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THE GENERAL MANAGER
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Our Ref: 2018/5
Doc ID: 880323
ABN: 41992 919 200

29 November 2017

J & V Carman
C/- Geolyse
PO box 1963
ORANGE NSW 2800

Dear Sir/Madam,

**DEVELOPMENT APPROVAL FOR DA 2018/5
AT LOT 28 DP 1227863, SPRING HILL ROAD, SPRING HILL**

With reference to your application seeking Council's consideration of the subject proposal, you are advised that your application was considered and approved by Council at its meeting held on 28 November 2017.

Please find attached Council's consent for the above development application. It is important that you carefully read the Notice of Approval to understand the terms of Council's consent.

Your attention is drawn to that part of the formal Notice containing instructions on rights of appeal and the time period for the commencement and lapsing of consent.

Should you have any further enquiries please contact Council's Environmental Services Department on 6392 3247 between 9am and 11am Monday to Friday. Council's Environmental Services Officers are now available each Wednesday at Canowindra between the hours of 9.30am to 12.30pm at the HACC/Public Library Building in Gaskill Street Canowindra.

Yours faithfully,

H J Nicholls
DIRECTOR ENVIRONMENTAL SERVICES



FORM 4

NOTICE OF DETERMINATION OF DEVELOPMENT APPLICATION Environmental Planning and Assessment Act 1979 Section 81(1)(a)

DEVELOPMENT APPLICATION

Application Number: DA 2018/5

Applicant: J & V Carman, C/- Geolyse

Applicant Address: PO Box 1963, ORANGE NSW 2800

Owner: Joseph & Vivienne Carman

Land to be Developed: Lot 28 DP 1227863, Spring Hill Road, Spring Hill

Proposed Development: Expansion of extractive industry (shale/siltstone quarry)

Assessment Number: A98339

DETERMINATION

Made On: 28 November 2017

Determination: Consent Granted Subject to Following Conditions

Consent to Operate From: 28 November 2017

Consent to Lapse On: 28 November 2022
(Where proposed development has not been commenced).

CONDITIONS OF APPROVAL

1. DEVELOPMENT IN ACCORDANCE WITH PLANS

Objective

To ensure the development proceeds in the manner assessed by council.

Performance

Development is to take place in accordance with the attached stamped plans (Ref: DA 2018/005), associated documentation prepared by Geolyse and dated August 2017 submitted with the application, and subject to the conditions below, to ensure the development is consistent with council's consent.

NOTE: Any alterations to the approved development application plans must be clearly identified with the application for a construction certificate.

The Principal Certifying Authority for the project may request an application for modification of this consent or a new application in the event that changes to the approved plans are subsequently made. An application to modify the development consent under s96 of the Environmental Planning and Assessment Act, 1979, as amended and will be subject to a separate fee.

2. ANNUAL EXTRACTION AND PRODUCTION RATE

Objective

To ensure the proposal operates in accordance with the proposed, assessed and determined proposal.

Performance

The proposed quarry extraction shall be limited to 15,000 tonnes per year.

3. HOURS OF OPERATION

Objective

To ensure the proposal hours of operation are in accordance with the proposed, assessed and determined proposal.

Performance

Operational activities relating to the development must only be undertaken during the following hours:

Activity	Monday to Friday	Saturday	Sunday & Public Holidays
Extraction	7am – 6pm	8am – 3pm	No work
Loading and transportation	7am – 6pm	8am – 3pm	No work

The hours of operation specified above may be varied with written consent of Cabonne Council if it is satisfied that the amenity of surrounding properties in the locality will not be adversely affected.

4. STATEMENT OF COMMITMENTS

Objective

To ensure the proposal operates in a manner not detrimental to the environment or locality.

Performance

The proposal shall comply with the Statement of Commitments provided by the proponent and referenced as '*Attachment 3 – Statement of Commitments – Spring Hill Quarry*' prepared by Geolyse and dated 31 August 2017 as part of correspondence to council. (Copy attached).

5. REHABILITATION OBJECTIVES AND COMMITMENTS

Objective

To ensure the proposal operates in a manner that is not detrimental to the environment or locality.

Performance

The proponent must rehabilitate the site to the satisfaction of council. Rehabilitation must be substantially consistent with the rehabilitation objectives described in the SoEE - Appendix A, and the objectives in the table below:

Rehabilitation Feature	Objective
Quarry site (as a whole of the disturbed land)	Safe, stable and non-polluting, fit for the purpose of the intended post quarry land use.
Rehabilitation materials	Materials (including topsoils) are appropriately managed, and used effectively as resources in the rehabilitation.

Landforms	Final landforms sustain the intended land use for the post-quarry land use. Final landforms are consistent with and complement the topography of the surrounding area to minimise the visual prominence of the final landforms in the post quarry landscape. Final landforms incorporate design relief patterns and principles consistent with natural drainage.
Water quality	Water retained on site is fit for the intended land use for the post quarry land use.
Native flora and fauna habitat	Species of native trees and vegetation complements local biodiversity

6. PROGRESSIVE REHABILITATION

Objective

To ensure environmental management of the site.

Performance

The proponent shall carry out all surface disturbing activities in a manner that, as far as is reasonably practicable, minimises potential for dust emissions and shall carry out rehabilitation of disturbed areas progressively, as soon as reasonably practicable, to the satisfaction of the Director Environmental Services, Cabonne Council.

7. EROSION AND SEDIMENTATION CONTROL PLANS

Objective

To prevent sediment and erosion from leaving the site.

Performance

An overall erosion and sedimentation control plan is to be prepared for the site to a standard acceptable to council.

8. ENTRANCE / EXIT POINTS

Objective

To ensure on-site traffic flows in the manner assessed by council.

Performance

Entrance / exit points are to be clearly signposted and visible from both the street and the site at all times.

9. LOADING / UNLOADING

Objective

To ensure loading / unloading does not interfere with the amenity of the roadway.

Performance

All loading and unloading operations are to take place at all times wholly within the confines of the site.

10. DUST SUPPRESSION

Objective

To ensure that dust does not become a nuisance to neighbouring properties or passing motorists.

Performance

The applicant will ensure to water down any nuisance dust that may arise from the use of the quarry of the private access road to its intersection with Spring Hill Road.

The applicant is responsible to water down all area within the development where nuisance dust may arise from the development caused by machinery and traffic movements. The quarry site supervisor is to alter or cease dust emitting activity should weather conditions direct dust to, and potentially impact, the closest residence.

11. VEHICLE MANAGEMENT PLAN

Objective

To ensure that arrangements are made for all vehicles movements associated with the development.

Performance

The vehicle management plan is to detail all vehicle movements within the site including loading areas, truck parking/waiting areas, re-fueling zones and travel routes that are used during operation of the quarry. The Vehicle Management Plan shall be prepared by the applicant and then submitted for approval by Council.

All persons involved in the quarry operations shall be issued with a copy of the Vehicle Management Plan.

12. ADEQUATE ON-SITE TRUCK PARKING

Objective

To provide adequate on-site truck parking.

Performance

At all times of operation of the quarry there must be adequate truck parking available within the quarry site, with no trucks associated with the development queuing within the road reserve of Spring Hill Road, or the private access Right of Carriageway.

13. DRIVER CODE OF CONDUCT

Objective

In the interest of public safety.

Performance

The Driver's Code of Conduct, outlined in the Statement of Commitments, must be implemented and abided to by all employees and contractors accessing the quarry site.

14. RESPONSE TO COMPLAINTS

Objective

To ensure the impact of the development on the environment and surrounding properties is considered.

Performance

The proponent is required to provide a telephone complaints contact in accordance with the Statement of Commitments, for the purpose of receiving any complaints from members of the public in relation to activities conducted at the site, or by vehicles and plant associated with the site activity. The proponent must notify the public of the complaints telephone contact details so that the impacted community is aware of the service.

15. ANNUAL REPORT

Objective

To respond to the public interest in identifying and mitigating environmental impacts associated with the development proceeding.

Performance

The proponent is required to submit to Cabonne Council on or before the 31 December yearly an Annual Report that includes (but is not limited to) the following:

- (a) Total extraction volume for the year
- (b) Total volume of material transported from the site for the year
- (c) A record of any complaints received, including time / date of complaint, details of the complaint, and any action to rectify the complaint
- (d) Audit of the Operational Environmental Management Plan.

16. BUILDING CONTROL

Objective

To ensure compliance with statutory provisions.

Performance

No building or structure may be erected without prior gaining the appropriate approvals or permits, unless the development is considered exempt development under SEPP (Exempt and Complying Development Codes) 2008 or SEPP (Infrastructure) 2007.

17. USE OF PUBLIC ROADS

Objective

To satisfy the requirements of RMS for safe use of public roads.

Performance

- (a) The proponent is to prepare and implement a code of conduct relating to transport of materials on public roads as part of the considerations under Clause 16(1) of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (the SEPP). The code of conduct is to include:
 - Details of transportation hours and vehicle types pursuant to approval of the development application.
 - Procedure for the transport of hazardous materials.
 - Details of local school operating hours and in particular, student drop off/pick up times. Haulage operations during student drop off and pick up times is to be prohibited.
 - Requirement for drivers to operate vehicles in a safe, professional and courteous manner.

- (b) Safe Intersection Sight Distance (SISD) requirements outlined in the Austroads Guide to Road Design Part 4A is to be provided and maintained at the vehicular access to the quarry from Spring Hill Road.'

18. SCALE (GENERAL)

Objective

To ensure the scale of the activity does not increase beyond the scope of this approval without the further assessment of possible impact.

Performance

This approval enables the applicant to operate at a scale as submitted in the proposal. Any increase in the scale of the activity as submitted, will require the further approval of Council.

ADVISORY NOTE

No advertising signage has been approved as part of this development consent. Any signage not complying with the exempt development provisions will require separate development consent.

Right of Appeal: If you are dissatisfied with this decision, Section 97 of the Environmental Planning and Assessment Act 1979 gives you the right to appeal to the Land and Environment Court within six (6) months after the date on which you receive this notice.

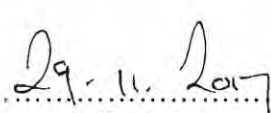
*Section 97 of the Environmental Planning and Assessment Act 1979 does not apply in the determination of a development application for State significant development or local designated development that has been the subject of a Commission of Inquiry.

Signed

(On behalf of Consent Authority)


.....
H J Nicholls

DIRECTOR OF ENVIRONMENTAL SERVICES


.....
(Date)



GEOLYSE

**STATEMENT OF ENVIRONMENTAL EFFECTS
SPRING HILL QUARRY**

**PREPARED FOR
J & V CARMAN**

**AUGUST 2017
(RE-ISSUED)**

CABONNE COUNCIL

DEVELOPMENT CONSENT

issued under section 81(1)(a) of the
Environmental Planning & Assessment Act 1979

DA Number:

2018/5

Signed:

[Signature]

Date:

28/1/17



• Civil, Environmental & Structural Engineering • Surveying • Environmental • Planning • Architecture

STATEMENT OF ENVIRONMENTAL EFFECTS

SPRING HILL QUARRY

LOT 28 DP1227863, SPRING HILL ROAD
SPRING HILL

PREPARED FOR:

J & V CARMAN

AUGUST 2017

(RE-ISSUED)



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Report Title:	<i>Statement of Environmental Effects</i>
Project:	<i>Spring Hill Quarry</i>
Client:	<i>J & V Carman</i>
Report Ref.:	<i>217394_SEE_001C.docx</i>
Status:	<i>Final (re-issued)</i>
Issued:	<i>31 August 2017</i>

Geolyse Pty Ltd and the authors responsible for the preparation and compilation of this report declare that we do not have, nor expect to have a beneficial interest in the study area of this project and will not benefit from any of the recommendations outlined in this report.

The preparation of this report has been in accordance with the project brief provided by the client and has relied upon the information, data and results provided or collected from the sources and under the conditions outlined in the report.

All information contained within this report is prepared for the exclusive use of J & V Carman to accompany this report for the land described herein and are not to be used for any other purpose or by any other person or entity. No reliance should be placed on the information contained in this report for any purposes apart from those stated therein.

Geolyse Pty Ltd accepts no responsibility for any loss, damage suffered or inconveniences arising from, any person or entity using the plans or information in this study for purposes other than those stated above.

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APPENDICES

APPENDIX A

Rehabilitation Plan

APPENDIX B

Statement of Commitments

Introduction

1.1 BACKGROUND

Geolyse Pty Ltd has been commissioned by J & V Carman to prepare a Statement of Environmental Effects (SEE) to accompany a Development Application (DA) for the continued operation of an existing siltstone/shale quarry (formerly Wattlegrove Quarry and now known as Spring Hill Quarry) located within Lot 28 DP1227863, Spring Hill Road, Spring Hill.

This report has been reissued following a review of public submissions received by Council during the consultation period to provide additional clarification to the extent of proposed works. Critically, Appendix B now provides a statement of commitments to which the applicant is willing to be bound to (except to the extent of any inconsistency with a condition of consent, in which case the condition of consent would prevail).

1.2 SCOPE OF THIS REPORT

This SEE has been prepared pursuant to Clause 50 and Part 1 of Schedule 1 of the *Environmental Planning and Assessment Regulation 2000* and is provided in the following format.

- **Section 2** of this report provides a description of the subject site and its locality.
- **Section 3** outlines the proposed development.
- **Section 4** details the planning framework applicable to the subject site and proposed development.
- **Section 5** identifies the impacts of the proposed development.
- **Section 6** provides a conclusion to the SEE.

Site and Locality

2.1 THE SITE

Spring Hill Quarry is located within Lot 28 DP1227863, Spring Hill Road, Spring Hill.

The quarry site is located in a rural setting approximately 1.6 kilometres south of the village of Spring Hill and approximately 4 kilometres north-west of the village of Millthorpe.

Access to the quarry site is via a private access road that joins Spring Hill Road to the west.

Lot 28 covers an area of approximately 28 hectares. Most of the site is used for agricultural purposes, with 5.64 ha currently in use as the existing quarry.

The quarry is positioned on the eastern side of a gentle north-south oriented rise and is therefore not visible from Spring Hill Road to the west. Perimeter bunding also limits views towards the site from other directions.

Figure 1 depicts the quarry site within Lot 28.

The former Wattlegrove Quarry (now Spring Hill Quarry) has been operating for approximately 50 years for extraction of siltstone/shale. It is understood initial use commenced as a Council quarry for road building materials. A consent was issued in 1997 (DA 95/153) from Cabonne Council however a subsequent subdivision of the land resulted in approved vegetation buffers being separated from the quarry.

2.2 THE LOCALITY

The surrounding area is characterised by agricultural land uses with scattered residential dwellings.

The subject site locality is depicted in **Figure 2**.



