGA) prepared by Pacific Environment Operations Pty Ltd (Pacific) which assessed the operational incremental and cumulative air quality impacts of the Project based on maximum annual production rates.
120. EPA and the Department raised several issues in relation to the AQGHGA, including that it did not assess peak daily production/activity and that the adjacent Boral Seaham Quarry was not accounted for in the cumulative assessment. The Department also noted that the assessment did not specifically assess potential impacts on the nearby Respite Centre or the proposed Kings Hill residential area.
121. A supplementary Air Quality Assessment (AQA) was subsequently prepared by Pacific which included updated modelling to assess the issues raised by EPA and the Department. The supplementary AQA also assessed modifications to the quarry plan, including moving the crusher to the north-west; retention of a high bund along the southern extent of the processing area; moving the haulage road to the northern boundary; and erecting a roof over the secondary and tertiary crusher.
122. The AQIA was completed in accordance EPA's Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (2016).
123. EPA provided comments on the supplementary AQA which advised on the assumptions made in the modelling and the predicted air quality outcomes, however it did not raise concerns in relation to the adequacy of the assessment. EPA recommended air quality conditions, including requirements to maintain the premises and plant in a manner which minimises and prevents dust and other air pollutants and prepare an Air Quality Management Plan (AQMP).
124. On this basis, the Department considers that the AQA has been prepared in accordance with the relevant guidelines and is adequate to assess the air quality impacts of the Project.

### 6.3.1 Air quality mitigation and management measures

125. Eagleton Rock Syndicate has committed to implementing a range of mitigation measures to minimise dust impacts associated with the Project, including:
  - use of water carts/trucks to control emissions from haul roads and stockpiles;
  - limiting vehicle speeds on unsealed areas;

- sealing the new right of carriageway;
  - progressively rehabilitating exposed areas;
  - applying water at the crusher and on conveyor transfer points;
  - minimising the drop height of materials during truck loading and unloading;
  - use of a cyclone(s) when drilling;
  - sheltering of stockpiles and transfer points where possible;
  - erecting a roof/enclosure over the crushers; and
  - management of dust generating activities during unfavourable meteorological conditions.
126. Pacific has confirmed that the air quality modelling for the Project incorporates emission reductions for these measures.
127. The Department supports these mitigation measures and has recommended that comprehensive dust controls be implemented during construction and operation of the Project.

### 6.3.2 Predicted air quality impacts

128. The AQA indicated that the key emission sources from the Project would include:
- dust from land clearing; drilling and blasting; loading/unloading of material; vehicles travelling on-site and off-site; crushing and screening processes; and windblown dust from exposed areas and stockpiles; and
  - fuel combustion-based emissions on and off site from quarry plant, equipment and product haulage trucks.
129. In addition to emission sources from the proposed quarry, the AQA identified potential cumulative emissions from the surrounding industrial operations, including the neighbouring quarry, and landscaping supply centre.
130. The Department notes that Eagleton Rock Syndicate has confirmed it has a negotiated agreement in place with the owners of the adjacent managers house for the landscaping supplies centre (Receptor 23), hence the predicted impact on this receiver has not been discussed below.
131. Emission calculations and dispersion modelling for Project-only (incremental) and cumulative scenarios indicated that the Project:
- would comply with applicable Total Suspended Particulate and Deposited Dust impact assessment criteria for incremental and cumulative emissions at all receptor locations;

- would comply with applicable Particulate Matter <10 µm (PM10) impact assessment criteria for incremental and cumulative emissions at the majority of receptor locations, with the exception of at the:
  - Hunter Valley Paintball facility which would experience:
    - minor exceedances of the 24-hour criterion for cumulative emissions during typical daily activities and for incremental emissions during peak daily activities;
    - exceedance of the 24-hour criterion for cumulative emissions during peak daily activities; and
    - minor exceedance of the annual criterion for cumulative emissions;
  - Motor Cross Track facility which would experience relatively minor exceedance of the 24-hour criterion for cumulative emissions during peak daily activities; and
- would comply with applicable Particulate Matter <2.5 µm (PM2.5) impact assessment criteria for incremental and cumulative emissions at the majority of receptor locations, with the exception of at the Hunter Valley Paintball facility which would experience minor exceedance of annual criterion for cumulative emissions.

132. The magnitude of the worst-case exceedances are shown in Figure 6-3 **Table 6-3**. Pacific confirmed that exceedances during peak daily activities for cumulative emissions could occur for an additional 61 days at the Hunter Valley Paintball facility (Receptor C) and an additional 7 days at the Motor Cross Track (Receptor D).

Table 6-3 | Predicted exceedances of air quality assessment criteria (µg/m3)

Pollutant	Averaging period	Criterion <sup>1</sup>	Receptor	
			C – Hunter Valley Paintball	D – Motocross Track
PM <sub>10</sub>	24-hour - typical	50	53.8*	-
	24-hour - peak	50	52.3**	57.9
	Annual	25	25.3*	-
PM <sub>2.5</sub>	Annual	8	8.3*	-

<sup>1</sup>EPA's impact assessment criteria for particulate matter as documented in the Approved Methods (2017) and VLAMP mitigation criteria

\*Cumulative impact

\*\*Incremental

133. Eagleton Rock Syndicate confirmed that the modelled emissions were based on the sealing of the right of carriageway between Barleigh Ranch Way and Italia Road, however that it is possible that consent may not be given for this sealing from the landowner. Pacific advised that in the event this portion of road is not sealed then the estimated emissions are likely to be underestimated by approximately 5.5-7.4% (for TSP and PM10 respectively). Pacific confirmed that this would not change the overall outcomes of the AQA.
134. Pacific indicated that the Hunter Valley Paintball facility is open intermittently every day between 9 am and 8 pm, subject to demand. As it is a recreational facility, the same members of the public would not be at the facility 24 hours a day, 7 days a week. The Motor Cross Track is only reported to be used on the occasional Saturday and Sunday.
135. Pacific noted that the impact assessment criteria are based on exposure to dust emissions 24 hours a day, 365 days a year for an entire lifetime. Pacific considered that, as neither staff nor public at these facilities would be present at the site 24/7, it is unlikely that any individuals at these facilities would experience adversely health effects or undue discomfort as a result of the proposed quarrying activities.
136. Further, Pacific noted that the dispersion modelling was based on the assumptions that all activities at the site are occurring simultaneously during worst case meteorological conditions, which represented a highly conservative assessment approach.
137. EPA agreed that there is likely to be some conservativeness in the AQA of peak production rates, as the assessment:
- assumes peak production occurring for every day of the modelled year, which is unlikely to happen in reality; and
  - has not modelled or assessed the potential impacts with reactive management measures that could be implemented.
138. The Department accepts that the modelled dust emission results would comply with applicable NSW EPA particulate matter impact assessment criteria for incremental and cumulative emissions at the vast majority of receptor locations, including sensitive receptors such as the nearby Respite Centre and the proposed Kings Hill residential area to the south.
139. The Department notes that the predicted incremental increase in dust deposition from the Project at these sensitive receptors is 0.02 to 0.03 g/m<sup>2</sup>/month, against a criterion of 2 g/m<sup>2</sup>/month. Given this minor predicted increase in dust dispersion levels from the Project, it is also considered that there would be negligible impact on the operation of solar panels or the need for any additional remediation for water tanks.
140. The Department acknowledges that most of the predicted exceedances are relatively minor and are at recreational facilities that would not be occupied on a continual basis. Therefore, it

is considered unlikely that the exceedances would cause adverse health impacts associated with prolonged exposure. On this basis, the Department also accepts that the voluntary mitigation and land acquisition rights under the VLMAP should not strictly apply at these facilities.

141. To ensure this is the case, particularly for workers at the Hunter Paintball facility where cumulative exceedances are predicted to be more significant, the Department considers it important that Eagleton Rock Syndicate implement a comprehensive reactive management system on-site. As discussed below, the Department has recommended that this system includes real-time monitoring capability, which will enable quarry personnel to respond to elevated dust levels prior to reaching critical levels and modify activities and/or increase mitigation measures as required.

### **Human health**

142. Several submissions raised health concerns relating to the potential risk of silica dust impacting surrounding residents. In its submission on the EIS, NSW Health noted that exposure to PM<sub>2.5</sub> can cause health effects including heart and lung diseases.
143. The supplementary AQA prepared by Pacific included a review of the risks associated with silicosis. No criteria for residential receptors exist within NSW for respirable silica. The Victorian EPA define an annual average criterion of 3 µg/m<sup>3</sup> for respirable crystalline silica (as PM<sub>2.5</sub>) within the Protocol for Environmental Management for Mining and Extractive Industries (2007) that is an incorporated document of the Victorian *State Environment Protection Policy (Air Quality Management) 2001*.
144. Air quality modelling results indicated that the highest annual average concentration of PM<sub>2.5</sub> predicted at a neighbouring private residential receptor as a result of the Project alone was 0.3 µg/m<sup>3</sup> (Receptor 41). The highest annual prediction for a recreational receiver was 1.3 µg/m<sup>3</sup> (Receptor C – Hunter Valley Paintball). Based on these predictions, the risks to surrounding residents from respirable silica from the quarrying operations was considered very low. NSW Health accepted these outcomes.
145. On this basis, the Department accepts that the risks of adverse health impact to surrounding residents from silica dust is very low and therefore acceptable.

### **6.3.3 Air quality monitoring, mitigation and management**

146. As discussed above, Eagleton Rock Syndicate has committed to implementing a range of mitigation and management measures to minimise dust impacts associated with the Project. In-line with EPA recommendations, the Department has recommended conditions requiring

mitigation measures to be benchmarked against best management practice to achieve emission controls equal to or greater than the control efficiencies included in the AQA.

147. The Department has also recommended other robust and contemporary air quality management conditions requiring Eagleton Rock Syndicate to:
- comply with strict air quality criteria;
  - operate a network of real-time meteorological and air quality monitoring systems to:
    - guide the day-to-day planning of quarrying operations and the implementation of both proactive and reactive air quality mitigation measures to ensure compliance with the relevant conditions of consent; and
    - relocate, modify or stop operations on the site to ensure compliance with the air quality criteria.
148. Subject to the recommended conditions, the Department considers that the air quality impacts of the Project are acceptable.

#### **6.3.4 Summary**

149. The Department acknowledges that potential air quality impacts was a key issue raised in the public submissions.
150. EPA and the Department are satisfied that the AQA was prepared in accordance with the relevant guidelines and is adequate to assess the air quality impacts associated with the Project.
151. The Department accepts that air emissions associated with the Project are likely to remain below the applicable EPA incremental and cumulative impact assessment criteria at all sensitive assessment locations, excepting a few recreational facilities. The Department considers that with the implementation of a reactive real-time monitoring system at the quarry site, air quality impacts could be appropriately mitigated and managed. The Department has recommended a comprehensive range of air quality conditions to ensure this is the case.

### **6.4 Biodiversity**

152. Impacts to biodiversity were raised as an issue in 40% of objecting submissions, with key concerns relating to impacts on local wildlife and native vegetation, the local koala population and wildlife corridors. Submissions also noted inadequacies of the fauna surveys and the proposed biodiversity offsets.

153. The EIS included a Biodiversity Assessment Report (BAR) and a Biodiversity Offsets Strategy (BOS), which were prepared by Kleinfelder Australia Pty Ltd (Kleinfelder) in accordance with the *Framework for Biodiversity Assessment (FBA)* (OEH 2014) and the *NSW Biodiversity Offsets Policy for Major Projects*. The BAR described and assessed potential impacts to biodiversity from the Project, including threatened biodiversity listed under the TSC Act and EPBC Act.
154. In its submission on the EIS, the then OEH (now Biodiversity Conservation and Science (BCS)) confirmed that the BAR was generally compliant with the FBA, however identified several minor issues with this document and the associated credit calculator files.
155. Council also identified issues associated with the assessment and requested additional information on the density and location of hollow-bearing trees, koala habitat and impacts to riparian vegetation and aquatic ecology. Council supported the proposed BOS and recommended that additional off-site offsets required to meet the credit deficit be secured prior to approval.
156. A revised BAR was subsequently prepared as part of the Submissions Report to address issues raised in public and government agency submissions. The revised BAR incorporated the results of additional field work and mapping.
157. On review of the Submissions Report, BCS indicated that it was satisfied with the revised BAR and recommended that the BOS should be included in consent conditions for the Project. Council did not provide any specific comments in relation to the revised BAR.
158. The Department and BCS are both satisfied that the final versions of the BAR and BOS have been prepared in accordance with relevant guidelines and policies at the time and are adequate for assessing the biodiversity impacts and offsetting requirements for the Project.

#### **6.4.1 Existing environment**

159. The Project area consists of mainly undulating native-forest terrain with a mix of mature trees and regeneration. Intact native vegetation surrounds the Project area, providing biodiversity corridors that connect habitat areas and support ecological processes for plants and wildlife movement. Good quality riparian vegetation exists near the drainage lines across the Project area. Past logging is evident by regrowth and tree stumps, and there are some cleared areas across the site consisting of access tracks and dams.

#### **6.4.2 Terrestrial biodiversity impacts**

160. Potential terrestrial biodiversity impacts from the Project include:
  - loss of native vegetation and fauna habitats through direct clearing;

- habitat fragmentation or isolation; and
  - reduced quality and extent of habitat from indirect impacts during construction and operation.
161. The Project would directly impact terrestrial biodiversity through the clearing of 33.07 ha of land for the quarry pit, stockpile areas, offices, ancillary infrastructure and the quarry access road. Of this, 32.03 ha consists of native vegetation and 1.04 ha consists of non-native vegetation, including exotic vegetation and already disturbed land (existing tracks).
  162. The native vegetation occurs within one plant community type (PCT); HU804 Spotted Gum - Broad-leaved Mahogany - Red Ironbark shrubby open forest. This PCT also contains a number of 1st, 2nd and 3rd order streams with associated riparian vegetation. The BAR determined that this PCT community does not constitute any listed threatened ecological communities (TECs) under the TSC Act and/or EPBC Act. It also concluded that the direct clearing would not impact any critical habitat, riparian areas of 4th order or higher streams, important wetlands, estuaries, or State significant biodiversity links.
  163. The BAR indicated that no threatened flora species were detected during the surveys. However, a total of 12 threatened fauna species listed under the TSC Act and/or EPBC Act were detected, including Spotted Harrier, Brown Treecreeper (eastern subspecies), Black Falcon, Square-tailed Kite, Grey-crowned Babbler (eastern subspecies), Large-eared Pied Bat, Eastern False Pipistrelle, Little Bentwing-bat, Eastern Freetail-bat, Southern Myotis, Eastern Cave Bat and the Koala. Further, one EPBC Act-listed migratory bird species (Rufous Fantail) was recorded. Of these species, two are fauna credit species (Southern Myotis and Koala) and would need to be offset via species credits in accordance with the FBA.
  164. The revised BAR included additional assessments of likelihood of occurrence of the threatened species, populations and TECs previously recorded and/or modelled to occur within a 10 km radius of the study area. These assessments determined that a total of 26 threatened fauna species and eight EPBC Act-listed migratory species were likely to, or could potentially, be impacted by the proposed development.
  165. Application of the Assessment of Significance (TSC Act) and EPBC Act Significant Impact Criteria by Kleinfelder concluded that the Project is unlikely to have a significant impact upon any of these threatened or migratory species. This conclusion was primarily based on the justification that the proportion of habitat that would be removed is relatively small when considering the large areas of similar habitat that are contiguous across the wider area. Additionally, Kleinfelder considered that the Project would not isolate or substantially fragment areas of suitable habitat for the affected threatened species within the immediate locality. These conclusions are contingent upon implementation of mitigation measures

detailed below, primarily the proposed on-site offset which would retain vegetation corridors across the southern, central and north-east parts of the site.

166. The extent of impacts from the Project on vegetation communities and the associated biodiversity credits required to offset these impacts in accordance with the FBA are presented in **Table 6-4**.

Table 6-4 | Terrestrial biodiversity impacts of the Project

<b>Ecological feature</b>	<b>Area of impact (ha)</b>	<b>Ecosystem / Species credits generated</b>
<b>Plant Community Type</b>		
<b>HU804 Spotted Gum - Broad- leaved Mahogany - Red Ironbark shrubby open forest (mod-good)</b>	32.03	1,836
<b>Threatened fauna credit species</b>		
<b>Koala (<i>Phascolarctos cinereus</i>)</b>	11.19	291
<b>Southern Myotis (<i>Myotis Macropus</i>)</b>	16.46	362

167. The Project also has the potential to cause indirect or prescribed impacts on land adjacent to the disturbance footprint during construction and operation, including increased levels of dust and noise; erosion of soils; downstream modification of hydrology and aquatic biodiversity; and the transfer of weeds and pathogens.
168. Additional field surveys identified the location and density of hollow bearing trees across the study area (i.e. the single Lot 2 DP 1108702, which covers an area of 100.94 ha of which 32.03 ha of native vegetation would be impacted). Kleinfelder confirmed that the hollow-bearing trees (live trees and dead stags) are present in low to moderate abundance throughout the forest vegetation in the study area, and that the Project would result in an estimated loss 38% of the total hollow-bearing tree resource available within the study area. As discussed below, Eagleton Rock Syndicate has committed to conducting pre-clearing fauna surveys and clearing protocols to minimise impacts to fauna as a result of disturbance to hollow bearing trees.

### **Koala**

169. Numerous public submissions and Council raised concerns in relation to potential impacts to the local Koala population. Kleinfelder subsequently provided additional assessment of Koala

impacts against Council's Comprehensive Koala Plan of Management (CKPoM) (PSC, 2002), SEPP 44 and the EPBC Act Referral Guidelines for the Koala (combined populations of Queensland, New South Wales and Australian Capital Territory) (Commonwealth of Australia, 2014).

170. Kleinfelder confirmed that two Koalas were sighted during surveys and that additional Koala activity was detected across the study area. The CKPoM Koala habitat mapping confirmed that a small area of Preferred Koala habitat is present in the south-west of the site, with the remainder of the site mapped as marginal habitat. Assessment of Koala feed tree density as defined by SEPP 44 identified that around 53.59 ha of suitable Koala habitat occurs within the study area. The quarry design would avoid the majority of this habitat (i.e. 79% or 41.40 ha), with the retained areas proposed to be protected and managed in-perpetuity under a biobanking agreement.
171. Kleinfelder assessed the habitat loss due to the proposal (11.19 ha) as minor in the context of the large expanse of forest vegetation adjoining the study area that is also likely to contain suitable Koala feed tree species, including to the south and east of Grahamstown dam on the Tomaree and Tilligerry peninsulas. Kleinfelder also noted that the proposal would maintain vegetated corridors on the eastern part of the study area to allow movement of this species to adjoining habitat to the north-east. On this basis, Kleinfelder concluded that the removal of 11.19 ha of suitable habitat for this species is unlikely to represent a significant reduction in important available habitat for this species in the locality and referral under the EPBC Act was not considered necessary. Neither Council nor BCS raised any objections to this conclusion.
172. To further facilitate the safe movement of Koalas across the site, Eagleton Rock Syndicate has committed to including a Koala underpass as part of the proposed access road bridge over Seven Mile Creek.

#### **6.4.3 Aquatic ecology impacts**

173. In response to issues raised by Council, surveys of the riparian vegetation and aquatic ecology within the study area were undertaken by Kleinfelder and an Aquatic Habitat Assessment report was included in the revised BAR. In addition, an Aquatic Ecology Assessment was prepared by Marine Pollution Research (MPR) as part of the Submissions Report. The Assessment presented the results of ecological field survey of Seven Mile Creek and its west-to-east tributaries located on the site.
174. Potential aquatic habitat within the study area includes nine streams (six 1st order, two 2nd order and one 3rd order) and several constructed dams. Both the Kleinfelder and MPR surveys found that there was limited to no aquatic habitat along the majority of streams with the exception of along the 3rd order section of Seven Mile Creek, where there were numerous

drought resistant pools linked by sub-surface shallow alluvial flows. There were no fish observed or caught during with surveys, however some macroinvertebrates were sampled.

175. Kleinfelder and MPR identified that no threatened freshwater species, endangered populations or endangered ecological communities listed under the *Fisheries Management Act 1994* have been recorded within the locality (5km radius of the study area) and considered it unlikely that any threatened aquatic species would occur in the study area due to the ephemeral nature of the streams.
176. Kleinfelder indicated that the Project has been designed to avoid the 2nd and 3rd order streams and the associated riparian buffers in the study area, with the exception of a small area for the proposed access road over Seven Mile Creek. The construction of the new bridge across this creek would directly impact a small section of riparian vegetation and has the potential to have indirect impacts downstream through erosion and sedimentation, and introduction of weeds.
177. DPI Fisheries confirmed that Seven Mile Creek is mapped as a Key Fish Habitat (KFH). As noted above, no fish were observed or caught at any of the survey sites along this creek and it was considered unlikely that they inhabit the stream due to its ephemeral nature. MPR concluded that the loss of portions of west-east feeder drainages to Seven Mile Creek as a result of the Project would deprive the creek of some low salinity base-line flow but, given the comparatively small sizes of the sub-catchments involved, this loss was considered unlikely to provide a material risk for the aquatic habitats and biota of the mainstream channel.
178. Eagleton Rock Syndicate has committed to ensuring the bridge would be designed and constructed to maintain connectivity and ensure movement of aquatic fauna would not be impeded. The Department has recommended a condition requiring the proposed bridge of Seven Mile Creek to be designed and constructed in accordance with DPI Fisheries requirements for KFH, including *Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings* (2003) and the *Policy and Guidelines for Fish Habitat Conservation and Management* (Update 2013).
179. Eagleton Rock Syndicate has also committed to maintaining riparian corridor buffers from watercourses outside of the direct disturbance footprint. DPI Fisheries supported this commitment and has recommended that the riparian corridors be designed and implemented in accordance with the *Guidelines for Controlled Activities on Waterfront Land* (DPI Water 2012), including maintaining corridor widths on each side of the streams (i.e. 10 m, 20 m and 30 m for 1st, 2nd and 3rd order streams, respectively). The Department has recommended conditions requiring riparian corridor buffers be implemented, monitored and maintained during construction and operational stages of the Project.

180. Kleinfelder indicated that the Project also has the potential to have indirect impacts on other drainage lines adjoining the site during the construction and operation phases through erosion, sedimentation and contaminants in stormwater run-off. In line with Council recommendations, the Department has recommended that a Water Management Plan be developed for the Project that includes specific measures to minimise and avoid impacts to downstream aquatic environments.

#### 6.4.4 Biodiversity avoidance, mitigation and management

181. The Department and BCS consider that Eagleton Rock Syndicate has adequately avoided and minimised impacts to biodiversity through:

- minimising the disturbance footprint to 33.07 ha of land and committing to retaining 57.2 ha of native vegetation (approximately 63%) within the study area as part of the proposed BOS (see below);
- avoiding impacts to 2nd and 3rd order streams and associated riparian buffers in the study area, with the exception of a small area for the proposed haul road; and
- avoiding the majority of suitable Koala habitat (approximately 79%) and Southern Myotis breeding habitat (approximately 67%) in the study area and protecting and managing the retained areas in-perpetuity as part of the BOS.

182. Eagleton Rock Syndicate has also committed to mitigating and managing impacts on biodiversity through:

- implementing clearing protocols including pre-clearing fauna surveys, a hollow-bearing tree clearing protocol, fauna translocation protocol and vegetation clearing protocol;
- management and control measures for weeds and vertebrate pests;
- measures to protect areas of native vegetation and fauna habitats occurring adjacent to the site;
- traffic-calming measures and signage within the site to reduce the risk of vehicle strike to Koalas and other native fauna;
- progressive rehabilitation and revegetation (including timing, target species composition, rehabilitation methods, and ongoing monitoring);
- appropriate soil handling processes, including topsoil management for later use in any rehabilitation areas;
- measure to ensure the salvage, storage and redistribution of habitat features (e.g. hollows and logs) within the rehabilitation areas;

- fire management measures; and
  - maintenance, monitoring and performance criteria to assess the condition and functioning of the adjoining vegetation and fauna habitats, and to evaluate progress of rehabilitation works.
183. The Department has recommended a condition requiring Eagleton Rock Syndicate to prepare and implement a Biodiversity Management Plan that incorporates these mitigation measures, as well as other contemporary biodiversity management practices. BCS supports the Department's recommended conditions of consent regarding the mitigation and management of biodiversity impacts.

#### 6.4.5 Biodiversity Offset Strategy

184. To offset the residual biodiversity impacts of the Project, Eagleton Rock Syndicate propose to implement a BOS in accordance with the requirement of the FBA. With the commencement of the BC Act on 25 August 2017, the NSW Government released a new *Biodiversity Assessment Method* (BAM) which replaces the FBA methodology used for this project. As a result, the credit requirements identified below may require a mathematical conversion to reasonably equivalent biodiversity credits under the BC Act, so as to facilitate retirement under the new legislation. The Department has included a note in the recommended conditions to reflect the policy arrangement.
185. The BOS includes an on-site offset site that would be protected and managed in-perpetuity. The site covers an area of 60.83 ha that adjoins the southern and eastern part of the site (see **Figure 6-3**). The majority of the offset site is vegetated with good quality dry sclerophyll forest, with small areas of modified grasslands (1.56 ha), dams (0.61 ha) and unvegetated areas and access tracks (1.41 ha). Kleinfelder assessed the existing biodiversity values of the site and calculated the biodiversity credits that the offset site would generate (**Table 6-5**).
186. As detailed in **Table 6-5**, the proposed offset site would only satisfy a proportion of the biodiversity credits required, with a shortfall of 1,303 HU804 ecosystem credits and 127 Southern Myotis species credits once the credits generated at the onsite offset are accounted for. The Koala species credit requirement would be fully satisfied by the credits generated at the onsite offset site.
187. Eagleton Rock Syndicate propose to secure the remaining 1,303 HU804 ecosystem credits and 127 Southern Myotis species credits (or their reasonably equivalent BAM credits) by purchasing suitable credits from the market.