Figure 1: Subject Site (Source: NSW LPI)

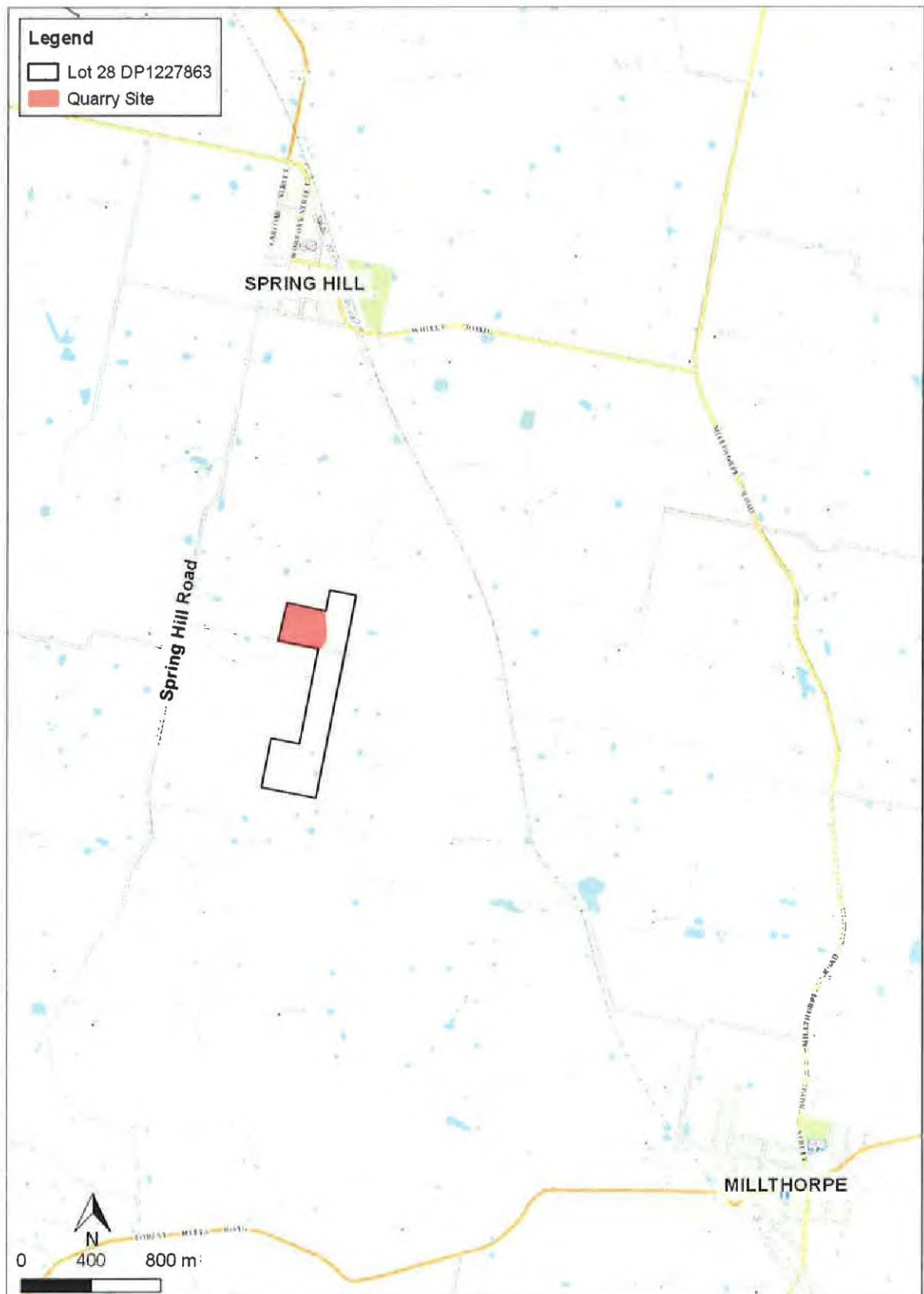


Figure 2: Subject Site Locality

2.3 EXISTING QUARRY ACTIVITIES

2.3.1.1 History

Quarrying activity is understood to have commenced at the site in approximately 1960. There is no record of any approval at that time. Following the introduction of the Canobolas Shire Interim Development Order No. 1 in 1964 the development was considered to benefit from existing use rights.

There is no available documented historical information on extraction rates from the early years of use, but it is understood that rates were likely to have been approximately 1,000 cubic metres per year rising to around 8,000 cubic metres per year in the early 1990's.

In 1995, following the introduction of the State Environmental Planning Policy No. 37 – Continued Mines and Extractive Industries, a development application was lodged with Cabonne Council by the then owner (DA 1995/153). This DA was supported by a statement of environmental effects prepared by Central West Environmental Services. It is from this document that some information on the historical use of the site can be gleaned. At the time of that consent, the land was described as Lot 16 DP634143.

DA 1995/153 provided consent for the extraction of up to 15,000 cubic metres per year and estimated average heavy vehicle movements (noting use of a 12 tonne truck) at six trucks (12 movements) per day. It was noted that this may rise to 12 trucks (24 movements) in busier periods but this would then be followed by periods of inactivity.

In 2009 a boundary adjustment with land to the west is understood to have resulted in the then subject lot, Lot 16, being consolidated with adjacent Lot 12. This adjustment created Lots 1201 and 1202 DP1132196. The quarry was contained within Lot 1202.

This boundary adjustment resulted in some of the land associated with the quarry, including a vegetated buffer on the western boundary, being transferred away from the quarry operations. It does not appear that approval for this subdivision included any consideration of, or changes to, the terms of DA 1995/153, notwithstanding that the adjustment meant that compliance with the conditions of 1995/153 could no longer be achieved.

The property has recently been purchased by the applicant as a going concern. In completing the purchase of the quarry, a further boundary adjustment has taken place to amend the boundaries between Lot 1202 and adjacent Lot 189 DP753406. This adjustment has created Lots 27 and 28 DP1227863.

2.3.1.2 Layout

The existing site layout of the quarry is provided in **Figure 3**.

2.3.1.3 Current extraction method

Topsoils are stripped separately and retained for rehabilitation purposes. Clays are extracted separately as they are a saleable product.

Quarrying does not require blasting as the rock is finely bedded and fractured, allowing manual extraction with a bulldozer and excavator. All quarry walls are scaled for stabilisation.

The current depth of extraction ranges from approximately 10-15 metres from natural ground level.

Via the terms of DA 1995/153, site extraction was capped at 15,000 cubic metres per year. Prior to the granting of DA 1995/153, it is understood extraction levels from the site were around 8,000 cubic tonnes per year.

2.3.1.4 Stockpiles

All extracted rock and clay material is stockpiled within the active working area but away from the active quarry face. There is no waste rock material.

Overburden and topsoil stockpiles are currently on the eastern side of the quarry site and are used for progressive rehabilitation.

2.3.1.5 Processing

No processing (i.e. crushing, grinding or screening) of the extracted material is required.

2.3.1.6 Product Transport

Extracted materials are loaded onto trucks within the quarry site and enter and exit through designated access points onto a private access road joining Spring Hill Road to the west.

2.3.1.7 Water Management

Surface water run-off within the quarry is directed to existing water storages provided in the quarry. Perimeter bunds minimise run-off from outside the quarry from entering the quarry area.

2.3.1.8 Plant and Site Infrastructure

Site plant includes a bulldozer, excavator and loader. A small water truck is available for dust suppression. Site plant is refuelled on-site by a service vehicle. No fuels or chemicals are stored on site.

A site office is provided near the southern boundary of the quarry.



Figure 3: Existing Site Layout

The Development

3.1 DEVELOPMENT DESCRIPTION

3.1.1 CONTINUED USE AND PROPOSED EXPANSION

The development proposed via this application includes the continued use of the quarry and the expansion of the active working area by 0.31 hectares, for the purposes of extracting siltstone/shale. Clay intervals in overburden would also be separated as a saleable product. The extraction of both siltstone/shale and clay is captured by the definition of extractive material in Part 4 of Schedule 3 of the Environmental Planning and Assessment Regulations 2000 and as such the extraction of clay is legitimately included in this application.

It is also proposed to reduce the floor level of the active working area to 2.0 metres below the current floor level at the southern boundary of the quarry, consistent with the current low point of the quarry. As this current low point does not interact with any local groundwater resource, it is similarly not expected that any interaction is likely in terms of the proposed arrangement. A Statement of Commitments is provided in **Appendix B** and confirms that, whilst not expected, in the event of any interaction with groundwater, work in the affected area would cease immediately and advice would be sought from Department of Primary Industries (Water) and Cabonne Council as to any applicable approvals. Work would not recommence in the affected area until such necessary approvals have been sought and obtained. This is further discussed in **Section 5.7**.

The proposed expansion would increase the size of the quarry by 0.31 hectares and would have a limited impact to areas of disturbed grassland vegetation, blackberry bushes and the loss of two trees.

Quarrying activities would continue to occur in accordance with the current description of activities provided at **Section 2.3**. Proposed annual extraction would not exceed 15,000 tonnes per year (combined of both shale/siltstone and clay). The shale/siltstone has a density of 1.8 tonnes per cubic metres and this has been used to estimate the extraction rate in cubic metres. Notably, the density of clay is lower than the density of shale/siltstone and therefore the cubic metre estimate is conservative. Based on 1.8 tonnes per cubic metre, the annual extraction proposed equates to approximately 8,333 cubic metres per year (approximately half the figure approved via the current DA – refer **Section 2.3**).

The areas of expansion and the proposed site layout is provided in **Figure 4**. Note this has been amended following discussions with the applicant to better reflect long terms plans. The area impacted by extraction, processing, storage and administration is less than two hectares in disturbance (approximately 1.81 hectares as per **Figure 4**).

The proposed operation is small in scale (representing approximately half of what was approved by the current DA) but remains viable due to strong local demand for good quality gravel, primarily for use in rural farm roads and driveways. The resource supports the applicant's earthmoving business.

Estimates suggest there is a significant resource available, however the applicant has modest aspirations and intends only to operate up to the proposed maximum threshold outlined within this statement. It is very likely that the maximum extraction limit would not be achieved in most years. Based on a conservative assessment of the resource, it is expected that the proposed arrangement would provide at least 9 years of product at the maximum level of extraction. This is therefore the project life of the proposal, however noting that lower rates of extraction would extend the life of the quarry proportionally.



Figure 4: Proposed Expansion Areas and Site Layout

3.1.2 SITE REHABILITATION AND FINAL LANDFORM

Rehabilitation to achieve the final landform would be completed in accordance with the Rehabilitation Plan provided in **Appendix A**.

The following are the key objectives for rehabilitation of the Spring Hill Quarry:

- To produce a final landform that achieves a stable and functional drainage system at the site, and minimises erosion and sedimentation.
- To provide rehabilitation areas that are similar to surrounding native vegetation communities, and providing suitable habitat for native fauna.
- To eliminate impacts from weeds and feral pests.
- To maintain site security and perimeter bunding to ensure public safety and stock exclusion.
- Maintain limited visibility of the site from adjacent properties and the local road network.

As noted in **Figure 4** a large amount of the site is not proposed as being affected by extraction, processing or storage and instead would be the focus of ongoing rehabilitation to improve the landform and reverse the impacts of the inappropriate activities of by previous operators. This, arguably, constitutes environmental protection works by reference to Part 2 of the RU1 Land Use Table LEP and therefore is exempt from a requirement for consent. Environmental protection works are defined as:

means works associated with the rehabilitation of land towards its natural state or any work to protect land from environmental degradation, and includes bush regeneration works, wetland protection works, erosion protection works, dune restoration works and the like, but does not include coastal protection works.

A summary of disturbance and rehabilitation areas is provided in **Table 3.1**.

The proposed rehabilitation to achieve a stable final landform is depicted in **Figure 5**.

Table 3.1 – Disturbance and Rehabilitation Areas

Domain	Area (ha)		
	Existing Site Layout (Plan 1)	Quarry Expansion (Plan 2)	Final Landform (Plan 3)
Active Working Area / Expansion Area	1.21	1.54	0
Inactive Zone	0.46	0.36	0
Quarry Water Storages	0.77	0.72	0.66
Internal Access Roads	0.35	0.28	0.2
Overburden Stockpile	0.23	0	0
Visual Screen Area / Safety Bunds	0.86	0.4	0.36
Active Rehabilitation Area / Final Rehabilitated Area	0.51	1.66	3.34
Grass Vegetation	1.25	0.68	0.57
Relinquished Area	0	0	0.38
Total Quarry Site Area	5.64	5.64	5.51



Figure 5: Final Landform Rehabilitation

Statutory Planning Framework

4.1 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

4.1.1 AIMS & OBJECTIVES

In New South Wales (NSW), the relevant planning legislation is the *Environmental Planning and Assessment Act 1979* (EP&A Act). The EP&A Act instituted a system of environmental planning and assessment in NSW and is administered by the Department of Planning & Environment (DP&E). The objects of the EP&A Act are:

- a) to encourage:
 - i. the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,
 - ii. the promotion and co-ordination of the orderly and economic use and development of land,
 - iii. the protection, provision and co-ordination of communication and utility services,
 - iv. the provision of land for public purposes,
 - v. the provision and co-ordination of community services and facilities, and
 - vi. the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and
 - vii. ecologically sustainable development, and
 - viii. the provision and maintenance of affordable housing, and
- b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and
- c) to provide increased opportunity for public involvement and participation in environmental planning and assessment.

4.1.2 SECTION 5A

Section 5A of the EP&A Act requires consideration of whether there is likely to be a significant effect on threatened species, populations or ecological communities, or their habitats as a result of the proposed development. The site houses an existing working quarry which has been operating for approximately 50 years. Clearing proposed via this application is limited to disturbed ground cover and two native Eucalyptus trees. It is not expected that the minor loss of vegetation associated with the proposed expansion would result in significant impacts to any of the abovementioned species, populations or communities.

4.1.3 INTEGRATED DEVELOPMENT

Section 91 of the EP&A Act states that development requiring consent and another activity approval is defined as Integrated Development. The proposed development is not classified as Integrated Development on the basis that no other consents or approvals are required facilitate the development.

For the avoidance of doubt:

- A licence from the Environment Protection Authority pursuant to Clause 19 of Schedule 1 on the *Protection of the Environment Operations Act 1997* on the basis that the development does not entail extraction, winning or storage of greater than 30,000 tonnes of material per year;
- A licence is not required under the *Mining Act 1992* on the basis that the materials to be extracted are not listed minerals as per Schedule 1 of the Mining Regulation 2016;
- The development does not require the gaining of a controlled activity approval pursuant to the *Water Management Act 2002* on the basis that no works are proposed within 40 metres of waterfront land;
- The development does not require the gaining of a dredging and reclamation permit under the *Fisheries Management Act 1994* on the basis that no dredging or reclamation is proposed on water land; and
- The works would not affect any Freeway and therefore does not trigger the need for approval from Roads and Maritime Services pursuant to the *Roads Act 1993*.

4.1.4 DESIGNATED DEVELOPMENT

Section 77A of the EP&A Act and Schedule 3 of the EP&A Regulations relate to designated development.

By reference to clause 19 of Schedule 3 of the EP&A Regs, the development does not constitute designated development on the basis that it:

- does not obtain or process for sale, or reuse, more than 30,000 cubic metres of extractive material per year, or
- that is not located:
 - in or within 40 metres of a natural waterbody, wetland or an environmentally sensitive area, or
 - within 200 metres of a coastline, or
 - in an area of contaminated soil or acid sulphate soil, or
 - on land that slopes at more than 18 degrees to the horizontal, or
 - if involving blasting, within 1,000 metres of a residential zone or within 500 metres of a dwelling not associated with the development, or
 - within 500 metres of the site of another extractive industry that has operated during the last 5 years.

The existing operation disturbs greater than 2 hectares of land, however, the proposed arrangement, excluding rehabilitation (environmental protection works) affects an area of less than two hectares. On this basis, the proposed works do not constitute designated development.

Notwithstanding that this is the case, a further assessment is provided at **Section 4.1.4.1** in the context of clauses 35 and 36 of Schedule 3 of the EP&A Regs that demonstrates that, even if the full extent of historical disturbance (that is, including rehabilitation) were included, the development would still not be considered to represent designated development.