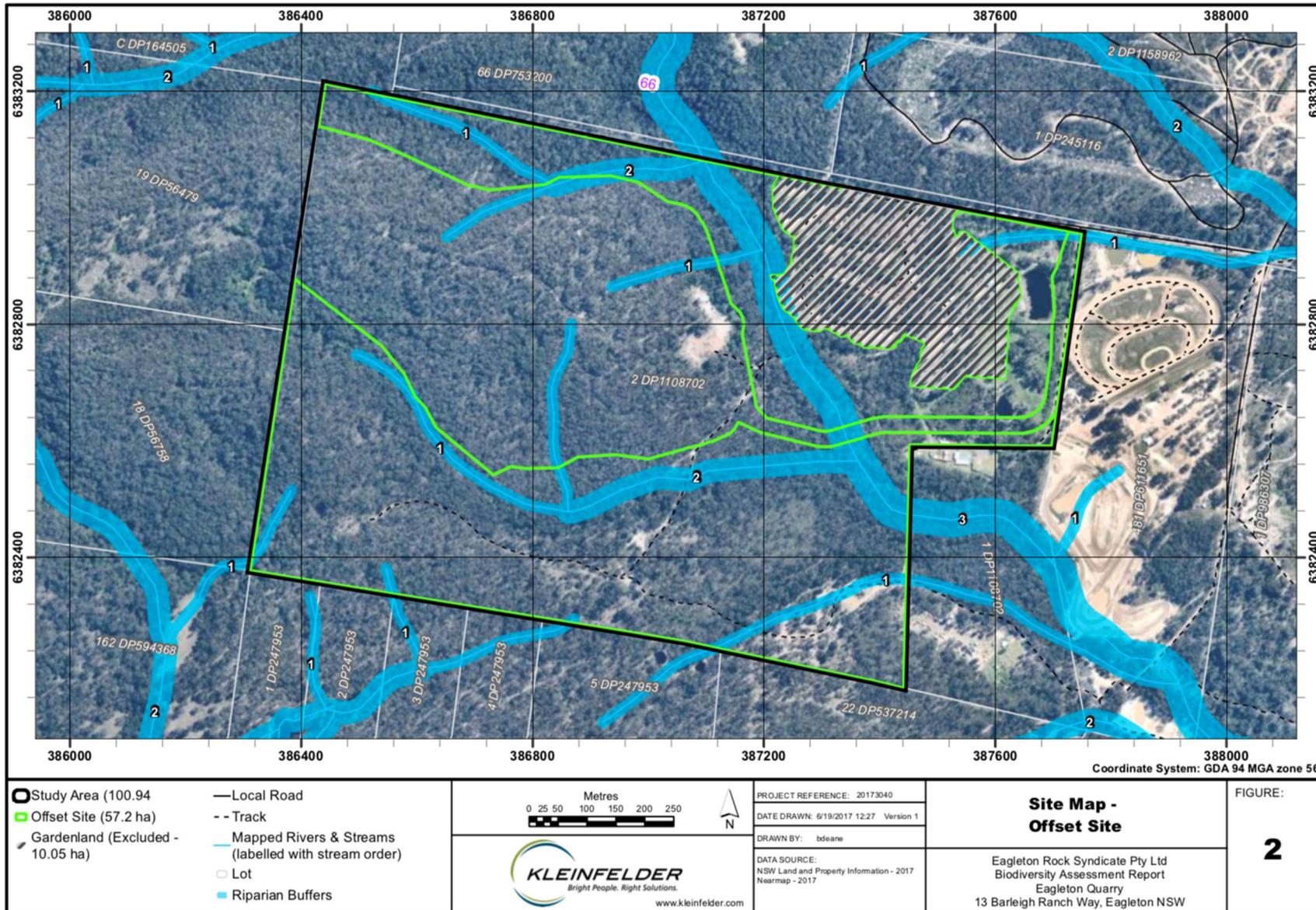


Figure 6-3 Proposed biodiversity offset site

Table 6-5 | Summary of biodiversity credits generated by the offset site

Ecological feature	Credits required	Credits generated at offset site	Credit balance
<b>Ecosystem credits</b>			
HU804 Spotted Gum - Broad-leaved Mahogany - Red Ironbark shrubby open forest	1,836	533	-1,303
<b>Species credits</b>			
Koala ( <i>Phascolarctos cinereus</i> )	291	294	+3
Southern Myotis ( <i>Myotis Macropus</i> )	362	235	-127

188. Eagleton Rock Syndicate confirmed that if the required credits are unavailable at existing biobank sites at the time, the company would consider another offsite offset site to satisfy the credit requirements. Eagleton Rock Syndicate committed to retiring all ecosystem and species credits required for the Project in accordance with the FBA prior to commencement of clearing and construction.
189. The Department accepts this approach and has recommended conditions requiring the retirement of corresponding credit liabilities prior to the commencement of land clearing. This accords with Council's recommendation that offsets be secured prior to disturbance. BCS is also satisfied with the calculated offset liability and proposed offsetting approach.

#### 6.4.6 Summary

190. The Department considers that the Project has been designed to avoid, mitigate and manage biodiversity impacts where practicable. The final disturbance footprint has been minimised and would avoid the majority of native vegetation (approximately 63%), Koala habitat (approximately 79%) and Southern Myotis breeding habitat (approximately 67%) in the study area. It would also avoid all 2nd order and the vast majority of 3rd order streams. However, the Project would result in a range of residual impacts on biodiversity through the disturbance of 32.03 ha of native vegetation, including habitat for two threatened fauna species listed under either or both the TSC Act and EPBC Act.
191. The Department has carefully considered these impacts on biodiversity values and considers that they would be suitably mitigated, managed and/or offset under the proposed BOS.

Additionally, the recommended conditions of consent would provide for sound management of retained biodiversity values on the site and assurance to the community and regulatory agencies over the management of residual biodiversity impacts. Overall, the Department considers the impacts of the Project on biodiversity are acceptable, subject to the recommended conditions.

## 6.5 Water resources

192. Impacts to water resources were raised as an issue in 52% of objecting submissions, with the key concern relating to potential impacts to the Grahamstown Dam drinking water catchment from uncontrolled discharge of potentially contaminated water from the quarry.
193. Whilst there is no statutory requirement for the Project to achieve a NorBE on water quality, given its location within the Grahamstown Dam drinking water catchment, Hunter Water expected Eagleton Rock Syndicate to demonstrate that the Project could achieve such an outcome.

### 6.5.1 Surface water

194. The EIS included a Water Assessment (WA) prepared by Umwelt (Australia) Pty Ltd (Umwelt). A revised WA was subsequently prepared by SRL Consulting Australia Ltd (SRL) in response to agency advice and submitted as part of the Submissions Report.
195. Hunter Water, EPA and Council did not raise any specific concerns in relation to the revised WA. Hunter Water and EPA recommended conditions of consent in relation to a Water Management Plan; ongoing review and management of the water management system (WMS); and water quality monitoring requirements and discharge limits. On this basis, the Department considers that the WA and revised WA are adequate to assess the water resources impacts associated with the Project.

#### *Existing surface water environment*

196. The Project is located in the catchment of Seven Mile Creek, which is a 3rd order stream on the eastern side of the site that flows in a south-easterly direction, draining to Grahamstown Dam approximately 2 km downstream. Grahamstown Dam supplies drinking water to the Lower Hunter region. It has a direct catchment of 11,500 ha, of which the Seven Mile Creek catchment comprises 2.6%.
197. The Project is also bound by two 2nd order streams immediately to the north and south and several 1st order drainage lines which traverse the proposed quarry extraction area. Watercourses in the vicinity of the quarry are ephemeral, typically only flowing after

significant rainfall events. However, the creek bed along Seven Mile Creek contains numerous drought resistant pools and riffles along its length.

198. Surface water use in the area is regulated under the *Water Sharing Plan for the Hunter Unregulated and Alluvial Water Sources* (2009). There are no known licenced surface water users on Seven Mile Creek between the Project area and Grahamstown Dam.

### ***Proposed water management system***

199. The proposed revised WMS (Figure 6-4) comprises:

- clean water diversions channels and bunds to divert clean water from the quarry disturbance areas;
- three dirty water management dams, including Dams 1 and 2 located on the southern perimeter of the extraction area and Dam 3 located in the product stockpile and processing area, providing total storage capacity of 85 ML;
- in-pit sump(s) within the excavation area to store up to 180 ML of excess water during rainfall events; and
- a licenced discharge point (LDP) at Seven Mile Creek which would receive discharges from the overflow point in Dam 1.

200. To improve water quality in the site dams and ultimate discharges from the site, Eagleton Rock Syndicate has committed to incorporate additional controls in the WMS including:

- a gross pollutant trap on discharges into Dam 3;
- floating wetlands within Dams 2 and 3 including macrophytic plants to remove nutrients; and
- bio-retention swales upstream of Dam 2 and between Dam 2 and Dam 1B to assist in the removal of finer suspended solids, phosphorous and nitrogen; and
- flocculation application system at Dam 1B.

201. All dirty water collected from the site (including water collected in the in-pit sumps and Dam 3) would be pumped to Dam 2 and overflowed into Dam 1, where controlled and uncontrolled discharges would be directed into Seven Mile Creek via the LDP.

202. Sewage would be appropriately stored and removed from the site by a licenced contractor. All fuels, oils and greases, pesticides and herbicides, and chemicals used on-site would be used and stored in accordance with relevant Australian Standards, to ensure such pollutants do not threaten drinking water quality within the catchment.

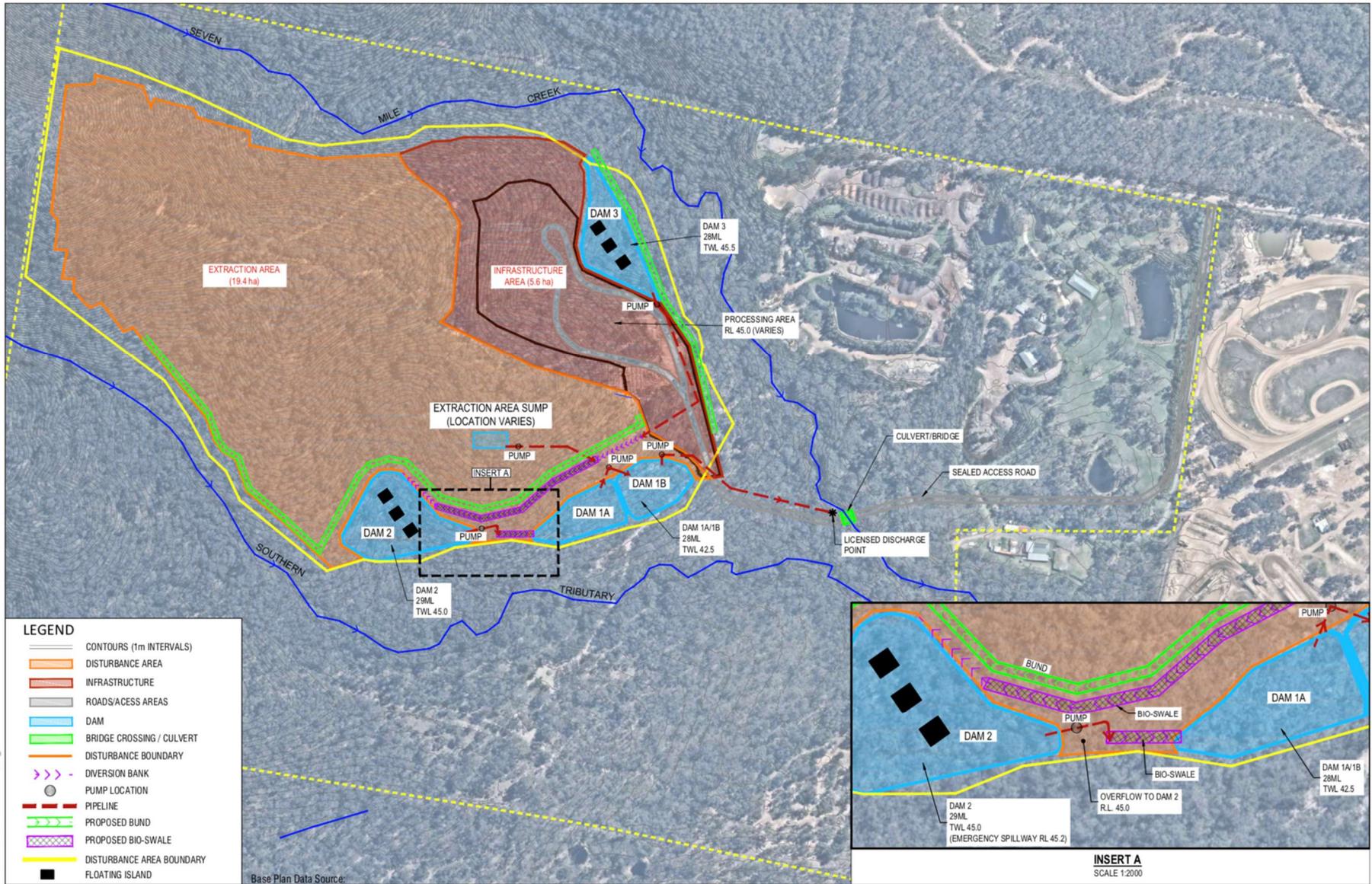


Figure 6-4 Proposed water management system

### *Site water discharges*

203. SRL developed a site water balance model for the Project to estimate the water requirements and discharges; assess the adequacy of the proposed WMS; and determine the surface water licencing requirements.
204. Modelling indicated that in an average year approximately 48.3 ML of treated water would be discharged off site via the LDP. Approximately 1.9 ML of water would need to be delivered to site in order to cover the dust suppression and processing requirements when there is insufficient water available in site dams from rainfall runoff.
205. The modelling demonstrated that there is sufficient capacity in the onsite WMS (totalling 256 ML in storage) to contain the 500-year 24 hour and 500-year 72-hour rainfall events, meaning that uncontrolled discharges of dirty water from the site are predicted to occur less than every 500 years. This is in accordance with recommended requirements of Hunter Water, EPA and Council.
206. The Department accepts that predicted water deficits are minor and that there are additional measures available to manage any water supply shortfalls (i.e. chemical dust suppressants, scaling of operations, and/or third-party purchases). An inability to source additional water represents an operational risk to Eagleton Rock Syndicate. The Department has recommended a condition requiring the company to ensure that it has sufficient water for all stages of the Project, and if necessary, reducing operational activities to match available water supply.
207. The Department considers that the site water balance should be continually refined based on accurate metering of captured and pumped water within the Project's WMS, to inform surface and groundwater model updates and water licensing requirements. The Department has recommended that an updated Site Water Balance is prepared as part of the Water Management Plan and that this be reviewed annually as part of the Annual Review.

### *Surface water impacts*

208. Potential impacts to surface water resources associated with the Project include:
  - changes to surface water quality in Seven Mile Creek and downstream Grahamstown Dam;
  - hydrology and watercourse stability impacts due to a modified flow regime within Seven Mile Creek; and
  - flooding.

### **Water quality impacts**

209. As noted above, several public submitters and government agencies raised concerns about the adverse water quality impacts due to water discharges from the quarry, particularly on the Grahamstown Dam drinking water supply. Hunter Water required that the WMS be sufficient to demonstrate that a NorBE on water quality would be achieved in accordance with the guideline *Protecting our Drinking Water Catchments* (Hunter Water, 2017).
210. In response, the WMS was redesigned to include a significant increase in storage capacity (i.e. dams from 57 ML to 85 ML as well as in-pit storage) and additional controls (pollution traps, wetlands and bio-retention swales) to prevent uncontrolled discharges and improve the water quality of controlled discharges.
211. In order to demonstrate that the revised WMS would be sufficient to achieve a NorBE on water quality, SLR compared pre-and post-development loads (i.e. kg/ha/year) of phosphorous, nitrogen and total suspended solids (TSS) in the catchment. The analysis determined that average pollutant export rates would reduce by between 20-78% when comparing the pre-and post-development water quality scenarios.
212. Although Hunter Water noted some residual concerns regarding water quality impacts in the catchment, it accepted this analysis and indicated that its concerns could be addressed post-approval via conditions of consent. EPA indicated its intent to impose strict water quality discharge limits at the LDP. Hunter Water considered the proposed discharge limits acceptable.
213. Both Hunter Water and EPA considered that the key risk to water quality was inadequate maintenance of the site dams. Both agencies stressed the need for adequate and ongoing management of the system, and Hunter Water recommended that Eagleton Rock Syndicate be required to commission regular independent reviews of its operations to determine if the WMS is operating effectively. Hunter Water also recommended specific water quality monitoring requirements during uncontrolled discharge events (predicted to occur once in every 500 years). The Department accepts the importance of maintaining an efficient WMS within the drinking water catchment and has recommended requirements as part of the Water Management Plan to reflect the recommendations made by both Hunter Water and EPA.

### **Hydrology and watercourse stability impacts**

214. In relation to catchment flow volumes, SLR predicted that the Project would have minor impacts on the flow volumes in Seven Mile Creek due to the reduced catchment associated with the quarry operations. The maximum operational area of the quarry of approximately 27.5 ha represents less than 10% of the Seven Mile Creek catchment area (302 ha), which equates

to approximately 155 ML/year of average annual runoff. This would be reduced by controlled discharges from the site and is considered relatively minor. The Project area represents a very small portion (around 0.2%) of the Grahamstown Dam catchment area (11,500 ha) and would therefore have negligible impacts on runoff volume in the drinking water catchment. Hunter Water did not raise any concerns regarding reduced runoff volumes reporting to Grahamstown Dam.

215. Controlled and uncontrolled discharges from Dam 1 have the potential to alter the natural flow regimes within Seven Mile Creek and adverse erosion and scouring impacts on downstream stability. However, these impacts are predicted to be minor given the existing ephemeral nature of this creek system and the relatively small volume and frequency of predicted discharges. Construction of the haul road bridge over the creek may also impact creek stability. To mitigate these potential impacts, the Department has recommended that the treatment dams and spillways be designed and managed in accordance with *Managing Urban Stormwater; Soils and Construction* (Department of Environment and Climate Change NSW), *Volume E – Mines and Quarries – Blue Book* and that a program to monitor and report on watercourse stability during construction and operation be included as part of the Water Management Plan.

### **Flooding impacts**

216. The proposed changes to the catchment areas and landform associated with the Project have the potential to impact on flooding in the adjacent and downstream watercourses. Umwelt completed flood modelling and produced flood extent diagrams for a range of flood scenarios which showed that the proposed bunds on the perimeter of the Project area would ensure runoff from quarry and processing areas during events up to the Probable Maximum Flood event would be contained and controlled. Umwelt found that the Project would not result in additional flooding risks downstream.

### **Surface water licencing**

217. Under the WM Act, Eagleton Rock Syndicate is required to hold a surface water access licence (WAL) for the interception of surface water flows. The Project is located in the *Water Sharing Plan for the Hunter Unregulated and Alluvial Water Sources 2009*.
218. Water Group accepted that the on-site treatment dams are exempt from licensing requirements, however noted that the capture of clean runoff from undisturbed areas would require Eagleton Rock Syndicate to obtain a WAL to account for surface take volumes which exceed the maximum harvestable right for the property. The Department has recommended a condition requiring calculations on harvestable rights allocations and residual licencing

requirements under the WM Act be included in the Water Management Plan, and that any WAL requirements are obtained by Eagleton Rock Syndicate prior to the water being taken.

## 6.5.2 Groundwater

219. The EIS included a Hydrological Investigation Report prepared by URS Australia Pty Ltd. (URS) and Numerical Groundwater Model prepared by hydrogeologist, Katarina David. The groundwater modelling aligned with a Class 1 model in accordance with the *Australian Groundwater Modelling Guidelines* (AGMG) (Barnett et al, 2012) and the requirements of the *NSW Aquifer Interference Policy* (AIP) (NOW, 2012).
220. The Numerical Groundwater Model was independently peer reviewed by Brian Rask from SRL. Although the peer review identified some inconsistencies in the reporting of the modelling results, overall, it concluded that the groundwater modelling, and associated impact assessment, was fit for purpose to assess the groundwater impacts associated with the Project and the requirements of the AIP.
221. At the request of the Department, a supplementary Groundwater Modelling Clarification report was prepared as part of the Submissions Report to clarify inconsistencies identified by the peer review, including the extent of drawdown at the boundary of the site and the location of the closest existing groundwater bores. The Department considers the groundwater modelling and additional information provided is adequate to assess the groundwater impacts associated with the Project.

### *Groundwater environment*

222. Groundwater resources in the vicinity of the Project are regulated under the *Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources* (New England Fold Belt Coast Groundwater Source). This groundwater source is classified as 'less productive' under the AIP.
223. A conceptual model of the regional flow patterns and groundwater regime is provided in **Figure 6-5**, and comprises:
  - an alluvial/colluvial aquifer system which exhibits relatively high permeability and is located away from Project area in the east and west; and
  - an underlying volcanic/sedimentary system with lower permeability and containing the regional groundwater unit which flows to the southeast across the Project area.
224. The groundwater table across the Project area is an expression of the surface topography with depths to water recorded in monitoring bores generally ranging between 8 m below top of well casing (mbTOC) in the east of the site to 40 mbTOC in the steeper hills of the western portion

of the site. Groundwater quality has been reported as generally good, with most monitoring results below the *NEPM Drinking Water Guidelines* (2013).

225. Four registered groundwater bores are located within a 5 km radius of the Project area, three of which are water supply bores (stock and domestic) and one which is a monitoring bore. No high priority groundwater dependent ecosystems (GDEs) have been identified within proximity of the Project area or surrounds.

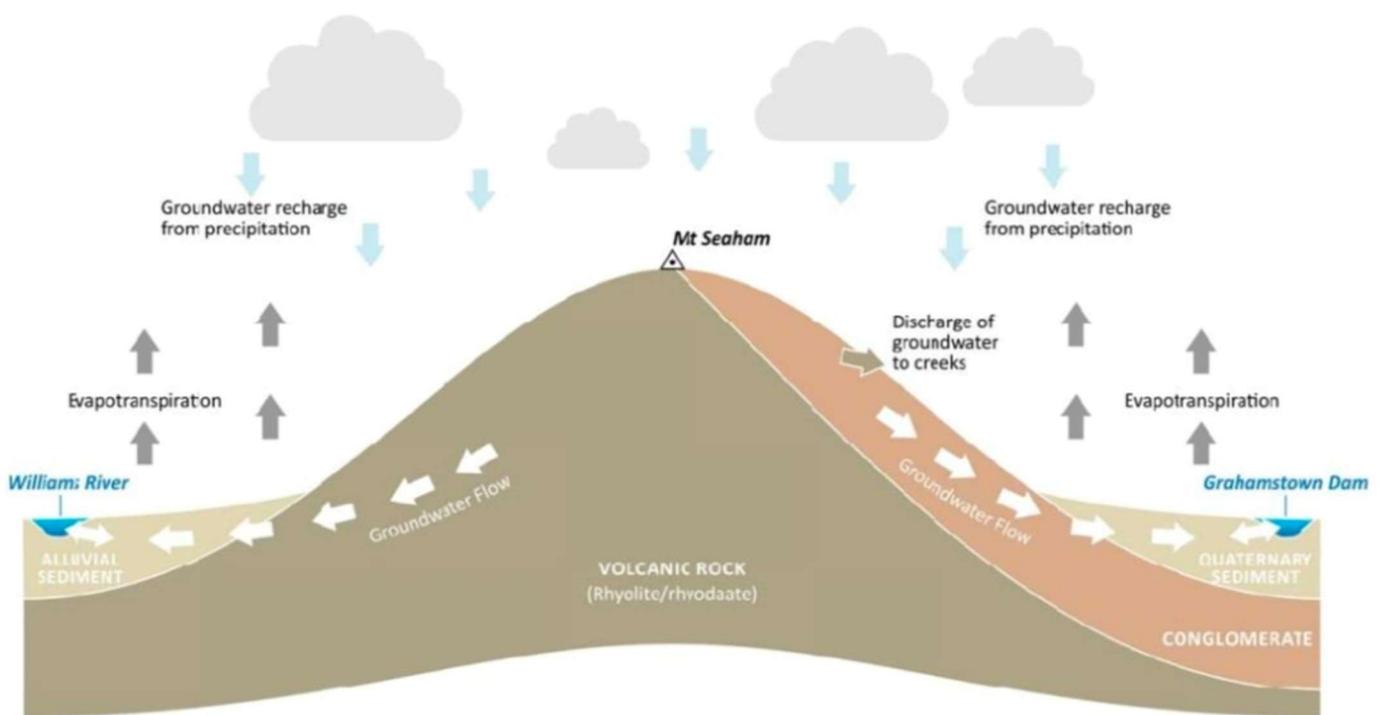


Figure 6-5 Conceptual groundwater system

### **Predicted groundwater impacts**

226. The proposed quarry design involves extraction of rock down to 45 m AHD, which would result in groundwater above this elevation seeping to the floor of the excavation. Groundwater inflow into the quarry is predicted to increase from 2.9 ML/year in Year 1 to 7.5 ML/year at the end of extraction in Year 30. Following cessation of extraction, the estimated groundwater inflow would continue at a steady 7.2 ML/year rate for the next 20 years. This would cause drawdown within the connected groundwater source and associated reduction in baseflow from surrounding watercourses.
227. Maximum modelled groundwater drawdown is predicted to be 20 m within the Project area at the end of extraction in Year 30, and 5 m at the Project area boundary. There is predicted to be limited impact of drawdown outside of the Project boundary with drawdown of up to 1 m at 200

m distance (to the north, west and south) and no drawdown at 300 m from the boundaries. Depressurisation within the underlying confined volcanic/sedimentary unit is 0.5 m at 500 m distance from the Project area boundary.