4.1.4.1 Clause 35

Part 2 of Schedule 3 of the Environmental Planning and Assessment Regulation 2000 identifies situations where alterations or additions to an existing or approved use may be carried out without the need for preparation of an environmental impact statement (EIS).

Clause 35 of Part 2 states:



CI 35 Is there a significant increase in the environmental impacts of the total development?

Development involving alterations or additions to development (whether existing or approved) is not designated development if, in the opinion of the consent authority, the alterations or additions do not significantly increase the environmental impacts of the total development (that is the development together with the additions or alterations) compared with the existing or approved development.

Note.

Development referred to in this clause is not designated development for the purposes of section 77A of the Act. This means that section 98 of the Act (Appeal by an objector) will not extend to any such development even if it is State significant development.

Part 2 goes on to provide, at Clause 36, those factors to be taken into consideration by the consent authority in forming an opinion as to whether the works constitute designated development. Clause 36 states:

CI 36 Factors to be taken into consideration

In forming its opinion as to whether or not development is designated development, a consent authority is to consider:

- (a) *the impact of the existing development having regard to factors including:*
 - (i) *previous environmental management performance, including compliance with the conditions of any consents, licences, leases or authorisations by a public authority and compliance with any relevant codes of practice, and*
 - (ii) *rehabilitation or restoration of any disturbed land, and*
 - (iii) *the number and nature of all past changes and their cumulative effects, and*
- (b) *the likely impact of the proposed alterations or additions having regard to factors including:*
 - (i) *the scale, character or nature of the proposal in relation to the development, and*
 - (ii) *the existing vegetation, air, noise and water quality, scenic character and special features of the land on which the development is or is to be carried out and the surrounding locality, and*
 - (iii) *the degree to which the potential environmental impacts can be predicted with adequate certainty, and*
 - (iv) *the capacity of the receiving environment to accommodate changes in environmental impacts, and*
- (c) *any proposals:*
 - (i) *to mitigate the environmental impacts and manage any residual risk, and*
 - (ii) *to facilitate compliance with relevant standards, codes of practice or guidelines published by the Department or other public authorities.*

In respect of the above, the following assessment is provided.

Table 4.1 – Are alterations or additions designated development?

(a) the impact of the existing development having regard to factors including: (i) previous environmental management performance, including compliance with the conditions of any consents, licences, leases or authorisations by a public authority and compliance with any relevant codes of practice, and	The site has operated for over 50 years in the current location. The site enjoyed existing use rights via the Canobolas Shire Interim Development Order No. 1 (gazetted 24 January 1964). A consent was granted in 1997 (DA 95/153, dated 15 September 1997). (i) The applicant in respect of this application has recently purchased the property and is pursuing necessary steps to ensure the operation remains lawful and to ensure it is being operated within the terms of current

Table 4.1 – Are alterations or additions designated development?

(ii) rehabilitation or restoration of any disturbed land, and (iii) the number and nature of all past changes and their cumulative effects, and	regulations and best practise. Significant efforts have already occurred in cleaning up the site. (ii) Rehabilitation would be carried out on an on-going basis to ensure disturbed land is kept to a minimum. The quarry has evolved over the years but has remained in a visually protected location without encroaching into areas where visual impact has occurred. The ongoing and eventual rehabilitation of the site (environmental protection works) would ensure that the final landform would be consistent with the surrounding landscape. (iii) The extent of work has increased in scale beyond what was originally approved via the actions of previous owners of the quarry and is being scaled back by the current owner to reflect the intent of the original consent and the proposed application, noting that the scale as proposed is roughly half the currently approved scale. The above discussed active rehabilitation would ensure areas of disturbance are returned to a useable status
(b) the likely impact of the proposed alterations or additions having regard to factors including: (i) the scale, character or nature of the proposal in relation to the development, and (ii) the existing vegetation, air, noise and water quality, scenic character and special features of the land on which the development is or is to be carried out and the surrounding locality, and (iii) the degree to which the potential environmental impacts can be predicted with adequate certainty, and (iv) the capacity of the receiving environment to accommodate changes in environmental impacts, and	(i) The proposal would result in a minor expansion of the quarry area by comparison to the current active footprint but would yearly extraction to be low the currently approved level (a reduction from 15,000 cubic metres per year to 8,333 cubic metres per year) and active rehabilitation would be effective in reversing the actions of previous operators. As per Section 2.3.1.1, proposed vehicle movements associated with the facility on a daily basis would reduce as a result of the proposal by reference to the current approved arrangement, thereby reducing impacts to the local traffic environment. This along with the commitments provided at Appendix B ensure that the development would operate in a safe and sustainable manner with limited external impacts. (ii) The excellent site position and existing (and proposed) perimeter visual bunding, and the reduction in proposed extraction levels by comparison to the currently approved arrangement, means that noise and dust levels are unlikely to significantly increase. By virtue of proposed rehabilitation and proposed bunding, impacts to neighbouring residential properties would be reduced via the proposal. (iii) this is discussed throughout Section 5 (iv) the site is well suited to accommodate the proposed development due to the location and natural visual shielding provided by the landform. The measures set down throughout Section 5 of this assessment together with the Statement of Commitments at Appendix B further reinforce this.
(c) any proposals: (i) to mitigate the environmental impacts and manage any residual risk, and (ii) to facilitate compliance with relevant standards, codes of practice or guidelines published by the Department or other public authorities.	These measures are discussed throughout Section 5 and Appendix B and would be adopted for the life of the project. The proponent commits to ongoing compliance with all applicable and outstanding requirements. Extensive pre-application with Council and EPA staff has occurred to ensure that the development is appropriately designed and sited to ensure impacts are minimised.

Source: Environmental Planning and Assessment Regulation 2000

By virtue of the above, the consent authority has sufficient information before it to form an opinion as to whether the development would result in additional environmental impacts. By reference to the information provided, the consent authority can be satisfied that the development does not represent designated development by reference to Clause 36.

4.1.5 SUBORDINATE LEGISLATION

The EP&A Act facilitates the preparation of subordinate legislation, consisting of:

- Environmental Planning Instruments (EPIs) (including State Environmental Planning Policies (SEPP), Local Environmental Plans (LEP), and deemed EPIs); and
- Development Control Plans (DCP).

In relation to the proposed development, the relevant subordinate legislation includes:

- *Cabonne Local Environmental Plan 2012;*
- *State Environmental Planning Policy No. 44 – Koala Habitat Protection;*
- *State Environmental Planning Policy No. 55 – Remediation of Land;*
- *State Environmental Planning Policy (Rural Lands) 2008;*
- *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007;* and
- *Cabonne Development Control Plan 5 – General Rural Zones.*

The requirements of these are discussed in **Section 4.2** onwards.

4.2 ENVIRONMENTAL PLANNING INSTRUMENTS

4.2.1 CABONNE LOCAL ENVIRONMENTAL PLAN 2012

The *Cabonne Local Environmental Plan 2012* (LEP) is the applicable Environmental Planning Instrument for the Cabonne Local Government Area (LGA).

The aims of the LEP are:

(1) This Plan aims to make local environmental planning provisions for land in Cabonne in accordance with the relevant standard environmental planning instrument under section 33A of the Act.

(2) The particular aims of this Plan are as follows:

(a) to encourage development that complements and enhances the unique character and amenity of Cabonne, including its settlements, localities, and rural areas,

(b) to provide for a range of development opportunities that contribute to the social, economic and environmental resources of Cabonne in a manner that allows present and future generations to meet their needs by implementing the principles of ecologically sustainable development,

(c) to facilitate and encourage sustainable growth and development that achieves the following:

(i) contributes to continued economic productivity, including agriculture, business, tourism, industry and other employment opportunities,

(ii) allows for the orderly growth of land uses while minimising conflict between land uses within the relevant zone and land uses within adjoining zones,

(iii) encourages a range of housing choices and densities in planned urban and rural locations that is compatible with the residential and rural environment and meets the diverse needs of the community,

(iv) promotes the integration of land uses and transport to improve access and reduce dependence on private vehicles and travel demand,

(v) protects, enhances and conserves agricultural land and the contributions that agriculture makes to the regional economy,

(vi) avoids or minimises adverse impacts on drinking water catchments to protect and enhance water availability and safety for human consumption,

(vii) protects and enhances places and buildings of environmental, archaeological, cultural or heritage significance, including Aboriginal relics and places,

(viii) protects and enhances environmentally sensitive areas, ecological systems, and areas that have the potential to contribute to improved environmental, scenic or landscape outcomes.

A review of the above demonstrates the project is not antipathetic to the LEP aims. Specifically, the project demonstrates consistency with aims (a), (b) and (c).

4.2.1.1 Mapping

A review of the LEP reveals the site is mapped as follows in respect of the LEP maps.

Table 4.2 – LEP Zoning Map Table

LEP Map	Applicability
Drinking Water Catchment Map	Site is located within a drinking water catchment – refer Section 4.2.1.3 .
Flood Planning Map	Site is not in an identified flood planning area.
Heritage Map	Site is not mapped as a Heritage Item and there are no Heritage Items identified on adjoining lots.
Land Application Map	Site is included within the LEP Land Application area.
Land Reservation Acquisition Map	Site is not reserved for acquisition.
Lot Size Map	Minimum application lot size is 100 hectares – as no subdivision is proposed this section is not relevant.
Land Zoning Map	Site is zoned RU1 – Primary Production – refer Section 4.2.1.2
Natural Resource – Karst Map	The site is not mapped as containing a Karst landscape.
Terrestrial Biodiversity Map	The site is not mapped as containing sensitive biodiversity
Riparian Land and Waterways Map, Groundwater Vulnerability Map	The site is not mapped as containing riparian land or sensitive waterways. The site is mapped as containing groundwater vulnerable land – refer Section 4.2.1.4

Source: Cabonne Local Environmental Plan 2012

The above relevant matters are discussed in the following sections.

4.2.1.2 Zoning

Pursuant to the LEP the subject site is zoned RU1 – Primary Production. The objectives of the RU1 zone are:

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To encourage diversity in primary industry enterprises and systems appropriate for the area.
- To minimise the fragmentation and alienation of resource lands.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.
- To enable function centres, restaurants or cafes and appropriate forms of tourist and visitor accommodation to be developed in conjunction with agricultural uses.

The proposed development is defined as extractive industry:

extractive industry means the winning or removal of extractive materials (otherwise than from a mine) by methods such as excavating, dredging, tunnelling or quarrying, including the storing, stockpiling or

processing of extractive materials by methods such as recycling, washing, crushing, sawing or separating, but does not include turf farming.

Note.

Extractive industries are not a type of industry—see the definition of that term in this Dictionary.

Extractive industry is permitted with the consent of Council within the RU1 zone.

The proposed rehabilitation of areas outside of the active working areas is considered to represent environmental protection works. Environmental protection works are defined as:

means works associated with the rehabilitation of land towards its natural state or any work to protect land from environmental degradation, and includes bush regeneration works, wetland protection works, erosion protection works, dune restoration works and the like, but does not include coastal protection works.

Environmental protection works are permitted without consent in the RU1 zone and thus do not require approval via this application.

4.2.1.3 Drinking water catchment

A small portion of the northern extent of the site is mapped as being located within a drinking water catchment as per **Figure 6** (noting the former lot boundaries are highlighted rather than the current (recently adjusted) lot boundaries as per **Figure 1**).



Figure 6: Extract from Drinking Water Catchment Map (Source: NSW Planning Portal)

LEP Clause 6.5 seeks to:

...protect drinking water catchments by minimising the adverse impacts of development on the quality and quantity of water entering drinking water storages.

Sub-clauses 6.5(3) and (4) state:



(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider the following:

(a) whether or not the development is likely to have any adverse impact on the quality and quantity of water entering the drinking water storage, having regard to the following:

(i) the distance between the development and any waterway that feeds into the drinking water storage,

(ii) the on-site use, storage and disposal of any chemicals on the land,

(iii) the treatment, storage and disposal of waste water and solid waste generated or used by the development,

(b) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.

(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:

(a) the development is designed, sited and will be managed to avoid any significant adverse impact on water quality and flows, or

(b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or

(c) if that impact cannot be minimised—the development will be managed to mitigate that impact.

The development is unlikely to give rise to impacts to the drinking water catchment on the basis that all site works are contained within the existing quarry extent with no external run-off. Water is internally directed to a holding sumps/settlement ponds and this is used for dust suppression, or if necessary pumped for irrigation purposes to land within the same allotment and outside of the drinking water catchment area. As captured water first settles in the sump/settlement pond, there is no irrigation of sediment laden water.

Additionally, and as discussed in **Section 5.8**, the site is well clear of mapped surface waterways such that there is minimal likelihood of activities giving rise to opportunities for sedimentation or pollution of the natural water environment.

No fuels or chemicals are stored on site. No waste is generated on site by operations. Any waste generated via the small on site office is disposed of to an appropriate landfill facility. No off site waste would be accepted at the facility.

By virtue of the above, the development is considered to be acceptable in the context of clause 6.5.

4.2.1.4 Groundwater vulnerability

Clause 6.4 of the LEP seeks to maintain the hydrological functions of key groundwater systems and protect vulnerable groundwater resources from depletion and contamination. Clause 6.4 is applicable to all land identified on the Groundwater Vulnerability Map (GVM). As noted in **Table 4.2**, the site is partly mapped as groundwater vulnerable. **Figure 7** contains an extract from the GVM depicting the subject site. The area of the quarry is predominantly outside of the mapped groundwater vulnerable area and this is reflective of the absence of interaction with the water table as evidenced by the last 50+ years of use of the site for extractive industry purposes.



Figure 7: Extract from LEP Groundwater Vulnerability Map (Source: NSW Planning Portal)

Clause 6.4 states at parts (3) and (4):

(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider the following:

- (a) the likelihood of groundwater contamination from the development (including from any on-site storage or disposal of solid or liquid waste and chemicals),*
- (b) any adverse impacts the development may have on groundwater dependent ecosystems,*
- (c) the cumulative impact the development may have on groundwater (including impacts on nearby groundwater extraction for a potable water supply or stock water supply),*
- (d) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.*

(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:

- (a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or*
- (b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or*
- (c) if that impact cannot be minimised—the development will be managed to mitigate that impact.*

The site has operated as a quarry for over 50 years and there is no direct evidence to suggest any interaction with the water table has occurred. The proposal includes an intention to lower the typical floor of the quarry by a further two metres, to match the current lowest level of the quarry. The water table has not been intersected at this low point and there has been no water table interaction during test drilling. Existing sumps/settlement ponds exhibit no evidence of interaction with the water table and are understood to be purely for pollution control. The applicant confirms that if pumped out, they remain dry until a further rainfall event, at which point they act to capture surface waters. Water within the

sumps/settlement ponds would be used for dust suppression, and a water truck would be located on site for this purpose.

On the basis of the above, the likelihood of impact to the water table is considered low.

No chemicals or fuels would be stored on site that would have the potential to spill and leach through to the water table.

No use or extraction of groundwater is proposed via this application.

The development has been designed, sited and would be managed to avoid significant adverse impacts.

In this regard, the development is considered to be compatible with the provisions of clause 6.4.

4.2.1.5 Protection of vegetation

Clause 5.9 of the LEP relates to the protection of trees species listed via a DCP. As no DCP list of protected tree species has been prepared in Cabonne, it is considered that clause 5.9 does not apply. In this regard, clause 5.9AA states that trees not listed via a DCP as requiring approval for removal, may be removed without consent.

Two trees are proposed for removal via this application. Measures for their safe removal are outlined in **Section 5.11**.

4.2.1.6 Essential Services

Access to necessary services as deemed necessary would be provided at the full cost of the applicant.

4.2.2 STATE ENVIRONMENTAL PLANNING POLICY

4.2.2.1 State Environmental Planning Policy 44 – Koala Habitat

The development site is located within the Cabonne LGA and as such State Environmental Planning Policy 44 (Koala Habitat Protection) must be considered. SEPP 44 aims to:

...encourage the proper conservation and management of areas of natural vegetation that provide habitat for Koalas, to ensure permanent free-living populations over their present range and to reverse the current trend of population decline...

The practical effect of SEPP 44 is that in consideration of a development application (DA), the consent authority must ensure that approval is not issued without prior investigation of potential and core koala habitat. The policy applies to land in relation to which a DA has been made when the site has an area of more than one hectare.

SEPP 44 defines 'potential koala habitat' as vegetation that incorporates a minimum of 15 percent of tree species in the 'upper or lower strata of the tree component' listed in Schedule 2 of SEPP 44. A person suitably qualified in tree identification (clause 7(2)) must assess the identification of potential koala habitat. Identification of potential koala habitat requires further investigations to determine whether the site supports core habitat.

Core koala habitat is defined as:

...an area of land with a resident population of Koalas, evidenced by attributes such as breeding females and recent sightings of and historical records of a Koala population...

If the area does not support 'core koala habitat', under clause 8 of the policy, the consent authority may determine the development application. If the site is determined to support 'core koala habitat', then a plan of management must be prepared and approved prior to granting development consent.

The two trees that would be affected by the proposed quarry expansion are Apple Box (*Eucalyptus bridgesiana*) and are not a koala feed tree listed under schedule 2 of SEPP 44. No further assessment is therefore required.

4.2.2.2 State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

Permissibility

Clause 7(3) of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (Extractive Industries SEPP) states that development for any of the following purposes may be carried out with development consent:

- (a) *extractive industry on land on which development for the purposes of agriculture or industry may be carried out (with or without development consent),*
- (b) *extractive industry in any part of a waterway, an estuary in the coastal zone or coastal waters of the State that is not in an environmental conservation zone.*

Clause 3A of the Extractive Industry SEPP confirms that the consent authority for the purposes of the SEPP is the Council of the area in which the relevant land is situated.

Compatibility with other land uses

Clause 12 of the Extractive Industry SEPP states:

Before determining an application for consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must:

- (a) *consider:*
 - (i) *the existing uses and approved uses of land in the vicinity of the development, and*
 - (ii) *whether or not the development is likely to have a significant impact on the uses that, in the opinion of the consent authority having regard to land use trends, are likely to be the preferred uses of land in the vicinity of the development, and*
 - (iii) *any ways in which the development may be incompatible with any of those existing, approved or likely preferred uses, and*
- (b) *evaluate and compare the respective public benefits of the development and the land uses referred to in paragraph (a) (i) and (ii), and*
- (c) *evaluate any measures proposed by the applicant to avoid or minimise any incompatibility, as referred to in paragraph (a) (iii).*

As set out in **Section 2.2** of this report, the proposed development is located in a rural area with limited affected residential receptors and good separation to urban areas.

The physical landscape ensures that noise impacts from the quarry would be well controlled. The historical excavation has resulted in the works being conducted below natural ground level, providing excellent shielding of noise impacts towards nearby receivers. Access to the property is via a private road that is well maintained by the applicant and features signage to limit unauthorised access. Additional signage would be installed to provide visitors with safety instructions. The private road has provided access to the quarry since the 1997 approval was put in place without any noted impacts to the local traffic environment.

The low scale nature of the use is consistent with the current rural amenity and the measures outlined in this report, including the commitments in **Appendix B**, ensure that residual impacts would be appropriately managed. Any perceived incompatibility of the land use to nearby sensitive receivers is limited via the small scale nature of the use and the excellent shielding offered by the land form. Attention to limits on hours of operation and responsible site management via adoption of the controls outlined in

this statement and the Statement of Commitments at **Appendix B** ensures that any residual impacts would be reduced to an acceptable level.

The development provides an excellent resource of good quality material to respond to local demand. It is not proposed that the development would serve distant projects, with the primary intent to provide material for local activities (ie, within 50km).

The development is a permissible use within the zone, has operated for a long period of time and pre-dates many of the smaller lifestyle allotments that surround the site.

The scale of the development as proposed is considered appropriate in the context of these surrounding land uses. Any proposal to expand the quarry in the future beyond the life of the current application, while unlikely, would be the subject of a separate application.

In the above context, the development is considered to be acceptable in light of the intent of clause 12.

Natural resource management and environmental management

Clause 14 of the Extractive Industry SEPP states:

(1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure the following:

(a) that impacts on significant water resources, including surface and groundwater resources, are avoided, or are minimised to the greatest extent practicable,

(b) that impacts on threatened species and biodiversity, are avoided, or are minimised to the greatest extent practicable,

(c) that greenhouse gas emissions are minimised to the greatest extent practicable.

(2) Without limiting subclause (1), in determining a development application for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider an assessment of the greenhouse gas emissions (including downstream emissions) of the development, and must do so having regard to any applicable State or national policies, programs or guidelines concerning greenhouse gas emissions.

(3) Without limiting subclause (1), in determining a development application for development for the purposes of mining, the consent authority must consider any certification by the Chief Executive of the Office of Environment and Heritage or the Director-General of the Department of Primary Industries that measures to mitigate or offset the biodiversity impact of the proposed development will be adequate.

The site is not located close to, and nor would it have any impact on, significant water resources or areas of threatened species or biodiversity.

An assessment of potential greenhouse gas emissions is provided in **Section 5.15** and confirms that greenhouse gas emissions are minimised to the greatest extent practical.

Resource recovery

Clause 15 of the Extractive Industry SEPP states:

(1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider the efficiency or otherwise of the development in terms of resource recovery.

(2) Before granting consent for the development, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at optimising the efficiency of resource recovery and the reuse or recycling of material.

(3) The consent authority may refuse to grant consent to development if it is not satisfied that the development will be carried out in such a way as to optimise the efficiency of recovery of minerals, petroleum or extractive materials and to minimise the creation of waste in association with the extraction, recovery or processing of minerals, petroleum or extractive materials.

As discussed in **Sections 2.3.1.4 and 5.14**, there is no significant waste generating via the project due to stockpiling of topsoil and use of all other extracted elements. In this regard, the development is considered to be consistent with the objectives of clause 15.

Transport

Clause 16 of the Extractive Industry SEPP states:

(1) Before granting consent for development for the purposes of mining or extractive industry that involves the transport of materials, the consent authority must consider whether or not the consent should be issued subject to conditions that do any one or more of the following:

(a) require that some or all of the transport of materials in connection with the development is not to be by public road,

(b) limit or preclude truck movements, in connection with the development, that occur on roads in residential areas or on roads near to schools,

(c) require the preparation and implementation, in relation to the development, of a code of conduct relating to the transport of materials on public roads.

(2) If the consent authority considers that the development involves the transport of materials on a public road, the consent authority must, within 7 days after receiving the development application, provide a copy of the application to:

(a) each roads authority for the road, and

(b) the Roads and Traffic Authority (if it is not a roads authority for the road).

Note.

Section 7 of the Roads Act 1993 specifies who the roads authority is for different types of roads. Some roads have more than one roads authority.

(3) The consent authority:

(a) must not determine the application until it has taken into consideration any submissions that it receives in response from any roads authority or the Roads and Traffic Authority within 21 days after they were provided with a copy of the application, and

(b) must provide them with a copy of the determination.

(4) In circumstances where the consent authority is a roads authority for a public road to which subclause (2) applies, the references in subclauses (2) and (3) to a roads authority for that road do not include the consent authority.

Traffic generation associated with the continued use of the site would be consistent with/or a reduction of historical usage levels as a result of proposed a smaller yearly extraction volume and through the use of larger capacity vehicles. The development is not located near to any noted sensitive sites such as schools or zoned residential areas.

Transport routes for extracted materials could either travel through urban areas to the north to connect to local transport routes (including past a local school) or could travel south through rural land to Forest Reefs Road. Given the low traffic volumes per day associated with the use, the ongoing use of the site for over 50 years and the likely reduction in traffic movements, it is not considered that the continued use of the site is likely to give rise to significant additional impacts to the local traffic environment. It is not considered necessary to prohibit the movements past the school site however the proponent would ensure that, whenever possible, heavy vehicle traffic would avoid the roads near the local school during core drop off and collection times (that is, when school zone signs are operating). This would form part

of the adopted vehicle management plan and drivers code of conduct as discussed in the Statement of Commitments at **Appendix B**.

The requirement to refer the matter to Roads and Maritime Services is noted however it is not expected that the low scale nature of the development, and the local catchment which would be served, would give rise to impacts that would require Roads and Maritime input.

In this regard the development is considered acceptable in the context of clause 16.

Rehabilitation

Clause 17 of the Extractive Industry SEPP states:

- (1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring the rehabilitation of land that will be affected by the development.*
- (2) In particular, the consent authority must consider whether conditions of the consent should:*
 - (a) require the preparation of a plan that identifies the proposed end use and landform of the land once rehabilitated, or*
 - (b) require waste generated by the development or the rehabilitation to be dealt with appropriately, or*
 - (c) require any soil contaminated as a result of the development to be remediated in accordance with relevant guidelines (including guidelines under section 145C of the Act and the Contaminated Land Management Act 1997), or*
 - (d) require steps to be taken to ensure that the state of the land, while being rehabilitated and at the completion of the rehabilitation, does not jeopardize public safety.*

A detailed rehabilitation plan is provided at **Appendix A** to this statement. All rehabilitation work would be carried out in accordance with this plan. As discussed above, waste associated with the use is very low due to all products either being stored for use in rehabilitation or forming part of the saleable product associated with the site. No instances of contamination are known to affect the site. All rehabilitation work would be carried out within the confines of the property and public safety would be maintained at all times through the measures identified in **Section 5.16**.

The development is therefore considered to be consistent with the intent of clause 17.

4.3 DRAFT ENVIRONMENTAL PLANNING INSTRUMENTS

There are no draft environmental planning instruments known to affect the site.

4.4 DEEMED ENVIRONMENTAL PLANNING INSTRUMENTS

There are no deemed environmental planning instruments known to affect the site.

4.5 DEVELOPMENT CONTROL PLANS

4.5.1 CABONNE DEVELOPMENT CONTROL PLAN 5 – GENERAL RURAL ZONES

The objectives of the *Cabonne Development Control Plan 5 – General Rural Zones* (DCP5) are as follows:

- *To provide controls and guidance to achieve the objectives of Cabonne Local Environmental Plan 1991 with respect to the General Rural Zones.*

- *To promote guidelines which are sufficiently flexible to encourage innovative and imaginative building and development while at the same time conserving the important natural assets of the General Rural Zones, and preserving the „right to farm “ of existing agricultural establishments.*
- *To ensure that residents and developers are well informed of Council’s requirements relating to the General Rural Zone.*
- *To ensure that adequately documented development applications are lodged and which substantiate the manner in which the proposed development has been designed to fit the particular site conditions and the development principles and standards in this DCP.*
- *To provide reasonable and clear guidelines for the provision of services to small holdings, including guidelines on:-*
 - *Disposal of wastes;*
 - *Provision of water supply;*
 - *Provision of other utility services such as power, telephone and road access;*
- *Without placing a financial burden on other residents as a result of the extension of such services and to ensure that natural resources including soil, trees and scenery are protected.*
- *To enable other forms of development to be carried out on land within the General Rural Zones provided that such uses are in keeping with the rural character of the locality and are compatible with the existing or likely future rural land uses.*
- *To protect and conserve land which has been identified as being environmentally sensitive.*

DCP5 is applicable to land zoned for 1(a) and 7(c) purposes pursuant to the LEP and as such is applicable to the subject site.

The DCP is largely concerned with subdivision of rural lands and the impact of development of buildings, and as such the specific provisions are not relevant to this proposal.

4.5.2 CABONNE ROAD CONTRIBUTIONS PLAN (SECTION 94) FOR GENERAL RURAL ZONES

The *Cabonne Road Contributions Plan (Section 94) for General Rural Zones (RCP)* applies to development within the 1(a) and 7(c) zones. It is apparent from a review of the RCP that it is intended to provide a framework for the collection of contributions towards the maintenance and provision of rural roads as it relates to new subdivision work. This is clearly demonstrated in the nexus argument in section 3.1 of the RCP.

Accordingly, it is not considered that the RCP is applicable to the proposed development.

The existing access road to the quarry is a private road maintained by the applicant. This situation would continue.

Impact Assessment

5.1 INTRODUCTION

Pursuant to Schedule 1 of the EP&A Regulation, this section of the report outlines the environmental impacts of the proposed development and any measures required to protect the environment or lessen the harm to the environment.

The impacts have been identified through an assessment of the proposed development against the provisions of section 79C(1)(b) and the former NSW Department of Urban Affairs and Planning's (nd) *Guide to Section 79C*.

5.2 CONTEXT AND SETTING

The site is located in a rural setting approximately 1.6 kilometres south of the village of Spring Hill and approximately 4 kilometres north-west of the village of Millthorpe. The surrounding area is characterised by agricultural land uses with scattered residential dwellings (refer – **Section 5.3**).

The quarry is positioned on the eastern side of a gentle north-south oriented rise and is therefore not visible from Spring Hill Road to the west. Perimeter bunding also limits views towards the site from other directions. The quarry site falls from west to east, across a hill slope of approximately 3 degrees.

The site has been operating as a quarry historically and this application seeks to continue this use with some minor changes, rather than seek consent for a new quarry on a different site. The proposed continued use of the quarry includes a minor expansion to the north which represents an increase of 0.31 hectares to the active working area of the quarry, although noting that the quarry remains within the boundary of Lot 28.

The ongoing rehabilitation of a large portion of the site affected by historic practises with no further extraction in this areas (refer **Figure 4**) would significantly improve the site appearance and would enable it to be returned in the longer term to rural practises, such as grazing.

By virtue of the impact assessment that follows it is determined that the context of the site is appropriate for the proposed continued use and minor expansion of the exiting quarry as it will not lead to any significant detrimental impacts to nearby land users or the wider environment.

5.3 VISUAL AMENITY

Due to the siting of the proposed quarry on the eastern side of a hill, and below natural ground level, the likelihood of a visual impact to passing traffic on Spring Hill Road is very low. In fact, without specific knowledge of the quarry location, the average motorist would not be visually aware of the site.

Visual impacts to traffic using the private access road are also minimised by perimeter bunding.

There are 8 neighbouring dwellings within a 1 kilometre radius, including 3 dwellings within a 500-metre radius. The location of dwellings is summarised in **Table 5.1** and depicted in **Figure 8**.