228. The Project is predicted to have negligible impact on existing private groundwater bores in the surrounding area, with the closest bore located about 400 m to the southeast of the Project area and outside of any predicted drawdown associated with the Project.
229. Limited impact is predicted on Seven Mile Creek baseflow with a reduction of a maximum of 0.27 ML/year predicted after about 25 years of extraction. Given that the creek is ephemeral and losing in the upper reach, the baseflow reduction is only predicted to occur in the lower reaches.
230. The assessment of the Project's predicted groundwater impacts against the Level 1 minimal impact considerations specified for 'less productive' aquifers under the AIP indicates that the predicted impacts are less than the Level 1 minimal impact considerations, as both drawdown and depressurisation are below the limits set by the policy.

#### ***Groundwater Dependent Ecosystems (GDEs)***

231. One variant of PCT HU804 classified as Hunter Valley Moist Forest has been identified along several watercourses within the Project area. It is considered to be a facultative GDE, meaning it uses groundwater opportunistically or to a very limited extent.. Only small areas of this GDE are located within the proposed disturbance footprint, and these impacts would be offset in accordance with the proposed BOS. Given that the GDE is considered facultative, Kleinfelder considered that the groundwater drawdown predicted to occur as a result of the Project is unlikely to significantly impact the areas of this GDE located beyond the immediate disturbance footprint.
232. The Department accepts that drawdown associated with the Project is unlikely to impact this GDE. Notwithstanding this, to avoid further direct impacts, the Department has recommended a condition requiring the riparian corridors be maintained on either side of watercourses outside of the direct disturbance footprint in accordance with the *Guidelines for Controlled Activities on Waterfront Land* (DPI Water 2012).
233. As recommended by the then DPI Water (now Water Group), the Department has also recommended that an adaptive management approach be implemented for the GDE which requires more detailed baseline data be collected and mapping undertaken prior to the commencement of quarrying, and monitoring of riparian vegetation continues during quarrying operations to determine any impacts on the GDE. If a change in GDE vegetation is detected

and found to be caused by groundwater drawdown associated with the Project, then Eagleton Rock Syndicate will be required to offset the impacts.

### **Groundwater licencing**

234. Under the WM Act, Eagleton Rock Syndicate is required to hold a WAL for groundwater take in the *WSP for the North Coast Fractured and Porous Rock Groundwater Sources 2016 (New England Fold Belt Coast Groundwater Source)*. As indicted above, a licence for up to 7.5 ML would be required for the estimated maximum groundwater take. The Water Group accepted that a WAL application has been submitted for this allocation and that shares can either be purchased from existing users or via a controlled allocation order.
235. The Department's recommended conditions require Eagleton Rock Syndicate to report on all water extracted from the Project each year and note the company's requirement to obtain all necessary water licences under the WM Act.

### **6.5.3 Water monitoring, mitigation and management**

236. Eagleton Rock Syndicate has committed to implementing the following water monitoring regime:
- monthly water quality monitoring (for TSS, pH, EC, phosphorus and nitrogen) within Seven Mile Creek both upstream and downstream of the site;
  - monitoring performance of the WMS and erosion and sediment control devices monthly and after storm events;
  - monthly visual flow monitoring along Seven Mile Creek;
  - monthly groundwater level and water quality monitoring (for TDS, pH, EC, chloride, arsenic, phosphorus and total nitrogen, NOX and ammonia) from the existing five groundwater bores at the site.
237. Eagleton Rock Syndicate indicated that several of its monitoring bores located within the quarry pit area would need to be destroyed as resource is extracted. It has committed to undertaking monitoring from all bores until they would be destroyed and replacing several of the removed bores. In accordance with the Water Group recommendations, the Department has recommended that a bore replacement strategy be included as part of the Water Management Plan to ensure that there is adequate information on groundwater to inform groundwater model updates during the life of the quarry.
238. Hunter Water and EPA accepted the proposed surface water monitoring regime, however Hunter Water also recommended that monitoring be conducted during the infrequent but

more significant uncontrolled discharge events. Hunter Water recommended that these results be forwarded to them within seven days of the event to demonstrate whether the quarry operations are affecting water quality within the catchment. The Department has recommended that a protocol be included as part of the Water Management Plan to ensure that Hunter Water and other relevant stakeholders are notified of any exceedances of the surface water impact assessment criteria.

239. In addition, the Department has recommended that the water monitoring regime be expanded to also include:

- metering of captured water volumes in all water storages and measuring of volumes of water pumped between water storages and offsite from Dam 1;
- water quality monitoring of controlled and uncontrolled offsite discharges;
- monitoring of water quality, flows, stream stability, riparian condition and geomorphic processes along Seven Mile Creek and any other watercourses that could potentially be impacted by the Project;
- mapping and monitoring of riparian vegetation (including the GDE) condition along watercourses outside of the disturbance footprint; and
- regular reviews and monitoring of the overall effectiveness of the WMS.

240. The Department has also recommended that Eagleton Rock Syndicate be required to prepare and implement a Water Management Plan in consultation with Hunter Water and the Water Group, which would include baseline data, performance criteria, triggers, monitoring requirements, and investigation, notification, reporting and review protocols for managing impacts to water resources.

241. Finally, the Department's recommended conditions would also include a requirement for Eagleton Rock Syndicate to develop and implement program to periodically validate the groundwater model for the Project in accordance with best practice methods. This would require an update of the groundwater model after the first 5 years of quarrying operations, and at least annual comparison of monitoring results with modelled predictions.

#### **6.5.4 Summary**

242. The Department acknowledges the community's concerns regarding potential water resources impacts from the Project, particularly given the quarry would be located within the Grahamstown Dam drinking water catchment.

243. However, the Department considers that the proposed WMS has been suitably designed in accordance with Hunter Water requirements to detain the 500-year ARI storm event in a manner that would ensure a NorBE on the drinking water catchment.
244. The Department accepts that only relatively minor volumes of treated water would need to be discharged offsite, and EPA has confirmed that these would be regulated by an EPL. The predicted water deficits during drier years are also minor and there are measures available to readily manage any water supply shortfalls.
245. The Department notes that the predicted impacts to groundwater resources would be very localised and limited to a 'less productive' aquifer. The predicted impacts are less than the Level 1 minimal impact considerations set out in the AIP. Accordingly, the Department considers these impacts acceptable.
246. With the measures proposed by Eagleton Rock Syndicate and the performance measures and conditions recommended by the Department, the Department considers that the risks of impact to surface water and groundwater resources and riparian environments are low and that the Project could be suitably managed to avoid any unacceptable impacts.

## 6.6 Other issues

247. Other issues associated with the Project include social impacts, economic impacts, human health, blasting, hazards and waste, greenhouse gas emissions, Aboriginal cultural heritage, historic heritage, visual amenity, and rehabilitation and final landform impacts. The Department's assessment of these issues is summarised in **Table 6 5**.

Table 6-6 | Assessment of other issues

Issue assessment	Recommended conditions
<p><b>Social impacts</b></p>	
<ul style="list-style-type: none"> <li>• Key concerns regarding social issues related to potential impacts on the amenity of local residents, particularly those living in the Eagleton Ridge respite centre.</li> <li>• In its submission on the EIS, Council requested more detailed assessment of social impacts, including identification of relevant communities of interest, cumulative social impacts, and implications of those impacts, and assessment of the implications for the future residents of the Kings Hill Urban Release Area.</li> <li>• In response to submissions from the public and Council, the Submissions Report included a Social Values Review (SVR) for the Project which was prepared by Kleinfelder. The review was informed by an engagement program which involved consultation during the development and exhibition of the EIS and Submissions Report; open information sessions; four newsletters; and individual consultation with surrounding landowners and the operators of Seaham Quarry.</li> <li>• The Department recognises that many of the social impacts from the Project are related to noise, blasting, air quality, traffic and other environmental impacts that have been assessed separately in accordance with relevant legislation and government policy.</li> <li>• Key social impact concerns identified by the SVR included:             <ul style="list-style-type: none"> <li>○ impacts on the Eagleton Ridge respite centre, potentially undermining its viability;</li> <li>○ negative impacts on the rural amenity of surrounding residents, primarily from noise, dust, blast vibration and lighting during the construction and operation of the Project;</li> <li>○ increase in local traffic and safety impacts; and</li> <li>○ change to the rural character of the area.</li> </ul> </li> <li>• The SVR confirmed that the local community places significant value on the Eagleton Ridge respite centre, which has been operating to the south of the proposed quarry for approximately 20 years. Twenty submissions were received from employees of this centre expressing</li> </ul>	<ul style="list-style-type: none"> <li>• The Department has recommended the establishment of a CCC in accordance with the Department’s <i>Community Consultative Committee Guidelines: State Significant Projects (2023)</i>, as well as a requirement to regularly publish relevant documentation on Eagleton Rock Syndicate’s website, and implement a protocol for managing and reporting community complaints.</li> </ul>

Issue assessment	Recommended conditions
<p>concerns about adverse impacts of quarrying activates on the viability and amenity of the centre.</p> <ul style="list-style-type: none"> <li>• Kings Hill Urban Release Area is approved to be developed approximately 1 km (at its closest point) to the south of the quarry site, on the southern side of Six Mile Road. It is predicted to result in significant residential intensification, with up to 11,000 new residents in the area.</li> <li>• The SVR noted that incremental and cumulative assessments for noise, air and blasting have confirmed that these activities would not impact the community (including the Eagleton Ridge respite centre or future residents at Kings Hill) above accepted amenity criteria. Proposed road and intersection upgrades were also considered adequate to ensure improved efficiency of the road network and safety of road users.</li> <li>• The SVR considered that the Project would not result in significant change or impact to the existing rural character of the area, given the quarry is consistent with existing land users in the area (i.e. two local quarries and numerous recreational facilities).</li> <li>• Key social benefits identified in the SVR included positive economic outcomes associated with the Project through the provision of job opportunities for the community during construction and operation.</li> <li>• Eagleton Rock Syndicate has proposed a range of mitigation and management strategies to address the identified social impacts of the Project. These measures are additional to those proposed to mitigate the noise, air quality, blast and traffic impacts, and include commitments to: <ul style="list-style-type: none"> <li>○ carry out additional consultation with local community during project planning and construction;</li> <li>○ establish a Community Liaison Group to convey the project status to community and receive feedback on matters requiring consideration, response or action; and</li> <li>○ ensure ongoing and effective consultation with the local community, including providing contact details for a site representative and a complaints handling procedure to address and respond to issues raised by the community.</li> </ul> </li> </ul>	

Issue assessment	Recommended conditions
<ul style="list-style-type: none"> <li>• Overall the SVR concluded that the social impacts associated with the Project can be managed appropriately and the quarry is unlikely to result in a significant change to the community.</li> <li>• The Department accepts this conclusion and supports Eagleton Rock Syndicate’s social mitigation and management commitments. In recognition of the need to maintain effective community engagement and implement measures to mitigate negative social impacts, the Department has recommended conditions requiring Eagleton Rock Syndicate to: <ul style="list-style-type: none"> <li>○ establish and operate a Community Consultative Committee (CCC);</li> <li>○ regularly publish relevant environment and community information on their website; and</li> <li>○ establish and operate a protocol for managing and reporting community complaints.</li> </ul> </li> <li>• The Department considers that with the implementation of the mitigation measures proposed by Eagleton Rock Syndicate and the application of the Department’s recommended conditions (coupled with the management measures proposed in respect of noise, air quality, blasting and traffic impacts), the extent of social impacts can be appropriately managed and mitigated.</li> </ul>	