Table 5.1 – Dwellings within 1km radius

Dwelling No.	Location
1	230 metres south east of the quarry
2	275 metres south west of the quarry
3	440 metres west of the quarry
4	740 metres west of the quarry

Table 5.1 – Dwellings within 1km radius

Dwelling No.	Location
5	910 metres north east of the quarry
6	852 metres north west of the quarry
7	752 metres north west of the quarry
8	910 metres north west of the quarry

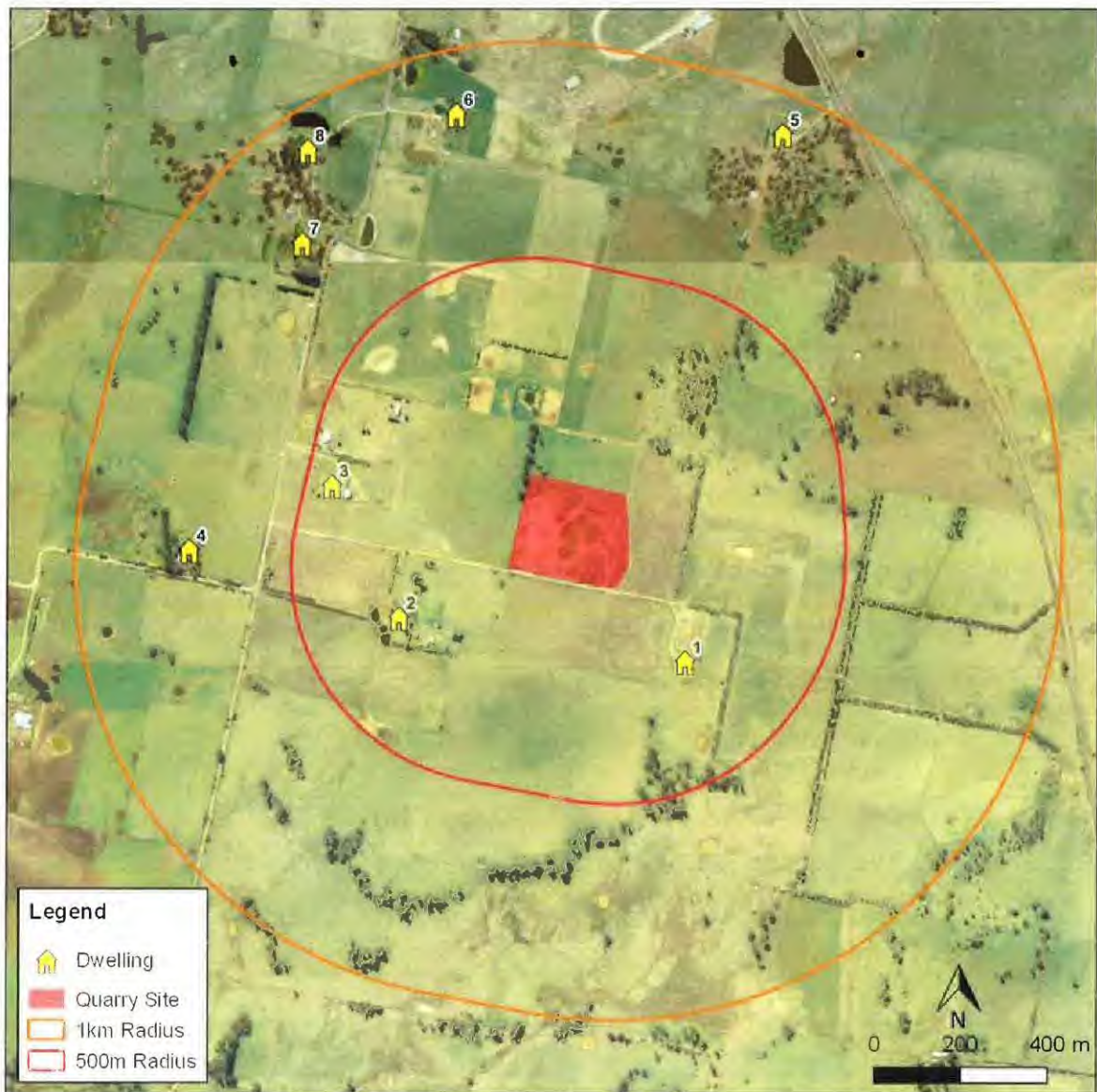


Figure 8: Dwellings within 1km radius (Source: NSW LPI)

Most dwellings are located south-west to north-west of the proposed quarry and therefore topography alone is likely to limit direct views towards the quarry.

Dwelling 3 has existing views (limited by topography) towards the perimeter bunding on the western quarry boundary; this bunding would be extended by 40 metres towards the north to provide a visual screen for the proposed expansion. Perimeter bunding would also be provided along the northern extent

of the quarry expansion. Vegetation would also be planted in this area to provide for additional visual shielding.

Dwelling 2 has existing views towards the perimeter bunding on the western and southern quarry boundaries. Only minor improvements to the bunding on the western and southern sides are proposed and these would only improve the visual appearance of the site from dwelling 2.

Dwelling 1 has existing views towards the perimeter bunding on the southern and eastern quarry boundaries. Only minor improvements to the bunding on the western and southern sides are proposed and these would only improve the visual appearance of the site from dwelling 1.

It is noted that the final landform does include adjustment to the perimeter bunding near the quarry exit point and along the eastern boundary; this would be undertaken in accordance with the Rehabilitation Plan and would not result in adverse visual impacts to Dwellings 1 and 2 as the aim of that adjustment is to provide a linear eastern boundary that improves integration with the landscape and further improves the visual appearance.

Visual mitigation measures are proposed as follows:

- Extension of existing perimeter bunds along the quarry expansion area including vegetation screening.
- Staged excavation of the site.
- Vegetation of exposed surfaces as required.
- Undertake progressive rehabilitation in accordance with the Rehabilitation Plan.

It is anticipated that the implementation of the above measures will ensure that the visual impact of the proposed quarry is minimised.

5.4 TRAFFIC

5.4.1 EXISTING ENVIRONMENT

5.4.1.1 Description

As previously stated, the quarry site is accessed via a private access road that joins Spring Hill Road approximately 600 metres west of the quarry entrance point (**Plate 1**).

The private access road also provides access to a neighbouring dwelling to the east.

5.4.1.2 Existing Traffic

Volumes of traffic on the private access road are limited to vehicles associated with the current quarry use and for access to the neighbouring residential dwelling.

5.4.2 POTENTIAL IMPACTS

The proposed operation entails the removal of approximately 15,000 tonnes of material per year.

A fully laden heavy vehicle can haul up to 23 tonnes of material per load. Assuming average extraction rates, and operation of the quarry for 6 days per week, 48 weeks per year, therefore provides average heavy vehicles of 13 trucks per week (26 movements), or 2.3 per day (~5 movements). In periods of heavy haulage, ie, responding to a specific project, vehicle numbers per day may raise to five trucks per day (10 movements). This would only be limited to short term periods and would likely be followed by periods where no activity occurs. The current 1997 consent provided for six loads (12 movements) per day, rising to 10 – 12 loads (24 movements) during busy periods. This reduction in traffic movements is a direct result of reduction of the maximum approved extraction level.

The proposed haulage rates are a reduction by compared to the approved level of extraction and therefore are not expected to result in any greater impacts to the surrounding locality than currently exist.

On basis of the above, traffic movements associated with the operation are not considered to represent a significant adverse impact.

5.4.3 MITIGATION MEASURES

- Truckloads of material transported off-site would be covered and recorded;
- Internal vehicle movements (ie, with the quarry areas) would be in a one-way direction only;
- Posted internal speed limits would be adhered to, to minimise dust and noise;
- A Vehicle Management Plan would be implemented to ensure all vehicle operators (where unfamiliar with the site) would be briefed in standard operating requirements;
- A driver code of conduct would be included within the vehicle management plan; and
- Vehicle movements past the Spring Hill School would be avoided during active school periods (ie, core drop off and pick up times when the school signs are active).

5.5 NOISE

5.5.1 EXISTING ENVIRONMENT

The subject site is situated in a rural location where the predominant land use is primary production, including grazing and cropping, and where intermittent machinery use is common.

As previously stated in **Section 5.3**, there are 8 neighbouring dwellings within a 1 kilometre radius, including 3 dwellings within a 500-metre radius.

The quarry currently generates noise from operation of machinery for excavation and from trucks travelling to and from the quarry site.

There is no processing (crushing, grinding or screening) or blasting undertaken at the quarry site.

The quarry is cut in below natural ground level and surrounded by perimeter bunding (approximately 3 metres high) both as visual screening and also to attenuate noise.

5.5.2 POTENTIAL IMPACTS

Extraction would be limited to day time hours as defined by the Environment Protection Authority's *Industrial Noise Policy* (INP), being 0700-1800 Monday to Friday, 0700 – 1500 Saturdays and no work on Sundays and Public Holidays. It is not proposed to operate the quarry outside of these hours.

Visual perimeter bunding would be extended along the proposed quarry expansion area and this will assist with noise attenuation, and this would occur concurrently with clearing and stripping activities.

Work would continue to lower the quarry floor and remain below ground level. Ground level operations would be limited to minor tidying up of the existing bunds and some vegetation clearing in the northern extent.

As a result of the topographical shielding, the restriction of quarrying to day time hours only and the absence of crushing, grinding, processing or blasting, it is considered that local acoustic amenity values would not be degraded. It is notable that the volume of material to be extracted on yearly basis is approximately half that approved via the current approval, including a reduction in heavy vehicle movements, thereby resulting in a reduction in potential impacts.

5.5.3 MITIGATION MEASURES

- All plant and equipment would be operated and maintained in accordance with the manufacturer's specifications and be fitted with appropriate noise attenuation devices.
- Works would be undertaken in accordance with the standard daytime hours recommended by the Environment Protection Authority: that is, 0700-1800 Monday to Friday, 0700-1500 Saturday and no work on Sundays and Public Holidays. Any variation to these hours would first be negotiated in consultation with adjoining landowners.
- Any noise complaint would be investigated, recorded and possible mitigation measures investigated.

5.6 AIR QUALITY

5.6.1 EXISTING ENVIRONMENT

The existing quarry operation generates both dust and vehicle emissions. There are no other industrial or extractive activities in the vicinity of the site that would give rise to significant air quality impacts.

5.6.2 POTENTIAL IMPACTS

The use of plant and the movement of haul trucks over unsealed surfaces have the potential to generate both localised dust and exhaust emissions.

As the proposed quarry expansion is an extension of the existing quarry (rather than a separate quarry) and the scale of quarrying activities (in terms of extraction rate, transport etc.) would not significantly change as a result of the quarry expansion, the proposed development will not give rise to any potential cumulative offensive or significant air quality impacts.

5.6.3 MITIGATION MEASURES

Potential air quality impacts can be minimised through the application of appropriate mitigation measures, described below:

- Maintain the internal road surface to minimise dust emissions.
- Maintenance of plant and machinery in accordance with the manufacturer's specifications.
- Strategic watering as required, utilising reclaimed surface water run-off from the water storages within the quarry.
- Temporary suspension of vehicle movements in excessively dry and/or windy conditions;
- Covering loads of trucks leaving the site.
- Speed limiting on the private access road and internal access roads.

5.7 GROUNDWATER

5.7.1 EXISTING ENVIRONMENT

As identified in **Section 4.2.1**, the Cabonne LEP identifies part of the site as groundwater vulnerable land.

The quarry has been operating for approximately 50 years and the current excavation does not appear to intercept groundwater as there is no apparent groundwater seepage from the quarry face.

Review of the NSW Office of Water (NOW) All Groundwater Map revealed a total of seven registered bores within a one kilometre radius of the quarry site, including two bores within 500 metres of the quarry site. **Table 5.2** provides a summary of data from those bores.

It is evident from **Table 5.1** that the depth to the upper limit for water bearing zones (WBZ) within a one kilometre radius of the quarry site ranges from 10.7 to 46.0 metres, with an average depth of 27.0 metres.

Table 5.2 – Groundwater Bores located within 2km of the Subject Site

Bore ID	Depth (m)	Purpose	Upper Limit of WBZ (m)	WBZ Type	Log Comments	Distance from Quarry (m)
GW058711	55.00	Stock/Domestic	46.00	Unknown	No log provided	955 m NW
GW066693	33.00	Stock/Domestic	18.00	Fractured	No log provided	965 m W
GW050844	12.00	Stock	10.70	Fractured	Shale fractured water supply	895 m NW
GW050732	23.20	Stock	No data	No data	No log provided	775 m NW
GW063669	35.40	Domestic	28.00	Fractured	Basalt water supply	710 m NW
GW053308	2.00	Stock/Domestic	No data	No data	Ironstone	480 m NW
GW801668	37.00	Stock/Domestic	32.20	Unknown	Basalt	260 m SE

Source: Department of Primary Industries (Water) allwaterdata website

Notably, and despite the inclusion of the surrounding area, the majority of the subject site is not mapped as being groundwater vulnerable land – refer **Figure 7 (page 20)**. This is reflective of its elevated position and reinforces the low likelihood of likely interaction with groundwater resources.

5.7.2 POTENTIAL IMPACTS

Quarry activities, current and proposed, do not involve extraction of groundwater.

Current quarry excavations at the site do not indicate any current interaction with groundwater resources. However, as the depth of quarry excavation currently ranges between ~10-15 metres (and is proposed to extend to a maximum depth of 17 metres), there is potential to interact with groundwater based on known WBZ (depth 10.7 metres) at the locality in fractured shale (similar to quarry site lithology). The bedded and fractured nature of the siltstone/shale at the quarry site is also likely to facilitate surface water drainage within the quarry.

Impacts to groundwater may include:

- Interruption of groundwater flow paths by extracting rock.
- Inflow of groundwater into the quarry if intercepted by quarry extraction.
- Impacts to groundwater quality such as contamination and sedimentation, as well as potential impacts to groundwater temperature.

5.7.3 MITIGATION MEASURES

The following measures would be implemented to minimise adverse impacts to the groundwater resource:

- The current and proposed quarry operations would not impose any additional demand on groundwater resources.
- No contaminants, including fuel, would be stored on site.
- Major repairs or oil changes would not be undertaken on-site.
- No effluent would be generated or disposed of at the quarry site.

- Spill kits will be provided at the quarry site.
- Sediment and erosion controls would be implemented in accordance with **Section 5.10.3.2** to ensure that surface water directed to water storages does not have a high sediment load.

The above measures provide controls to minimise the potential for quarry water storages to be affected by sedimentation or contamination. With effective implementation of those controls, it is unlikely that drainage from water storages into underlying lithologies would adversely affect groundwater quality.

Water storage levels will continue to be visually monitored to ensure that water is not fast-draining. In the event that water storages drain quickly, an appropriately qualified professional would be engaged to investigate.

5.8 SURFACE WATER

There are no watercourses near the quarry (including the area of the proposed expansion), with the closest first order stream approximately 340 metres north-west of the quarry site.

Surface water run-off within the quarry is directed to existing water storages provided in the quarry. Perimeter bunds minimise run-off from outside the quarry from entering the quarry area.

Extension of perimeter bunding along the proposed quarry expansion (in accordance with the Rehabilitation Plan) and retention of surface water storages will ensure appropriate separation of quarry water and clean water (outside quarry).