**Economic impacts**

<ul style="list-style-type: none"> <li>• The EIS included an Economic Impact Assessment (EIA) for the Project which was prepared by Hunter Research Foundation Centre and provided an input-output model for the regional economy.</li> <li>• Economic issues were raised in approximately 51% of objecting public submissions, with key concerns relating to potential adverse impacts on existing businesses and the potential reduction in property prices as a result of the quarry. Boral indicated that a cost-benefit analysis (CBA) and local effects analysis (LEA) should be prepared.</li> <li>• Council requested that the economic impacts of the Project on surrounding non-related businesses (including tourist and recreation based land uses) and on land values be assessed.</li> </ul>	<p>No conditions are considered necessary</p>
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Issue assessment	Recommended conditions
<ul style="list-style-type: none"> <li>• An updated EIA was subsequently prepared by Cadence Economics as part of the Submissions Report. The updated EIA was prepared in accordance with the <i>Guidelines for the economic assessment of mining and coal seam gas proposals</i> (NSW Government, 2015) and incorporated a CBA and LEA to estimate the incremental net benefits of the Project to the State and the region over a 24-year period.</li> <li>• The Department notes that property values are not a consideration for assessment under the EP&amp;A Act and accordingly have not been a consideration in the Department’s assessment of the Project.</li> <li>• The LEA estimated that the Project would confer a net benefit of \$1.6 million to Port Stephens area in Net Present Value (NPV) terms, primarily due to benefits to: <ul style="list-style-type: none"> <li>○ employees (20 full time personnel) of which 80% are assumed to be drawn from the local area; and</li> <li>○ local suppliers which are assumed 20% to provide quarry inputs to production.</li> </ul> </li> <li>• The LEA stated that the estimated local effects are robust, with the sensitivity analysis indicated that the net benefits to the local region range from \$0.9 to \$2.6 million in NPV terms under the range of sensitivities considered.</li> <li>• Overall, the CBA calculated that the Project would confer an estimated net benefit to NSW of \$82.7 million in NPV terms over the life of the quarry using a 7 percent real discount rate. Sensitivity analysis indicates that the net benefits could range from \$44 million to \$121 million. This includes the costs of environmental offsetting, mitigation and rehabilitation.</li> <li>• The Department accepts that the Project would generate up to 20 FTE jobs during operation, and that a significant percentage of the workers would likely reside in the local and regional area. The Department also recognises that a key economic benefit of the Project would be improving the security of supply of hard rock to the domestic market to meet the significant number of planned infrastructure and other construction projects.</li> <li>• The Department considers that the Project would result in positive economic benefits to the local and regional areas and to the State of</li> </ul>	

Issue assessment	Recommended conditions
NSW and is therefore considered desirable and justified from an economic efficiency perspective.	

### Blasting

<ul style="list-style-type: none"> <li>The revised NIA included a blasting and vibration assessment which predicted the airblast overpressure and ground vibration levels at nearest residential receivers from the quarry.</li> <li>Blast and vibration issues were raised in 51% of public submissions, with issues related to reduced amenity from blasting at the existing and proposed quarries in the area and disturbance to local fauna. Several submissions also raised inconsistencies in the blasting hours referred to in the Project documentation.</li> <li>EPA did not raise any issues in relation to the blasting and vibration assessment, however provided recommended conditions for blasting limits, time restrictions, monitoring and the preparation of a Blast Management Plan.</li> <li>Blasting is proposed to be undertaken at a frequency of up to 2 blasts per day (no more than 4 blasts per week) during construction and 1 blast per day during operations. Eagleton Rock Syndicate has committed to restricting blasts to between 9 am to 4 pm Monday to Friday, with no blasts on weekends or public holidays. These time restrictions are in line with those recommended by EPA.</li> <li>Spectrum found that the quarry blasting would meet relevant ground vibration and airblast overpressure objectives at all sensitive receivers throughout the life of the Project.</li> <li>Spectrum concluded, and the Department agrees, that the proposed blasting associated with the Project presents negligible risk of any damage to private property or disturbance to fauna or associated habitat structures.</li> <li>As well as committing to restricting blasting times, Eagleton Rock Syndicate committed to preparing and implementing a Blast Management Plan which includes vibration monitoring protocols for each blast and response protocols in the event of any exceedance of blast vibration criteria.</li> <li>The Department supports these commitments. In addition, the Department has recommended conditions for blast criteria; blast</li> </ul>	<p>The Department has recommended standard conditions requiring Eagleton Rock Syndicate to:</p> <ul style="list-style-type: none"> <li>ensure that blasting does not cause exceedances of blasting criteria at private residences;</li> <li>limit the frequency of blasts to 2 per day (not more than 4 per week) during construction and 1 blast per day during operations;</li> <li>notify the community of scheduled blasts and monitoring each blast to evaluate compliance with the relevant blasting criteria;</li> <li>ensure the safety of people and livestock from blasting impacts;</li> <li>protect public and private infrastructure from blasting impacts;</li> <li>minimise blast-related dust and fume emissions; and</li> <li>allow nearby landowners to request an independent review of impacts at their property, should they consider the Project to be exceeding the relevant</li> </ul>
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Issue assessment	Recommended conditions
<p>timing and frequency restrictions; property inspections and investigations at the request of property owners; and blast operating conditions.</p> <ul style="list-style-type: none"> <li>Overall, the Department considers the blasting impacts of the Project to be acceptable, subject to the implementation of Eagleton Rock Syndicate's commitments and the recommended conditions of consent.</li> </ul>	<p>blasting, noise, or air quality criteria.</p>

### Hazards and waste

<ul style="list-style-type: none"> <li>The EIS included assessment of hazards and risks associated with the Project, including waste, dangerous good storage and bushfires.</li> <li>The assessments indicated that these and other hazards would not present significant risk, subject to implementation of waste management measures and standard best practice risk management.</li> <li>The Project would generate small quantities of waste during construction and operation, including scrap building materials, organic material from vegetation clearing, general office wastes, sewage from on-site amenities and waste greases and oil.</li> <li>Eagleton Rock Syndicate has committed to reuse or recycle waste streams where possible or dispose of them in accordance with the requirements <i>Waste Avoidance and Resource Recovery Act 2001</i> and the POEO Act. The company indicated that most wastes generated at the site would be managed by way of Council collection services or via appropriately licensed waste contractors. Sewage would be managed using a contained pump-out (or similar) system and off-site disposal by a licenced contractor.</li> <li>In response to issues raised by EPA and in public submissions, Eagleton Rock Syndicate has committed to either reuse organic green waste onsite in landscaping or for site rehabilitation, or directing excess organic material to a suitably licenced facility. The company also committed to reuse onsite the reject tile fragments which are currently stockpiled on site where they comply with the EPA's <i>Recovered Aggregate Order 2014</i> and the <i>Recovered Aggregate Exemption 2014</i>. Rejected tile fragments that do not meet these requirements would be taken to a waste facility that can lawfully receive them.</li> </ul>	<p>The Department has recommended standard conditions requiring Eagleton Rock Syndicate to:</p> <ul style="list-style-type: none"> <li>appropriately store, handle and dispose of any waste generated or received on site;</li> <li>store, handle and transport dangerous goods in accordance with Australian Standards and the <i>Australian Dangerous Goods Code</i>;</li> <li>provide for asset protection in accordance with the updated guidelines;</li> <li>ensure there is adequate equipment to respond to any fires on the Project site; and</li> <li>assist RFS and emergency services to the extent practicable if there is a fire in the vicinity of the site.</li> </ul>
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Issue assessment	Recommended conditions
<ul style="list-style-type: none"> <li>The site is located on land that is designated as Category 1 Vegetation on the Port Stephens Bushfire Prone Land Map. As such the relevant provisions of the NSW Rural Fire Service's (RFS's) <i>Planning for Bush Fire Protection</i> guidelines. In accordance with the guidelines, Eagleton Rock Syndicate committed to comply with required emergency evacuation arrangements and asset protection zones. Eagleton Rock Syndicate also committed to consulting with the RFS about approved activities on Total Fire Ban days.</li> <li>In its submission on the Amended Project Submissions Report, the RFS noted that the updated <i>Planning for Bush Fire Protection</i> (RFS, 2019) guidelines would now apply to the Project. The Department has therefore recommended that Eagleton Rock Syndicate provides for asset protection in accordance with the updated guidelines, ensures there is adequate equipment to respond to any fires on the Project site, and assists RFS and emergency services to the extent practicable if there is a fire in the vicinity of the site.</li> <li>The Department considers that waste and hazards can be appropriately managed during construction and operation of the quarry. The Department has recommended specific conditions to ensure appropriate waste and bushfire management measures are implemented.</li> </ul>	

### Greenhouse gas emissions

<ul style="list-style-type: none"> <li>An assessment of greenhouse gas emissions (GHG) for the Project was included in the original AQGHGA. The assessment estimated the following emissions:</li> <li>1,520 tonnes CO<sup>2</sup> equivalent (t CO<sup>2-e</sup>) Scope 1 emissions would be generated on an annual basis (42,959 t CO<sup>2-e</sup> over the life of the project) through the consumption of diesel by on-site equipment;</li> <li>1,260 t CO<sup>2-e</sup> Scope 2 emissions would be generated each year (37,800 t CO<sup>2-e</sup> over the life of the project) through on site electricity use; and</li> <li>516 t CO<sup>2-e</sup> Scope 3 emissions annually (7,594 t CO<sup>2-e</sup> over the life of the project) generated through the production and transport of fuels and emissions from transportation;</li> <li>The annual contribution of GHG emissions from the project (3296 t CO<sup>2-e</sup>) is estimated to make up 0.00003% of the annual emissions for</li> </ul>	<p>The Department has recommended conditions requiring Eagleton Rock Syndicate to maximise the energy efficiency and minimise the GHG emissions from the Project.</p>
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Issue assessment	Recommended conditions
<p>NSW (111.0 Mt CO<sub>2</sub>-e), 0.000006% of the annual emissions for Australia under the Kyoto Protocol (591.5 Mt CO<sub>2</sub>-e) and a very small portion of global greenhouse emissions.</p> <ul style="list-style-type: none"> <li>• Eagleton Rock Syndicate has committed to implementing the following mitigation measures to minimise GHG emissions from the Project: <ul style="list-style-type: none"> <li>○ maintaining equipment and plant in a good condition to ensure efficient operations; and</li> <li>○ ensuring plant and equipment are switched off when not in use;</li> </ul> </li> <li>• The Department considers that the Project would provide a negligible contribution to Australia’s GHG emissions.</li> </ul>	

**Aboriginal cultural heritage**

<ul style="list-style-type: none"> <li>• The EIS included an Indigenous Archaeological Due Diligence Assessment which was prepared by McCardle Cultural Heritage Pty Ltd (McCardle) in 2012. In response to issue raised by the then OEH (now Heritage NSW) regarding the adequacy of the assessment, an updated Aboriginal Cultural Heritage Impact Assessment (ACHIA) was subsequently prepared by McCardle and included as part of the Submissions Report. The ACHIA was prepared in accordance with the relevant guidelines and involved consultation with representatives of five Registered Aboriginal Parties (RAPs).</li> <li>• Heritage NSW indicated that it was satisfied with the updated ACHIA, including the updated field surveys, consultation and proposed management strategies.</li> <li>• The ACHIA confirmed that one isolated find (flake) and two potential archaeological deposits (PADs) were identified in watercourses in the vicinity of the Project. One PAD is located along the Seven Mile Creek watercourse to the east of the Project site and one PAD is located along the 2nd order stream to the south of the Project site. McCardle confirmed that the site and PADs are typical of the Hunter Valley region in both their content and location, and that the isolated find was of low scientific significance. The RAPs assigned general social/cultural significance to the Project area, isolated find and PADs.</li> <li>• McCardle confirmed that the riparian buffer corridors to be maintained along the 2nd and 3rd order watercourses in the vicinity of</li> </ul>	<p>The Department has recommended standard conditions requiring Eagleton Rock Syndicate to protect, monitor, record and manage identified Aboriginal heritage items and ensure that the Project does not impact on any identified Aboriginal objects located outside proposed disturbance areas.</p>
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Issue assessment	Recommended conditions
<p>the site would ensure that the isolated find and PADs would not be impacted by the Project.</p> <ul style="list-style-type: none"> <li>• Eagleton Rock Syndicate has committed to implement a range of heritage mitigation and management measure during construction and operation of the Project, including: <ul style="list-style-type: none"> <li>○ ensuring all staff and contractors are aware of the statutory legislation protecting sites and places of Aboriginal significance;</li> <li>○ to ensure all work ceases in the area in the event that any Aboriginal objects be uncovered during works and that Aboriginal stakeholders and are contacted;</li> <li>○ conducting cultural awareness training as part of the site induction; and</li> <li>○ conducting a collection and recording program in accordance with relevant guidelines in the event that either the isolated find or PADs would be disturbed by quarrying operations.</li> </ul> </li> <li>• Heritage NSW supports these heritage management commitments. The Department accepts that any impacts to Aboriginal cultural heritage sites as a result of the Project would be minor and manageable.</li> </ul>	