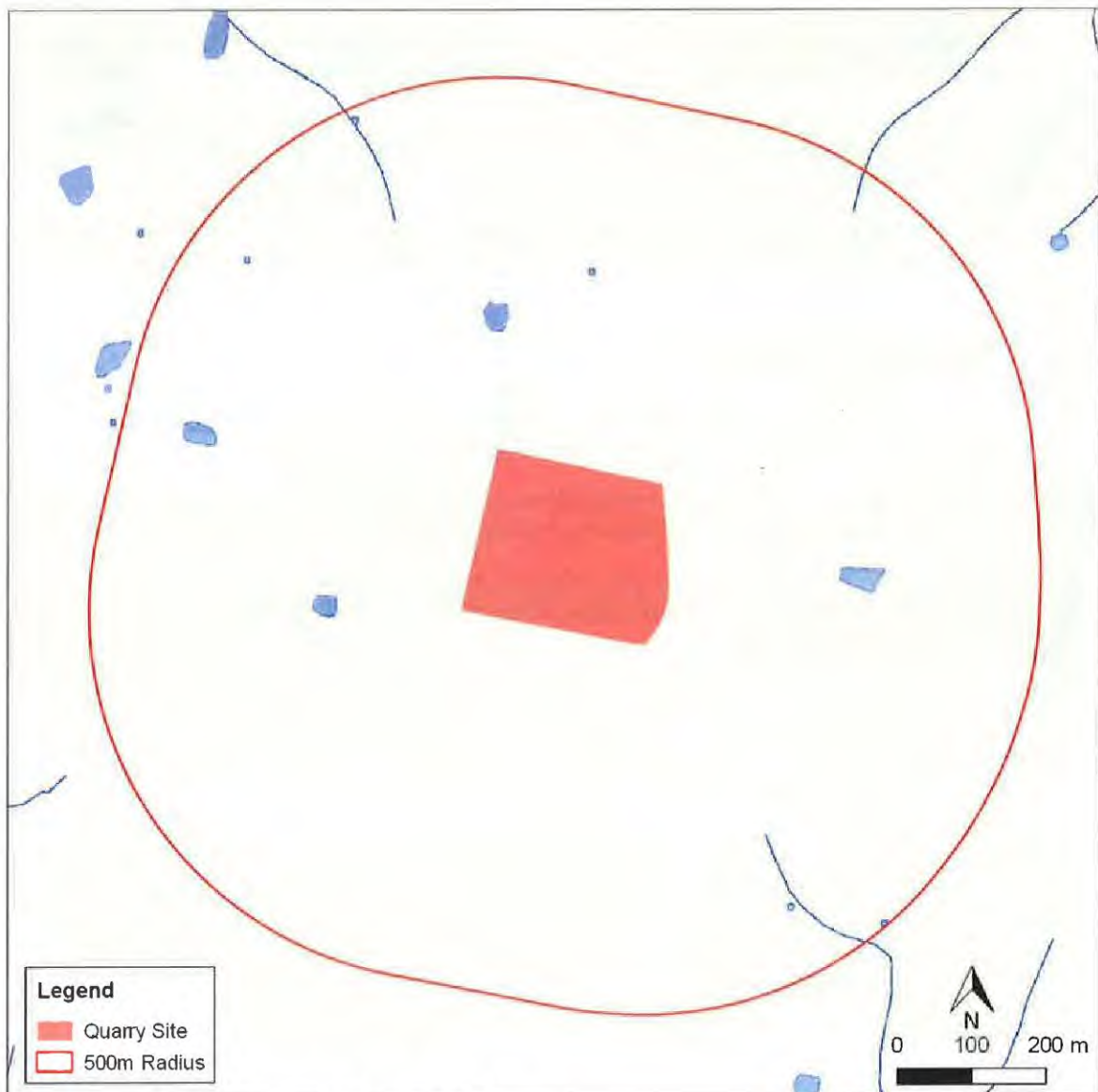


Figure 9: Surface water within 500m (NSW LPI)

5.9 NATURAL HAZARDS

Flooding from high rainfall events is a known issue at the quarry site but is not a common occurrence. Depending on water storage levels within sumps/settlement ponds, high rainfall events may cause water storages to overflow and flood the quarry floor. In this situation, extraction is suspended at the site and pumping equipment is available at the site as an emergency contingency measure. Water is pumped onto grassed areas of the quarry site or cultivated land within Lot 28 only.

The site is not mapped as bushfire prone.

5.10 GEOLOGY AND SOILS

5.10.1 EXISTING ENVIRONMENT

5.10.1.1 Geology

The quarry site is located within an isolated occurrence of the 'Oakdale Formation' and is surrounded by volcanic Cainozoic units. The Oakdale Formation contains various volcanic and sedimentary units, including siltstone and shale that occur at the quarry site (Geoscience Australia, n.d.).

The NSW SEED Portal identifies the Oakdale Formation as a geological unit with the potential to contain Naturally Occurring Asbestos (NOA) but it is assessed as having 'low' potential. The SEED Portal states the following:

Oakdale formation includes tremolite and minor chrysotile. The entire Group could contain asbestos within mafic rock that are faulted - although the overall potential is low.

The rock types observed at the quarry site include siltstone and shale. No mafic volcanic rocks were identified in the quarry faces.

5.10.1.2 Soils

The quarry site is located on the Spring Hill soil landscape and Krasnozems soils are the dominant soil type at the site. Krasnozems soils are well drained and moderately permeable with a low erosion hazard (eSPADE, n.d.).

5.10.2 POTENTIAL IMPACTS

5.10.2.1 Geology

As the Oakdale Formation has the potential to contain mafic volcanic rocks with a low potential for NOA, there is potential to intersect units that may contain NOA.

Natural weathering and human activities may disturb NOA-bearing rock or soil, causing the release of asbestos fibres. Potential impacts due to surface disturbance may include the following:

- Health Impacts:
 - Asbestos inhalation can cause asbestosis, lung cancer and mesothelioma.
- Environmental Impacts:
 - Disturbance of NOA in hard rock may increase levels of NOA in soils.
 - Disturbance of NOA would adversely impact air quality.

Disturbance of NOA may affect catchment water quality although noting the distance to surface water and the current absence of interaction with groundwater resources.

5.10.2.2 Soils

The proposed expansion would impact an area of 0.31 hectares, including removal of topsoil and subsoils.

Potential soil impacts relate to the potential for erosion and sedimentation. The soil resource would be protected through retaining the vegetative cover which surrounds the quarry and maintaining vegetation cover on perimeter bunding (in accordance with the Rehabilitation Plan). This would ensure that the surrounding areas are stabilised, minimising the movement of sediment into the quarry.

Sediment and erosion controls would continue to be implemented in accordance with *Managing Urban Stormwater: Soils and Construction* (Blue Book) to minimise erosion and sedimentation impacts within the quarry.

5.10.3 MITIGATION MEASURES

5.10.3.1 Geology

Whilst considered a low likelihood given the historical absence of any NOA, the following measure would be implemented to minimise risk to exposure to NOA:

- Quarry activities will immediately cease if any change in rock type (i.e. rocks other than shale or siltstone) is observed, and a suitably qualified geologist experienced in NOA would be engaged to investigate.

5.10.3.2 Soils

The following measures would be implemented to minimise adverse impacts to the soil environment:

- Topsoils will be stripped separately and retained for rehabilitation purposes.
- Overburden and topsoil will be stockpiled separately and (where possible) would be used for progressive rehabilitation.
- Revegetation of exposed soils on perimeter bunding would be undertaken as soon as the bund is completed.
- Implement sediment and erosion controls in accordance with *Managing Urban Stormwater: Soils and Construction* (Blue Book).

5.11 FLORA AND FAUNA

5.11.1 EXISTING ENVIRONMENT

The proposed quarry expansion would affect an area that currently contains disturbed grassland and two Apple Box (*Eucalyptus bridgesiana*) trees, including one hollow-bearing tree (**Plate 3**). The quarry site is also affected by Blackberry infestations, including the area to be disturbed by the proposed expansion.

The quarry is not within or near NSW National Parks and Wildlife Service (NPWS) Estate, areas declared as Critical Habitat, Declared Wilderness, or Wildlife Refuges.

A review of the Office of Environment and Heritage (OEH) Atlas of NSW Wildlife did not identify any threatened or endangered species within the property or within a two kilometre radius of the property.

5.11.2 POTENTIAL IMPACTS

The proposed expansion will affect 0.31 hectares of disturbed grassland and requires the removal of two Apple Box trees, including one hollow-bearing tree.

5.11.3 MITIGATION MEASURES

- Limit disturbance area to the proposed expansion area.
- Remove occurrences of Blackberry prior to stripping the quarry expansion area.
- Monitor for weed infestations and apply appropriate control measures as required.
- Felled trees will be left in-situ for at least 24 hours to allow fauna species to self-relocate. Ensure qualified personnel are on hand to check hollows for wildlife and relocate as necessary.

- If any wildlife is inadvertently injured, an accredited veterinarian (and through them possibly a wildlife care group) should be contacted.
- Retain all fallen timber for use in rehabilitation areas.

5.12 HERITAGE

5.12.1 EXISTING ENVIRONMENT

Aboriginal Heritage

A search of the Office of Environment and Heritage (OEH) Aboriginal Heritage Information Management System (AHIMS) on 8th May 2017 did not reveal any Aboriginal sites or places at or in the vicinity of the quarry site.

Non-indigenous Heritage

A review of the Cabonne LEP, NSW State Heritage Register and Australian Heritage Database did not identify any non-indigenous heritage sites at or near the proposed quarry.

5.12.2 MITIGATION MEASURES

Should any 'objects' or other Aboriginal or European heritage features be identified during the course of construction, work in that area should cease and be cordoned off and the Office of Environment and Heritage and/or suitably qualified heritage specialist be contacted to discuss how to proceed.

5.13 LAND USE

The quarry site is mapped as Biophysical Strategic Agricultural Land (BSAL) – refer **Section 4.2.2.2**.

The quarry site has been historically used for quarrying activities and as such the loss of 0.31 hectares of agricultural land to expand the existing quarry is not considered to be significant given the long term use of the land for quarrying. In addition, the following measures will be undertaken in accordance with the Rehabilitation Plan:

- Final rehabilitation will include progressive removal of soils stockpiles outside the eastern quarry perimeter bund to return 0.38 hectares of land to agricultural land use.
- 0.57 hectares of grassland within the quarry site will also be retained as part of the quarry site final landform.

The site is also within the boundaries of two Exploration Leases (EL) held by Gosling Creek Pty Ltd (EL6481) and Gold and Copper Resources Pty Ltd (EL6040) (refer – **Figure 10**).

The existing quarry and proposed expansion would not limit the ability for exploration companies to undertake exploration activities at or near the quarry site.

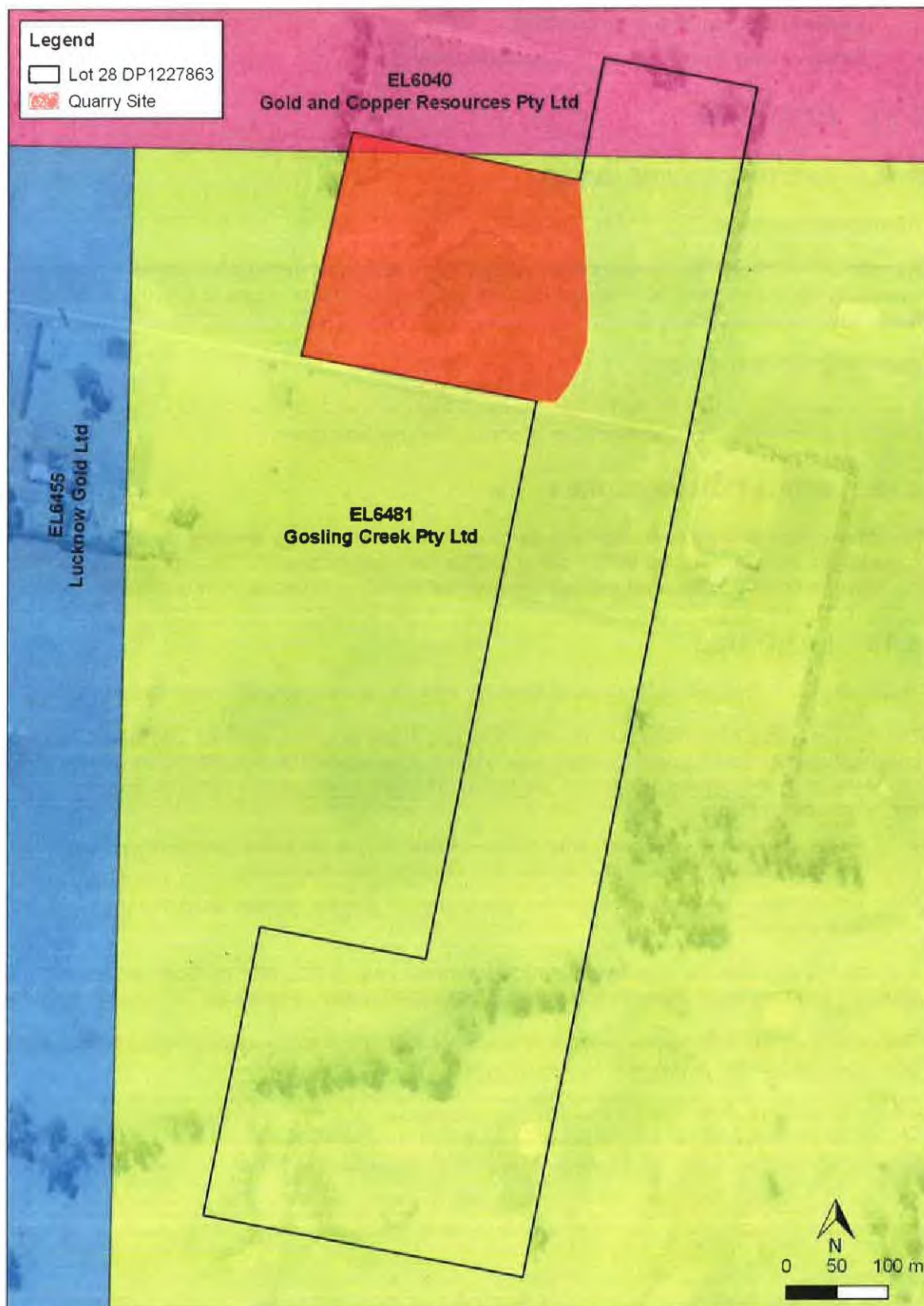


Figure 10: Exploration Leases over Quarry Site (Source: NSW LPI and MinView)

5.14 WASTE

There is no waste rock material as all extracted materials are saleable. General refuse generated within the site is disposed of at a local waste facility. No wastes would be burnt or accepted for disposal on-site.

5.15 GREENHOUSE GAS ASSESSMENT

5.15.1 INTRODUCTION

The estimation of greenhouse gas (GHG) emissions for the Spring Hill Quarry is based on the following:

- DoEE *National Greenhouse and Energy Reporting Scheme Measurement Technical Guidelines for the estimation of emissions by facilities in Australia* (DoEE, 2016a) which applies to estimation of emissions in the 2017-17 reporting year.
- The Department of the Environment and Energy (DoEE) *National Greenhouse Accounts Factors 2015* (DoE, 2016b).
- The World Resources Institute/World Business Council for Sustainable Development (WRI/WBCSD) *Greenhouse Gas Protocol The Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard Revised Edition* (GHG Protocol) (WRI/WBCSD, 2004).

5.15.2 EMISSION SCOPES

Three 'Scopes' of emissions (Scope 1, Scope 2 and Scope 3) are defined for GHG accounting and reporting purposes, as described below. This terminology has been adopted in Australian GHG reporting and measurement methods and has been employed in this assessment. The 'Scope' of an emission is relative to the reporting entity (i.e. Spring Hill Quarry is a reporting entity). Indirect Scope 2 and Scope 3 emissions will be reportable as direct Scope 1 emissions from another facility.

Scope 1 – Direct GHG emissions

Direct GHG emissions are defined as those emissions that occur from sources that are owned or controlled by the reporting entity. Direct GHG emissions are those emissions that are principally the result of the following types of activities undertaken by an entity:

- Generation of electricity, heat or steam:
 - These emissions result from combustion of fuels in stationary sources.
- Physical or chemical processing:
 - Most of these emissions result from manufacture or processing of chemicals and materials (e.g. the manufacture of cement, aluminium, etc.).
- Transportation of materials, products, waste and employees:
 - These emissions result from the combustion of fuels in entity owned/controlled mobile combustion sources (e.g. trucks, trains, ships, aeroplanes, buses and cars).
- Fugitive emissions:
 - These emissions result from intentional or unintentional releases (e.g. equipment leaks from joints, seals, packing and gaskets).
 - Methane (CH₄) emissions from coal mines and venting).
 - Hydrofluorocarbon (HFC) emissions during the use of refrigeration and air conditioning equipment.
 - CH₄ leakages from gas transport.

Scope 2 – Energy product use indirect GHG emissions

Scope 2 emissions are a category of indirect emissions that account for GHG emissions from the generation of purchased energy products (principally, electricity, steam/heat and reduction materials used for smelting) by the entity.

Scope 2 typically covers purchased electricity, defined as electricity that is purchased or otherwise brought into the organisational boundary of the entity.

Scope 3 – Other indirect GHG emissions

Scope 3 emissions are defined as those emissions that are a consequence of the activities of an entity, but which arise from sources not owned or controlled by that entity. Some examples of scope 3 activities provided in the GHG Protocol are extraction and production of purchased materials, transportation of purchased fuels, and use of sold products and services.

5.15.3 ESTIMATED EMISSIONS**5.15.3.1 Relevant Emission Scopes**

Emissions of carbon dioxide (CO₂) would be the most significant GHGs for Spring Hill Quarry. These gases are formed and released during the combustion of fuels used on site and via transport of products.

Inventories of GHG emissions can be calculated using published emission factors. Different gases have different greenhouse warming effects (referred to as global warming potentials) and emission factors take into account the global warming potentials of the gases created during combustion. The estimated emissions are referred to in terms of carbon dioxide equivalent (CO_{2-e}) emissions by applying the relevant global warming potential. The GHG assessment has been conducted using the DoEE (2016b) NGA Factors.

Project-related GHG sources included in the assessment are as follows:

- Scope 1:
 - Fuel consumption (diesel) during quarrying operations.
- Scope 3:
 - Indirect emissions associated with the production and transport of fuels (diesel).
 - Emissions from transportation (diesel).

It is noted that Scope 2 emissions are not assessed as there is no existing or proposed use of electricity at Spring Hill Quarry.

5.15.3.2 Calculations

Diesel Combustion – Stationary

GHG emissions from diesel from stationary combustion were estimated using the following approach from DoEE (2016b).

$$E_g = \frac{Q_i \times EC_i \times EF_{gavcc}}{1\,000}$$

where:

E_g is the emissions of gas type (j), (carbon dioxide, methane or nitrous oxide, from fuel type (i) (CO₂-e tonnes).

Q_i is the quantity of fuel type (i) (kilolitres) combusted for stationary energy purposes

EC_i is the energy content factor of fuel type (i) (gigajoules per kilolitre) for stationary energy purposes, according to Table 3.

If Q_i is measured in gigajoules, then EC_i is 1.

EF_{gavcc} is the emission factor for each gas type (j) (which includes the effect of an oxidation factor) for fuel type (i) (kilograms CO₂-e per gigajoule) according to Table 3.

Table 3: Fuel combustion emission factors - liquid fuels and certain petroleum based products for stationary energy purposes

Fuel combusted	Energy content factor (GJ/kL unless otherwise indicated)	Emission factor kg CO ₂ -e/GJ (relevant oxidation factors incorporated)		
		CO ₂	CH ₄	N ₂ O
Diesel oil	38.6	69.9	0.1	0.2

Diesel Combustion – Transport

GHG emissions from diesel from stationary combustion were estimated using the following approach from DoEE (2016b).

$$E_g = \frac{Q_i \times EC_i \times EF_{gavcc}}{1\,000}$$

where:

E_g is the emissions of gas type (j), (carbon dioxide, methane or nitrous oxide, from fuel type (i) (CO₂-e tonnes).

Q_i is the quantity of fuel type (i) (kilolitres or gigajoules) combusted for transport energy purposes

EC_i is the energy content factor of fuel type (i) (gigajoules per kilolitre or per cubic metre) used for transport energy purposes — see Table 4.

If Q_i is measured in gigajoules, then EC_i is 1.

EF_{gavcc} is the emission factor for each gas type (j) (which includes the effect of an oxidation factor) for fuel type (i) (kilograms CO₂-e per gigajoule) used for transport energy purposes — see Table 4.

Table 4: Fuel combustion emission factors - fuels used for transport energy purposes

Transport equipment type	Fuel combusted	Energy content factor (GJ/kL unless otherwise indicated)	Emission factor kg CO ₂ -e/GJ (relevant oxidation factors incorporated)		
			CO ₂	CH ₄	N ₂ O
General transport					
	Diesel oil	38.6	69.9	0.1	0.5

5.15.3.3 Results

Diesel Combustion – Stationary (Scope 1)

The annual quantity of diesel consumed for stationary combustion is based on the quantity of diesel consumed by site plant and equipment, provided by the proponent. The annual quantity is 9.36 kL.

Diesel Combustion – Transport (Scope 3)

The annual quantity of diesel consumed by combustion for transport of product is based on the following:

- An average of 26 truck movements per week, travelling a maximum of 50 kilometres per movement, equating to a maximum of 67,600 kilometres per year.
- An estimate of diesel consumption from product transportation has been made based on the NSW average fuel consumption rate for articulated trucks of 56.3 L / 100 km (ABS, 2017).
- Based on a maximum of 67,600 kilometres per year and the consumption rate (56.3 L / 100km), the maximum total consumption of diesel from transport combustion is 38,058.80 kL.

It is noted that the 'catchment' for the operation is local, intended to serve a local area of no more than 40 - 50km around the quarry. In reality, many customers will be closer than this and as such the above figures represent a maximum and therefore conservative assessment

Total Emissions

The estimated annual GHG emissions from diesel usage are presented in **Table 5.3**.

It is noted that annual emissions are not projected as the extraction rate is proposed to remain the same each year (15,000 tonnes per year).

Table 5.3 – Annual GHG Emissions

Type	Consumption (kL)	Emissions (t CO _{2-e})
Diesel Stationary combustion (scope 1)	9.36	25.3
Diesel Combustion from transport (scope 3)	38.05	102.7
TOTAL	47.41	25.3

5.15.4 CONCLUSION

Assessment of the GHG emissions associated with proposed development indicates that annual GHG emissions would represent a very minor portion of Australian's GHG targets – approximately 0.000029% of Australia's 2020 target (559 Mt CO_{2-e}) and approximately 0.000022% of Australian's 2030 target (592 Mt CO_{2-e}) (DoEE, 2016c).

5.16 SAFETY, SECURITY AND CRIME PREVENTION

The guidelines prepared by the NSW Department of Urban Affairs and Planning (DUAP, 2001) identify four (4) Crime Prevention Through Environmental Design (CPTED) principles to be considered in a Development Application to ensure developments do not create or exacerbate crime risk. These four principles are: surveillance, access control, territorial reinforcement, and space management.

Entrance to the quarry site is via locked gates only (**Plate 2**). Signage is provided at the grid entrance (near Spring Hill Road) of the private access road advising UHF contact details and stating no unauthorised entry (**Plate 1**).

The quarry site is surrounded by perimeter bunding to prevent unsafe access into the quarry. The only opening in the bunded perimeter is at the northern extent of the quarry and an internal access road is provided at this location; this road only serves as a point of access for the expansion of the quarry towards the north and would not be used to provide an alternative point of access from the private access road.

The site would continue to be maintained to ensure security and site cleanliness.

The proposed quarry expansion would have a negligible effect on the safety, security and crime at the site.

5.17 SOCIAL IMPACTS

As defined by the NSW Government Office on Social Policy, social impacts are significant events experienced by people as changes in one or more of the following are experienced:

- peoples' way of life (how they live, work or play and interact with one another on a day-to-day basis);
- their culture (shared beliefs, customs and values); or
- their community (its cohesion, stability, character, services and facilities).

The proposed quarry expansion would not have an adverse impact on any of the above social characteristics within the local community. The existing way of life, culture and community cohesion would not be compromised on the basis that the progressive rehabilitation and ongoing management would effectively limit external impacts to nearby sensitive receivers.

Conclusion

6.1 SUITABILITY OF THE SITE

As demonstrated throughout **Section 5** of this report, the proposed development would not result in any adverse impacts for future users of the subject site, adjacent properties, or the locality. In this regard, the development is considered to fit into the locality, the site attributes are considered to be conducive to the development, and as such the development is suitable for the site.

6.2 PUBLIC INTEREST

The proposal is unlikely to be of wider public interest due to the localised nature of the impacts.

6.3 CONCLUSION

The proposed use of the site as an extractive industry is permissible by consent within the – Primary Production zone as per the *Cabonne Local Environmental Plan 2012* and by virtue of clause 7(3) of the SEPP (Extractive Industries). The development does not represent designated development on the basis that, among other things, the extent of disturbance is less than two hectares. An assessment of the development in respect of the provisions of clauses 35 and 36 of Part 2 of Schedule 3 to the Environmental Planning and Assessment Regulations 2000 confirms that, even where the areas of rehabilitation included in the assessment of the extent of disturbance, the development would still not constitute designated development.

The development is not antipathetic to the zone or plan objectives.

Through the appropriate implementation of the mitigation measures listed in **Section 5** of this report, and adherences to the statement of commitments at **Appendix B**, the development is unlikely to lead to any detrimental impacts with respect to soils, water, noise, visual amenity, servicing, or the social and economic environment.

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Plates



Plate 1: Gridded entrance to private access road and signage



Plate 2: Gated entry to quarry site



Plate 3: Two Apple Box trees to be removed (hollow bearing tree on right hand side)

Appendix A

REHABILITATION PLAN

REHABILITATION PLAN

SPRING HILL QUARRY

LOT 28 DP1227863, SPRING HILL ROAD

SPRING HILL

PREPARED FOR:

J & V CARMAN

AUGUST 2017

(RE-ISSUED)



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Report Title:	<i>Rehabilitation Plan</i>
Project:	<i>Spring Hill Quarry</i>
Client:	<i>J & V Carman</i>
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Geolyse Pty Ltd and the authors responsible for the preparation and compilation of this report declare that we do not have, nor expect to have a beneficial interest in the study area of this project and will not benefit from any of the recommendations outlined in this report.

The preparation of this report has been in accordance with the project brief provided by the client and has relied upon the information, data and results provided or collected from the sources and under the conditions outlined in the report.

All information contained within this report are prepared for the exclusive use of J & V Carman to accompany this report for the land described herein and are not to be used for any other purpose or by any other person or entity. No reliance should be placed on the information contained in this report for any purposes apart from those stated therein.

Geolyse Pty Ltd accepts no responsibility for any loss, damage suffered or inconveniences arising from, any person or entity using the plans or information in this study for purposes other than those stated above.



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PLANS

Plan 1 – Existing Site Layout
Plan 2 – Quarry Expansion
Plan 3 – Final Landform

Background

1.1 LOCATION

The Spring Hill Quarry is located at Lot 28 DP1227863, Spring Hill Road, Spring Hill.

1.2 QUARRY ACTIVITIES

1.2.1 EXTRACTION

The Spring Hill Quarry has been operating for approximately 50 years for extraction of siltstone/shale. More recently, clay intervals within overburden have also been extracted for sale. Topsoils are stripped separately and retained for rehabilitation purposes.

Quarrying does not require blasting as the rock is finely bedded and fractured, allowing manual extraction with a bulldozer and excavator. All quarry walls are scaled for stabilisation. However, in places quarry walls are steeply sloping due to the naturally steep orientation of bedded rock.

Approximately 15,000 tonnes (8,333 cubic metres) of material is proposed via the attached development application to be extracted from the quarry annually.

1.2.2 STOCKPILES

All extracted rock and clay material is stockpiled within the active working area but away from the active quarry face. There is no waste rock material.

Overburden and topsoil stockpiles are currently on the eastern side of the quarry site and are used for progressive rehabilitation. These would be progressively moved as an element of the proposed expansion plan to open up the eastern elevation of the quarry and enable the installation of a new boundary fence on the eastern side, in line with existing fencing in this area. This provides improved security for the site.

1.2.3 PROCESSING

No processing (i.e. crushing, grinding or screening) of the extracted material is required.

1.2.4 PRODUCT TRANSPORT

Extracted materials are loaded onto trucks within the quarry site and enter and exit through designated access points onto a private access road joining Spring Hill Road to the west.

1.2.5 PLANT AND SITE INFRASTRUCTURE

Site plant includes a bulldozer, excavator and loader. A small water truck is available for dust suppression. However, the quarry is below the natural ground surface and not likely to be subject to high winds. Site plant is refuelled on-site by a service vehicle. No fuels or chemicals are stored on site.

A site office is provided near the southern boundary of the site.



Rehabilitation

2.1 REHABILITATION PLANS

There are three plans to guide rehabilitation of the Spring Hill Quarry, attached to this Rehabilitation Plan and detailed below.

Plan 1 – Existing Site Layout

Plan 1 depicts the existing site layout.

Plan 2 – Quarry Expansion

Plan 2 depicts the layout including areas for quarry expansion, including extensions to Visual Screen Areas and Internal Access Roads.

Plan 3 – Final Landform

Plan 3 depicts the final landform in terms of rehabilitation, relinquished areas and safety bunds.

2.2 DISTURBANCE AND REHABILITATION AREAS

Table 2.1 – Disturbance and Rehabilitation Areas

Domain	Area (ha)		
	Existing Site Layout (Plan 1)	Quarry Expansion (Plan 2)	Final Landform (Plan 3)
Active Working Area / Expansion Area	1.21	1.54	0
Inactive Zone	0.46	0.36	0
Quarry Water Storages	0.77	0.72	0.66
Internal Access Roads	0.35	0.28	0.2
Overburden Stockpile	0.23	0	0
Visual Screen Area / Safety Bunds	0.86	0.4	0.36
Active Rehabilitation Area / Final Rehabilitated Area	0.51	1.66	3.34
Grass Vegetation	1.25	0.68	0.57
Relinquished Area	0	0	0.38
Total Quarry Site Area	5.64	5.64	5.51

2.3 REHABILITATION PLAN OBJECTIVES

The following are the key objectives for rehabilitation of the Spring Hill Quarry:

- To produce a final landform that achieves a stable and functional drainage system at the site, and minimises erosion and sedimentation.

- To provide rehabilitation areas that are similar to surrounding native vegetation communities, and providing suitable habitat for native fauna.
- To eliminate impacts from weeds and feral pests.
- To maintain site security and perimeter bunding to ensure public safety and stock exclusion.
- Maintain limited visibility of the site from adjacent properties and the local road network.

2.4 QUARRY REHABILITATION

The rehabilitation of the site will require stabilisation and progressive rehabilitation of disturbed areas that are no longer required for quarry-related activities.

Stabilisation and progressive rehabilitation measures are detailed in **Sections 2.4.1 to 2.4.10**.