### Historic heritage

<ul style="list-style-type: none"> <li>• As requested by the Heritage Council, the Submissions Report included an Historical Archaeology and Cultural Heritage Values Assessment prepared by Maxim Multicon Pty (Maxim). The Heritage Council considered the assessment adequate to assess the historic heritage aspects of the Project.</li> <li>• Maxim confirmed that survey of the site revealed no evidence that it possesses actual or potential archaeological or historical heritage significance at either State or local level based on historical, scientific, cultural, social, archaeological, architectural or aesthetic criteria.</li> <li>• Maxim recommended management measures for unexpected finds and potential relics during the course of works associated with the quarry. These measures were supported by the Heritage Council.</li> <li>• On this basis, the Department considers there is low potential for adverse impacts to historic heritage from the Project.</li> </ul>	<p>The Department has recommended a condition requiring appropriate procedures to be implemented if unexpected historic relics are discovered during construction or operation of the Project.</p>
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Visual

<ul style="list-style-type: none"> <li>• The EIS included a Visual Impact Assessment (VIA) prepared by JBA.</li> <li>• JBA’s analysis of view corridors identified that the quarry development would not be visually intrusive from any sensitive viewpoint. JBA confirmed that sight lines from surrounding properties are not directed towards the proposed quarry, and any views to the quarry would be largely screened by intervening topography and existing vegetation.</li> <li>• During the assessment process, Eagleton Rock Syndicate committed to a redesign of the quarry to retain a portion of the existing hill along the southern portion of the site as an extensive natural visual barrier to the processing area at no less than RL 57.5m until the final year of quarrying. Eagleton Rock Syndicate also committed to rehabilitation of the western benches of the quarry, including tree planting, in the early stages of the Project. JBA confirmed that, by the time quarry operations have reached an advanced stage, these rehabilitated areas would be well established and would assist in minimising the visual impacts of the quarrying activities from the adjacent landowners.</li> <li>• In relation to night-time lighting impacts, Eagleton Rock Syndicate confirmed that the only night-time/morning shoulder activities would be sales (i.e. loading of delivery trucks), which would potentially occur 5 am to 7 am Monday to Friday. These activities would remain behind the retained hill until the final year of quarrying, and so would be well-screened until that time. Eagleton Rock Syndicate committed to installing directional night-time lighting in the sales area to minimise night-time glow effects.</li> <li>• The Department accepts these commitments and conclusions and considers that the visual amenity impacts from the Project would be minimal and are therefore acceptable.</li> </ul>	<p>The Department has recommended standard conditions requiring Eagleton Rock Syndicate to:</p> <ul style="list-style-type: none"> <li>• minimise the visual impacts of the development;</li> <li>• detail the proposed visual mitigation measures in the Rehabilitation Management Plan;</li> <li>• ensure all external lighting complies with relevant Australian Standards; and</li> <li>• integrate the final landform with surrounding natural landforms as far as is reasonable and feasible.</li> </ul>
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Final landform and rehabilitation

<ul style="list-style-type: none"> <li>• The EIS included a Rehabilitation and Closure Management Plan (RCMP) prepared by SLR.</li> <li>• The Department, Water Group and Council requested further details on how rehabilitation objectives would be achieved, in particular in</li> </ul>	<p>The Department’s recommended conditions include a requirement for Eagleton Rock Syndicate to:</p>
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Issue assessment	Recommended conditions
<p>relation to how the final landform would fit into the surrounding landscape including linkages to existing waterways and fauna movement corridors.</p> <ul style="list-style-type: none"> <li>• An updated RCMP was subsequently included as part of the Submissions Report, which addressed agency comments and reflected the amended mine design changes and quarry sequencing.</li> <li>• The updated RCMP stated that the broad rehabilitation objective for the post-quarry landform is to establish a similar woodland land use on the disturbed areas that currently exists which is self-sustaining, safe, stable and non-polluting.</li> <li>• The RCMP stated that during quarrying, progressive rehabilitation would occur around the perimeter of the pit and site to provide visual barriers to the quarry and assist in the development of linkages with the existing remnant vegetation. Locally endemic species would be used in the seed mix to assist with linkages.</li> <li>• The proposed topography of the final quarry landform would consist of a large number of 12.5 m stepped revegetated benches formed in an amphitheatre configuration. It is proposed that the pit floor (void area) would be vegetated with appropriate native species to create a stable wetland in the south-east corner of the void, including drainage lines linking to established dams, before connecting to the existing creeks.</li> <li>• The Department has recommended that these commitments be further refined and included into the Rehabilitation Management Plan, which would be required to include a conceptual closure plan and detail of specific rehabilitation performance and completion criteria, measures to meet these criteria and a program to monitor, review and report on the effectiveness of these measures.</li> <li>• In addition, the Department has recommended conditions requiring Eagleton Rock Syndicate to lodge a rehabilitation bond to ensure accumulated and anticipated costs of rehabilitation are available until rehabilitation (including achievement of all completion criteria) has been completed to the satisfaction of the Secretary.</li> </ul>	<ul style="list-style-type: none"> <li>• prepare and implement a Rehabilitation Management Plan; and</li> <li>• lodge a rehabilitation bond.</li> </ul>

## 7 Evaluation

248. The Department has carried out a detailed assessment of the merits of the Project, having regard to Eagleton Rock Syndicate's Project documentation, advice from government agencies and all public submissions. The Department has also considered the relevant matters and objects of the EP&A Act and relevant considerations under Section 4.15(1) of the EP&A Act.
249. The Department acknowledges the considerable level of public interest in the Project. This is understandable given the nature of hard rock quarries generally, which typically generate dust, noise, vibration and traffic as the hard rock is extracted, processed and transported by truck to market. They also often involve clearing of remnant vegetation and the establishment of large voids in the landscape. For these reasons, extractive industry proposals such as this one require careful consideration, to ensure they are established in suitable locations, and are designed, constructed and operated appropriately to avoid, minimise and mitigate impacts as far as reasonably practicable.
250. The information provided in the EIS and Amendment Report, community submissions and agency advice highlighted that the potential noise, traffic, air quality, biodiversity and water resources impacts were the key issues associated with the Project.
251. The Department is aware that increased noise levels associated with the Project was the key issue raised in public submissions. Residents were particularly concerned that, when considered in combination with the existing neighbouring Seaham Quarry and other nearby recreational facilities, the Project would result in unacceptable cumulative noise impacts.
252. Notwithstanding these concerns, the Department considers that the Project is unlikely to result any exceedances of the recommended noise limits at any sensitive receiver location, including at the Eagleton Ridge respite centre. The Department also considers that the proposed mitigation, monitoring and management measures proposed by Eagleton Rock Syndicate would further reduce noise levels during operation of the Project. On this basis, the Department considers that the noise impacts of the Project are acceptable.
253. Given the proposed road haulage of quarry products, and potential interactions with existing road users along Italia Road and the associated intersection with the Pacific Highway, it's not surprising that potential impacts to the safety and performance of the local road network was another key concern for the community. These concerns were also reflected in the advice provided by Council and TfNSW following their review of the EIS for the Project.
254. However, the Department considers that Eagleton Rock Syndicate has responded to these concerns appropriately by amending the Project and proposing to upgrade the Italia Road /

Pacific Highway intersection prior to commencing operation of the Project. It has also committed to ensuring all quarry related heavy vehicles would turn left from the intersection when accessing the Pacific Highway, eliminating the need for quarry trucks to undertake an at-grade crossing of the highway at this location. This would improve the efficiency and safety of this intersection, when compared to existing conditions.

255. Eagleton Rock Syndicate has also adequately demonstrated that a satisfactory level of service would be experienced by motorists on the broader local and regional road network over the life of the Project. The Department, Council and TfNSW accept these assessment findings.
256. The Department understands that potential air quality impacts were another key issue raised in public submissions. Notwithstanding the community's concerns, Eagleton Rock Syndicate has demonstrated that the Project would comply with applicable air quality impact assessment criteria at the vast majority of receptor locations, including sensitive receptors such as the nearby Eagleton Ridge respite centre and the proposed Kings Hill residential area to the south. The small number of predicted exceedances would be relatively minor and only occur at recreational facilities, which would be occupied intermittently. The Department and EPA consider it unlikely that these exceedances would cause adverse health impacts associated with prolonged exposure.
257. The Department has taken a precautionary approach in recommending strict air quality limits and operating conditions for the Project, consistent with EPA's recommendations. These include a requirement to operate a proactive and reactive air quality management system that incorporates the use of real-time monitoring to manage the day-to-day operations of the quarry. The Department considers that the recommended conditions strike a fair balance between protecting the health of the local community and providing for the operation of the quarry. Subject to these conditions, the Department considers the air quality impacts of the Project are acceptable.
258. It also recognises that the Project has the potential to adversely impact several threatened flora and fauna species, including Koala and Southern Myotis, through the proposed clearing of remnant vegetation.
259. Given these threats, and the community concern regarding biodiversity impacts more broadly, a key aspect of the Department's assessment was to ensure that Eagleton Rock Syndicate adopted the 'avoid', 'minimise', 'offset' hierarchy of controls into the design of the Project as far as practicable. The Department also recognises that the Project's ability to avoid impacts to species habitat is restricted by the location of the resource and that complete avoidance is impractical.

260. The Department acknowledges that the Project would require the clearing of 32.03 ha of native vegetation and impact threatened flora and fauna species. Despite these impacts, the Department considers that the Project has been designed to avoid and minimise biodiversity impacts where practicable and offset any residual impacts. The Department considers that the biodiversity impacts of the Project would be suitably mitigated, managed and/or offset in accordance with the BC Act. Additionally, the Department's recommended conditions of consent would provide for sound management of retained biodiversity values and impacts to threatened flora and fauna and their habitats. Overall, the Department considers the impacts of the Project on biodiversity are acceptable, subject to the recommended conditions.
261. Potential impacts to water resources were another key focus of the Department's assessment, particularly given the Project's location within the Grahamstown Dam drinking water catchment. However, the Department accepts that proposed WMS has been designed in a manner that would ensure a NorBE on the drinking water catchment and to the satisfaction of Hunter Water.
262. Further, the predicted groundwater impacts would be very localised and limited to a 'less productive' aquifer. They would also be less than the Level 1 minimal impact considerations set out in the AIP. Accordingly, the Department considers these impacts acceptable.
263. The Department considers that, with the implementation of the recommended conditions of consent, the risks of impact to surface water and groundwater resources are low and that the Project could be suitably managed to avoid any unacceptable impacts.
264. The Department has assessed the impacts of the Project on other values including social impacts, economic impacts, human health, blasting, hazards and waste, greenhouse gas emissions, Aboriginal cultural heritage, historic heritage, visual amenity, and rehabilitation and final landform impacts. The Department considers that the residual impacts of the Project can be suitably mitigated and managed.
265. The Department has recommended a comprehensive and precautionary suite of conditions to ensure that the Project complies with contemporary criteria and standards, and that residual impacts are effectively minimised, managed, offset and/or compensated for. The recommended conditions were provided to key NSW Government agencies and their comments taken into account in finalising the conditions. Eagleton Rock Syndicate has also reviewed the recommended conditions.
266. The Department considers that the conditions reflect current best practice for the regulation of hard rock quarrying projects in NSW and would lead to acceptable environmental outcomes. A link to the recommended consent is provided at **Appendix D**.

267. The Department recognises that the proposed quarry would contribute a range of high-quality construction materials to local and regional markets. It would contribute significantly to the supply of materials for the construction of housing and major regional infrastructure projects.
268. The Department also recognises that the proximity of the Project's hard rock resources to the Pacific Highway via Italia Road facilitates safe and efficient distribution of products to the market. The Department accepts there is a strategic need for hard rock quarry materials in the Hunter, Central Coast and Sydney regions and considers the site to be well-suited for the Project.
269. The Department also considers that the Project would result in significant economic benefits to the region and to the State of NSW through the supply of materials critical to the construction industry and is therefore justified from an economic efficiency perspective.
270. The Department has carefully weighed the environmental impacts of the Project against the significance of the Project's identified hard rock resource and the wider socio-economic benefits associated with operating the quarry for 30 years under a contemporary development consent.
271. On balance, the Department considers that the benefits of the Project outweigh its residual costs, the site is suitable for the proposed development, and that the Project is in the public interest and is approvable, subject to the recommended strict conditions of consent.