2.4.1 SURFACE WATER MANAGEMENT

- The Site Manager will ensure that surface water within the quarry is directed to the Water Storages (surmp/settlement ponds) within the quarry.
- The Site Manager will ensure that perimeter bunding is maintained around the quarry to prevent surface water (outside the quarry) from entering the quarry.

2.4.2 EROSION CONTROL

- Disturbed areas must be assessed for suitability before applying topsoil (i.e. do not apply to areas conducive to erosion such as steep slopes or on exposed bedrock).
- Regular inspections will be completed by the Site Manager to identify any erosion and sedimentation issues, with actions undertaken as necessary to address any issues identified. Actions may include a change in activity to prevent further impact or control measures which may include:
 - Establish groundcover and vegetation.
 - Installation of sediment barriers or retaining walls.
 - Installation of flow controls (to reduce velocity or direction of surface run-off).

2.4.3 CONSERVING AND REUSING TOPSOIL

- Where possible, stripped topsoil should be immediately placed on rehabilitation areas to ensure best use of soil seed stores and maintenance of soil structure.
- Where stripped topsoil must be stockpiled, it must be stockpiled separately from other quarry product stockpiles.
- All stockpiles should be clearly identified so that they are not inadvertently covered with overburden or damaged by other quarry activities.
- Topsoils should be spread to provide a cover of at least 150 mm over all gently sloping surfaces.
- Avoid compaction after spreading topsoil to allow for aeration and reseedling.

2.4.4 VISUAL SCREENING

- Maintain existing Visual Screen Areas and extend along areas of the quarry that are expanded, as per **Plan 2**.
- Topsoil application and revegetation of Visual Screen Areas as required.

2.4.5 REVEGETATION

- Reuse topsoil to promote reseedling of naturally occurring species (if conserved topsoil contains an abundance of weeds, clean fill should be imported and applied, and purchased seed material used).
- Species type should be determined by those locally adapted to the prevailing climate and soil conditions, and should include those that are associated with surrounding endemic vegetation communities.
- The location of seed propagation or vegetation establishment must be protected as new plantings may be vulnerable to grazing from both native and introduced animals. A variety of measures may be employed, such as tree guards or fencing to isolate the areas.
- Rehabilitation Areas must be maintained: this includes the watering, weeding, replacement of plants that have failed to establish (where required), and the maintenance of sediment and erosion controls such as mulch application.
- Any synthetic materials (i.e. sediment controls or tree guards) should be removed from the site once rehabilitated.
- Sticks, logs and larger rocks should be included in revegetation to help control soil movement and provide habitat.

2.4.6 REUSING SITE MATERIALS FOR HABITAT ENHANCEMENT

Materials from the quarry site that may enhance habitat should be used to attract fauna to Rehabilitation Areas, including the following measures:

- Use available sticks, logs and larger rocks when revegetating to improve ground habitat diversity for fauna returning to the rehabilitated site.
- Retain all fallen timber in areas outside the disturbance footprint.

2.4.7 MANAGING IMPACTS ON FAUNA

The progressive and long term rehabilitation of the quarry site requires the management of impacts on native and non-native fauna. The following measures should be implemented to manage these impacts:

- Only disturbed areas should be rehabilitated.
- Undisturbed areas should be protected to provide habitat for native species.
- Livestock should be excluded from the quarry site by fencing the eastern boundary of the quarry and ensuring access/exit gates are locked when the site is unattended.

2.4.8 BUSHFIRE MANAGEMENT

The site is not mapped as bush fire prone. Fire risks associated with quarry activities are limited to machinery fires. All machinery on-site is fitted with a fire-extinguisher and would be kept within the quarry where there is no vegetation. Bushfires may also occur naturally (outside the quarry) however, surrounding vegetation is not highly connective and largely consists of pasture. The following measure should be implemented for bushfire management:

- Fuel reduction measures should be assessed in consultation with the local Rural Fire Service. Fuel reduction activities will be undertaken as required and will be designed to minimise impacts on biodiversity and threatened species.

2.4.9 CONTROLLING WEEDS AND FERAL PESTS

The key measure to control weeds is the regular inspection of the site for weeds and identifying ways to reduce the potential for weed infestations in these areas.

Any outbreak of noxious weeds will be controlled and eradicated as required under the *Noxious Weeds Act 1993*. Weed control and eradication techniques may include:

- Spraying with herbicides;
- Physical removal; or
- Minimisation of area available for weed infestation.

Measures to control feral species will be undertaken in consultation with the Central Tablelands Local Land Services, and will include:

- Identification of pest species;
- Determination of appropriate control practices;
- Implementing control practises; and
- Undertaking monitoring and follow up control as required.

2.4.10 CONTROLLING ACCESS

- Restrict vehicle and truck movements to Internal Access Roads.
- Restrict entry to undisturbed areas and Rehabilitation Areas.
- Ensure property fences and gates are maintained.
- Install a new boundary fence on the eastern side to effectively limit access from this area.

Monitoring

Section 3 identifies the monitoring requirements to assess effectiveness and progress of rehabilitation measures against Completion Criteria in **Section 4**.

3.1 LANDSCAPE MONITORING

- Visual monitoring of the stability of Rehabilitation Areas (i.e. presence of erosion or slope destabilisation).
- Visual monitoring of water levels in the Water Storages (sump/settlement ponds).
- Visual monitoring of quarry wall stability.

3.2 WEEDS AND FERAL ANIMALS

- Visual monitoring of weed infestations.
- Visual monitoring of the effectiveness of past weed control measures.
- Visual monitoring of feral fauna species.

3.3 ECOLOGICAL MONITORING

3.3.1 MONITORING OF REVEGETATED AREAS

Upon completion of any revegetation works at the quarry site, visual monitoring will be undertaken to assess the progress of the revegetation with the aim of monitoring plant health and the need for implementation of management works or replacement planting/seeding.

The inspections will specifically assess the following and any need for control measures:

- the extent of the vegetative cover;
- the presence of non-native and native species;
- the general health of the vegetation;
- any occurrences of weeds species in the revegetated area;
- the results of any programs implemented following previous inspections;
- fire management of revegetated areas;
- any signs of disturbance; and
- any signs of erosion.

3.3.2 FAUNA MONITORING

- Visual monitoring of the presence and general health of native fauna that may be occupying Rehabilitation Areas.

Completion Criteria

The completion criteria provided in **Section 3** are designed to ensure that the required rehabilitation works are completed in accordance with the objectives and measures provided in this Rehabilitation Plan.

4.1 REVEGETATION

- Rehabilitation Areas are not significantly disturbed, whether it be humans or animals.
- Rehabilitation Areas are free from significant weed growth.
- Rehabilitation Areas have established vegetation.
- Natural regeneration is occurring in Rehabilitation Areas.

4.2 ECOLOGY

- Rehabilitation Areas are similar to surrounding native vegetation communities.
- Rehabilitation Areas support a diverse range of flora and fauna species that are not adversely impacted by quarry activities or rehabilitation works.
- Significant weed occurrences in Rehabilitation Areas are eradicated.

4.3 LANDSCAPE

- Where possible, quarry walls are battered and quarries areas are reshaped to form a suitable landform for rehabilitation.
- The final landform is stable and not subject to erosion or sedimentation.
- Stable and functional drainage exists at the site.
- The location of the overburden stockpile has been relinquished for agricultural use.

4.4 ACCESS

- Access is restricted to Internal Access Roads, and only used for inspection and maintenance purposes only.
- The quarry site boundary is fully fenced and locked gates are maintained.



Responsibilities

The Site Manager is responsible for providing the resources to ensure the effective implementation of this Rehabilitation Plan.

The Site Manager is responsible for the effective implementation of all quarry rehabilitation measures (**Section 2.4**) and monitoring (**Section 3**), and the reviewing and updating of the Rehabilitation Plan as necessary.

Plans



Plan 1 - Existing Site Layout

Rehabilitation Plan
Wattle Grove Quarry



Legend

Quarry Site

Site Office

Active Working Area

Inactive Zone

Quarry Water Storages

Internal Access Roads

Overburden Stockpile

Visual Screen Area

Active Rehabilitation Area

Grass Vegetation

Tree



Plan 2 - Quarry Expansion

Rehabilitation Plan
Wattle Grove Quarry



Legend

 Quarry Site	 Quarry Expansion Area	 Overburden Stockpile
▲ Site Office	 Inactive Zone	 Visual Screen Area
--- Proposed fence	 Quarry Water Storages	 Active Rehabilitation Area
 Active Working Area	 Internal Access Roads	 Grass Vegetation



Plan 3 - Final Landform

Rehabilitation Plan
Wattle Grove Quarry



Legend

- Quarry Site
- Water Management Area
- Internal Access Roads

Rehabilitated Areas

- Safety Bunds (Natural Regeneration - Grass)
- Tree/Grass Vegetation
- Grassland
- Relinquished - Pasture

Appendix B

STATEMENT OF COMMITMENTS



Statement of Commitments – Wattlegrove Quarry

Following preparation of the Statement of Environmental Effects and review of public submissions, the applicant has developed this "Statement of Commitments". This document reflects the applicant's intent to carry out the Project to the highest environmental standards where reasonable and feasible.

Should approval be granted to the Project under the EP&A Act, the applicant commits to the following controls. The Statement of Commitments will apply except to the extent of any inconsistency with a condition of consent, at which point the condition of consent will prevail.

- The life of the project will be 15 years;
- A maximum of 15,000 tonnes (approximately 8,333 cubic metres) of material will be extracted, stored, processed and transported from the quarry annually;
- The hours of operation of the facility will be in accordance with the following table:

Table B1 – Hours of operation

Day	Hours
Monday – Friday	7am – 6pm
Saturdays	8am – 3pm
Sundays and public holidays	No work

- The active areas of extraction are defined by **Figure 4** of the SEE. These boundaries will be mapped using digital software and made available to the quarry manager. If stipulated by Council, the approved extraction area will be clearly and permanently marked with survey posts by a registered surveyor.
- The maximum depth of the quarry activity will be defined by the current maximum depth of the quarry derived by reference to existing GIS data obtained by Geolyse and provided to the applicant. No extraction beyond the current maximum depth will occur.
- Whilst not expected, if any interaction with groundwater occurs during operations, work in the affected area will immediately cease and consultation will occur with the Department of Primary Industries (Water) and Cabonne Council as to any approval requirements that may be necessary. Work will not recommence in those areas until necessary approvals are sought and granted.
- No extraction or use of groundwater is proposed or anticipated in relation to the project.
- The site will not accept any form of waste as defined by the *Protection of the Environment Operations Act 1997*.
- The development will provide contact details for an employee with whom complaints can be lodged. This means of contact will be active during the operational hours listed in **Table B1**.
- All complaints will be recorded together with any corrective actions taken and the details included within the Annual Report.
- Within six months of receiving development approval from Cabonne Council the applicant will produce an Operational Environmental Management Plan to be submitted to Council and implemented on site. This will incorporate environmental safeguards outlined in the SEE, these commitments and other relevant matters.
- The OEMP will be reviewed annually or upon the occurrence of any notifiable environmental incident. An updated version of the document will be supplied to Cabonne Council within 30 days of the update.
- The OEMP will set out the matters to be provided in an Annual Report that will be prepared and provided to Council within 30 days of the end of the reporting period.
- The Annual Report will provide information on the following matters as a minimum:
 - Tonnage of material transport off site in the preceding year;

Signed:

DA Number:

Issued under section 81(1)(a) of the
Environmental Planning & Assessment Act 1979

CABONNE COUNCIL

Date: 28/11/17

- Updated site map showing the areas of active extraction and rehabilitation in the context of **Figure 4**;
- Details of any changes to the site OEMP including the reason/s for the changes;
- Within 12 months of the approval of the lodged OEMP the applicant will commission an independent external audit of the site to assess operation against the provisions of the SEE, these commitments, the conditions of consent and any other relevant matters. A copy of the audit, including any corrective actions proposed, will be provided to Council within a further one month.
- All visitors to the site will be directed by site signage to attend the site office for induction.
- Appropriate site signage will be installed to provide details of applicable on site controls and safety measures to be followed.
- Any trees removed from the site will be done so in a manner that minimises harm to biodiversity/fauna on site, including carrying out a pre-clearance survey by a suitably qualified or experienced ecologist. These measures will be outlined in the OEMP;
- Any vegetation for clearance will be marked prior to removal to ensure compliance with extraction boundaries;
- Progressive rehabilitation at the site will be undertaken in accordance with the amended Rehabilitation Plan provided to support the SEE;
- Re-vegetation of progressively rehabilitated areas will be carried out on an ongoing basis;
- Should any Aboriginal objects be encountered during works associated with the Project, works will cease in the vicinity and the find will not be moved until assessed by a qualified archaeologist;
- Works will immediately cease if suspected human remains are discovered. The NSW Police Force and OEH's Environmental Line (131 555) will be contacted as soon as practical and provided with details and location of the remains. Work will not re-commence in this location unless authorised in writing by OEH and clearance provided by the Police, if required. If skeletal remains are deemed to be of Aboriginal origin, a representative of the local Aboriginal Community and the DECCW are to be contacted;
- The operator will operate a Driver Code of Conduct for the life of the Project. If required a Traffic Management Plan will also be implemented for the Project;
- All site operations will endeavour to remain within any noise criteria as outlined in the development consent, maintained for the life of the Project;
- In the event of a noise non-compliance, any exceedance will be recorded. Exceedances and their management/corrective actions will be published in the site's Annual Report;
- The site, including site slopes, batters and benches, will be managed by the applicant to ensure the safety of all persons having access to the quarry. If required by Council, a geotechnical report would be commissioned to confirm safe slopes and bench heights. The findings of this reporting would be incorporated within the OEMP and complied with for the life of the project;
- Signage will be posted on external fencing to alert any person seeking to gain unauthorised access to the site of the existence of the quarry and the related sloping ground, and directing them to the site office;
- Inclusion within the OEMP of appropriate management measures for the management of air quality and dust suppression including but not limited to:
 - routine water application to the private access road, the internal road and unsealed surfaces within the quarry area;
 - water spraying of stockpiles and stockpile transfer points;
 - minimisation of work during times of high winds and in areas with high potential for dust dispersion;
- Inclusion within the OEMP of appropriate management measures for the management of captured surface water from within the quarry boundary including but not limited to:
 - Maintenance and improvement of the condition of existing sumps/settlement dams;



- Reuse of captured water for dust suppression activities;
 - Installation of new sumps/settlement dams as required throughout the life of the quarry;
- Whilst not expected in relation to the project, the storage of any hazardous materials will be carried out in accordance with the Safety Data Sheets for those items and all relevant requirements of SafeWork NSW.
- Quarry activities will immediately cease if any change in rock type (i.e. rocks other than shale or siltstone) is observed, and a suitably qualified geologist experienced in Naturally Occurring Asbestos will be engaged to investigate. If required, an Asbestos Management Plan will be prepared for the site prior to works recommencing in the affected area;
- Benches will be graded to ensure stormwater are drained off the bench towards the on-site water collection points (i.e. sumps/settlement dams).
- If batter slopes exhibit failure signs, all excavations will cease in the affected area and a geotechnical engineer will be consulted to determine the appropriate course of action.
- Sediment and erosion will be managed in accordance with the following:
 - Regeneration/replanting of exposed areas as soon as practical following exposure to enhance soil stability and eliminate run off;
 - Installation of erosion/sediment diversion bunds if required; and
 - In heavy rainfall events, extraction is suspended and sumps/settlement dams are dewatered to the grassed areas of the site or cultivated land within Lot 28 only.