# Glossary

Abbreviation	Definition
<b>AHD</b>	Australian height datum
<b>BCS</b>	Biodiversity Conservation and Science group of the NSW Department of Climate Change, Energy, the Environment and Water (formerly the Office of Environment and Heritage (OEH))
<b>CIV</b>	Capital investment value
<b>Council</b>	Port Stephens Council
<b>AG DCCEEW</b>	Australian Government Department of Climate Change, Energy, the Environment and Water
<b>Department</b>	Department of Planning, Housing and Infrastructure
<b>DPI Fisheries</b>	Fisheries Group of Department of Primary Industries within the Department of Regional NSW
<b>EIS</b>	Environmental impact statement
<b>EPA</b>	NSW Environment Protection Authority
<b>EP&amp;A Act</b>	<i>Environmental Planning and Assessment Act 1979</i>
<b>EP&amp;A Regulation</b>	<i>Environmental Planning and Assessment Regulation 2021</i>
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
<b>EPI</b>	Environmental planning instrument
<b>EPL</b>	Environment protection licence
<b>ESD</b>	Ecologically sustainable development
<b>FRNSW</b>	Fire and Rescue NSW

Abbreviation	Definition
<b>Heritage NSW</b>	Heritage NSW, within the NSW Department of Climate Change, Energy, the Environment and Water, (formerly the Office of Environment and Heritage)
<b>IPC</b>	Independent Planning Commission
<b>LEP</b>	Local environmental plan
<b>MEG</b>	Mining, Exploration and Geoscience within the Department of Regional NSW (formerly Department of Resources and Geoscience, DRG)
<b>Minister</b>	Minister for Planning and Public Spaces
<b>NPWS</b>	National Parks & Wildlife Service within the NSW Department of Climate Change, Energy, the Environment and Water
<b>Planning Systems SEPP</b>	<i>State Environmental Planning Policy (Planning Systems) 2021</i>
<b>SEARs</b>	Planning Secretary's Environmental Assessment Requirements
<b>Secretary</b>	Secretary of the Department of Planning, Housing and Infrastructure
<b>SEPP</b>	State environmental planning policy
<b>SSD</b>	State significant development
<b>TfNSW</b>	Transport for NSW (formerly NSW Roads and Maritime Services)
<b>Water Group</b>	Water Group within the NSW Department of Climate Change, Energy the Environment and Water (formerly DPE Water, within the Department of Planning and Infrastructure, and Crown Lands and Water Division (CLWD) within the NSW Department of Industry)

# Appendices

## Appendix A – Summary of key amendments to the project

Since lodgement, some key aspects of the project have been amended in response to public submissions and agency advice via an amendment report.

A summary of the key amendments is provided in **Table 7-1** below.

**Table 7-1 | Key amendments**

Aspect	Original project in EIS	Amended project
<b>Access</b>	Access to the quarry site from Italia Road via an existing right of carriageway and Barleigh Ranch Way.	Access to the quarry site from Italia Road via a new right of carriageway further to the east of the existing right of carriageway, connecting to Barleigh Ranch Way.
<b>Road haulage route</b>	<ul style="list-style-type: none"> <li>Road haulage to be undertaken without any upgrade to the Italia Road / Pacific Highway intersection.</li> <li>Southbound quarry trucks to turn right onto Pacific Highway from Italia Road</li> </ul>	<p>No road haulage to be undertaken until the Italia Road / Pacific Highway intersection is upgraded to the satisfaction of TfNSW.</p> <p>Southbound quarry trucks to turn left onto Pacific Highway and perform a U-turn at the grade separated Tarean Road Interchange approximately 10.5 km to the north before heading south on Pacific Highway.</p>

## Appendix B – List of referenced documents

**B1 – EIS :** Refer to the ‘EIS’ folder under the ‘Assessment’ tab on the Department’s website at: <https://www.planningportal.nsw.gov.au/major-projects/projects/eagleton-quarry-project>

**B2 – Submissions:** Refer to the ‘Submissions’ tab on the Department’s website at: <https://www.planningportal.nsw.gov.au/major-projects/projects/eagleton-quarry-project>

**B3 – Submissions Report:** Refer to the first ‘Response to Submissions’ tab on the Department’s website at: <https://www.planningportal.nsw.gov.au/major-projects/projects/eagleton-quarry-project>

**B4 – Amendment Report:** Refer to the ‘Amendments’ tab on the Department’s website at: <https://www.planningportal.nsw.gov.au/major-projects/projects/eagleton-quarry-project>

**B5 – Amendment Submissions Report:** Refer to the second ‘Response to Submissions’ tab on the Department’s website at: <https://www.planningportal.nsw.gov.au/major-projects/projects/eagleton-quarry-project>

**B6– Agency Advice:** Refer to the ‘Agency Submissions’ and ‘Agency Advice’ tabs on the Department’s website at: <https://www.planningportal.nsw.gov.au/major-projects/projects/eagleton-quarry-project>

## Appendix C – Statutory considerations

### Objects of the EP&A Act

A summary of the Department’s consideration of the relevant objects (found in section 1.3 of the EP&A Act) are provided in **Table 7-2** below.

**Table 7-2** | Objects of the EP&A Act and how they have been considered

Object	Consideration
<p><b>(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,</b></p>	<ul style="list-style-type: none"> <li>• While the amended Project has the potential to result in both positive and negative social impacts, overall, the Department considers that any negative social impacts can be appropriately managed under recommended conditions.</li> </ul>
<p><b>(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,</b></p>	<ul style="list-style-type: none"> <li>• The Department’s assessment has sought to integrate all significant environmental, social and economic considerations.</li> <li>• The Department considers that the Project can be carried out in a manner that is consistent with the principles of ESD.</li> </ul>
<p><b>(c) to promote the orderly and economic use and development of land,</b></p>	<ul style="list-style-type: none"> <li>• The Project involves a permissible land use on the subject site and would facilitate efficient recovery of an important and regionally significant hard rock resource.</li> </ul>

Object	Consideration
<p><b>(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,</b></p>	<ul style="list-style-type: none"> <li>• The Department has assessed the biodiversity impacts of the Project in accordance with relevant State legislation, policies and guidelines.</li> <li>• The Department considers that the Project avoids and minimises, to the greatest extent practicable, impacts on threatened species and communities and key habitats.</li> <li>• The Department has recommended conditions to ensure that the residual biodiversity impacts of the Project would be appropriately managed and offset (see <b>Section 6</b>).</li> </ul>
<p><b>(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),</b></p>	<ul style="list-style-type: none"> <li>• The Department has assessed the likely impacts of the amended Project on Aboriginal cultural heritage and historic heritage and considers any potential impacts would be negligible.</li> </ul>
<p><b>(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,</b></p>	<ul style="list-style-type: none"> <li>• The Department has led a whole-of-government assessment of the Project in consultation with other NSW Government agencies. This consultation process is discussed in <b>Section 5</b>.</li> </ul>
<p><b>(j) to provide increased opportunity for community participation in environmental planning and assessment.</b></p>	<ul style="list-style-type: none"> <li>• The Department publicly exhibited both the original proposal and the amendment Project.</li> <li>• The development application and accompanying documents, including the Amendment Report were made publicly available on its website (see <b>Section 5</b>).</li> <li>• The Department visited the site and meet with a local business operator.</li> <li>• The Department has carefully considered issues raised by the community during both public exhibition periods in its assessment of the Project.</li> </ul>

### Environmental Planning Instruments (EPIs)

Under section 4.15 of the EP&A Act, the consent authority is required to consider, amongst other things, the provisions of the relevant EPIs, including any exhibited draft EPIs and development control

plans. The Department notes Eagleton Rock Syndicate's consideration of these instruments in its EIS and has undertaken its own consideration of the Project against the applicable provisions of relevant EPIs, including applicable State Environmental Planning Policies (SEPPs).

### **C2.1 SEPP (Resources and Energy) 2021 (Resources and Energy SEPP)**

Part 2.3 of the Resources and Energy SEPP lists a number of matters that a consent authority must consider before determining an application for consent for development for the purposes of an extractive industry. The Department has considered these matters in its assessment of the Project and has included a summary of these considerations in **Table E2**.

**Table E2 | Mandatory matters for consideration under Part 2.3 of the Resources and Energy SEPP**

Clause	Matters for consideration	Consideration
2.16	Non-discretionary development standards for mining	<ul style="list-style-type: none"> <li>• The Project is predicted to comply and has been assessed as complying with non-discretionary standards with respect to water, noise and blasting.</li> <li>• The Project is predicted to exceed air quality discretionary standards with respect to exceedance of PM10 and PM2.5 criteria at two nearby recreational facilities. However, most of the predicted exceedances are relatively minor and are at recreational facilities that would not be occupied on a continual basis. Therefore, it is considered unlikely that the exceedances would cause adverse health impacts associated with prolonged exposure.</li> <li>• To ensure this is the case, particularity for workers at the Hunter Paintball facility where cumulative exceedances are predicted to be more significant, the Department considers it important that Eagleton Rock Syndicate implement a comprehensive reactive management system on-site. The Department has recommended that this system includes real-time monitoring capability, which will enable quarry personnel to respond to elevated dust levels prior to reaching critical levels and modify activities and/or increase mitigation measures as required.</li> </ul>
2.17	Compatibility of proposed mine, petroleum production or extractive industry with other land uses	<ul style="list-style-type: none"> <li>• The Department has carefully considered the merits of the Project, having regard to existing and approved land uses in the vicinity of the site. The Department has also considered what it understands to be the preferred uses of land in the area, having regard to relevant EPIs and strategic plans.</li> <li>• The Department is of the view that, subject to the recommended conditions of consent, the Project can be carried out in a manner that is compatible with surrounding industrial, recreational, rural-residential and rural land uses.</li> </ul>

Clause	Matters for consideration	Consideration
2.18	Consideration of the <i>Voluntary Land Acquisition and Mitigation Policy</i> (VLAMP)	<ul style="list-style-type: none"> <li>The Department has considered the VLAMP in its assessment of noise and air quality impacts.</li> </ul>
2.19	Compatibility of proposed development with mining, petroleum production or extractive industry	<ul style="list-style-type: none"> <li>The Project would not conflict with existing extractive industry in the locality.</li> </ul>
2.20	Natural resource management and environmental management	<ul style="list-style-type: none"> <li>The Department has recommended a robust suite of conditions to ensure that the Project is undertaken in an environmentally responsible manner. These include conditions relating to the appropriate management of biodiversity, air quality and water resources.</li> </ul>
2.21	Resource recovery	<ul style="list-style-type: none"> <li>The Department has considered resource recovery in respect of the Project's identified hard rock resource and is satisfied that the Project can be carried out in an efficient manner that optimises resource recovery subject to environmental constraints.</li> <li>The Department has recommended conditions requiring Eagleton Rock Syndicate to implement reasonable and feasible measures to minimise waste and maximise the salvage and re-use of resources within the disturbance area (including water, soil and vegetative resources).</li> </ul>
2.22	Transport	<ul style="list-style-type: none"> <li>The Department consulted with Port Stephens Council and TfNSW during its assessment of the Project. The Project would not significantly impact the safety and efficiency of the local road network.</li> <li>The Department has recommended conditions requiring the payment of contributions for ongoing maintenance for Project-related use of local roads, and the preparation of a Traffic Management Plan for the Project.</li> </ul>

Clause	Matters for consideration	Consideration
2.23	Rehabilitation	<ul style="list-style-type: none"> <li>The Department has recommended strict conditions to ensure that the site is rehabilitated in a timely and integrated manner and that the final landform is safe, stable and non-polluting.</li> </ul>

## C2.2 SEPP (Biodiversity and Conservation) 2021

SEPP (Biodiversity and Conservation) 2021 aims to conserve and manage Koala habitat to reverse the current trend of Koala population decline.

The BAR indicates that the Project area does not contain any areas of Core Koala Habitat. Accordingly, the Department's recommended conditions do not require Eagleton Rock Syndicate to prepare a Koala Plan of Management to manage impacts to the resident Koala population.

## C2.3 SEPP (Resilience and Hazards) 2021

Chapter 3 of this SEPP regulates the development of 'hazardous and offensive' industry. Eagleton Rock Syndicate note that as the site is largely comprised native vegetation it is unlikely that any substantial ground contamination is present. Reject tile fragments have been stockpiled on the site. Eagleton Rock Syndicate propose to validate the reject tile fragments in accordance with the criteria set out in the EPA's *Recovered Aggregate Exemption 2010* and then to reuse them as crushed aggregate material for the purposes of internal site and haulage road construction and for ground preparation of the processing areas.

The Department considers that the hazards and risks associated with the Project have been assessed in a manner consistent with the requirements of Chapter 3 of this SEPP and can be appropriately managed under the recommended conditions.

Chapter 4 of this SEPP regulates the remediation of contaminated land. The Department considers that the Project area does not have a significant risk of contamination given its historical and current land uses, and that the development has been assessed in a manner consistent with the requirements of Chapter 4 of this SEPP.

## C2.4 SEPP (Transport and Infrastructure) 2021

This SEPP requires the consent authority to notify relevant public authorities about development that may affect public infrastructure or land. The Department notified TfNSW and Port Stephens Council. The Department carefully considered the advice from these authorities, particularly in relation to the Project's proposed traffic generation on the road network, in its assessment of this application.

## Appendix D – Recommended instrument of consent

<https://www.planningportal.nsw.gov.au/major-projects/projects/eagleton-quarry-project>