



Environmental Assessment for the Relocation of the Administration Centre at the Calga Sand Quarry

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Environmental Assessment for the Relocation of the Administration Centre at the Calga Sand Quarry

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1. INTRODUCTION

1.1 SCOPE

This document has been prepared to accompany an application by Rocla Materials Pty Ltd (“Rocla”) under Section 75W of the *Environmental Planning and Assessment Act* (see **Appendix 1**) to relocate the administration centre to the rehabilitated quarry floor within the Calga Sand Quarry.

Relocation of the existing administration centre and associated infrastructure is necessary to maximize recovery of extractable friable sandstone in Stages 3/3 and 3/4 of the quarry. The proposed relocation of the existing administration centre was identified in the 2004 *Environmental Impact Statement*, where it was proposed to relocate the administration centre to the southeastern corner of the Quarry Site at the completion of Stage 3/2. Rocla’s preferred location for the administration centre was introduced in the 2010 AEMR i.e. on the rehabilitated quarry floor next to the relocated wash plant. This location would allow for centralisation of the workforce, improved security and reduced impacts relating to visibility and noise at the surrounding residences.

This *Environmental Assessment* has been prepared by R.W. Corkery & Co. Pty Limited on behalf of Rocla to support Rocla’s Application to relocate the administration centre to the rehabilitated quarry floor. The application also covers a range of components related to the administration centre such as the sealed road from the existing Quarry Site entrance to the relocated weighbridge.

For the purposes of this document, the area of the existing quarry operation is referred to as the “Quarry Site” (see **Figure 1.1**). This area covers the existing Stages 1, 2 and 3 within the Calga Sand Quarry on Lot 2, DP229889, a property owned by Rocla. This lot lies within the Parish of Narara, County of Northumberland and the local government area of Gosford City.

The Quarry Site, illustrated on **Figure 1.1**, is located approximately 1.7km northwest of the Calga Interchange on the F3 Freeway.

1.2 THE PROPONENT AND THE QUARRY SITE

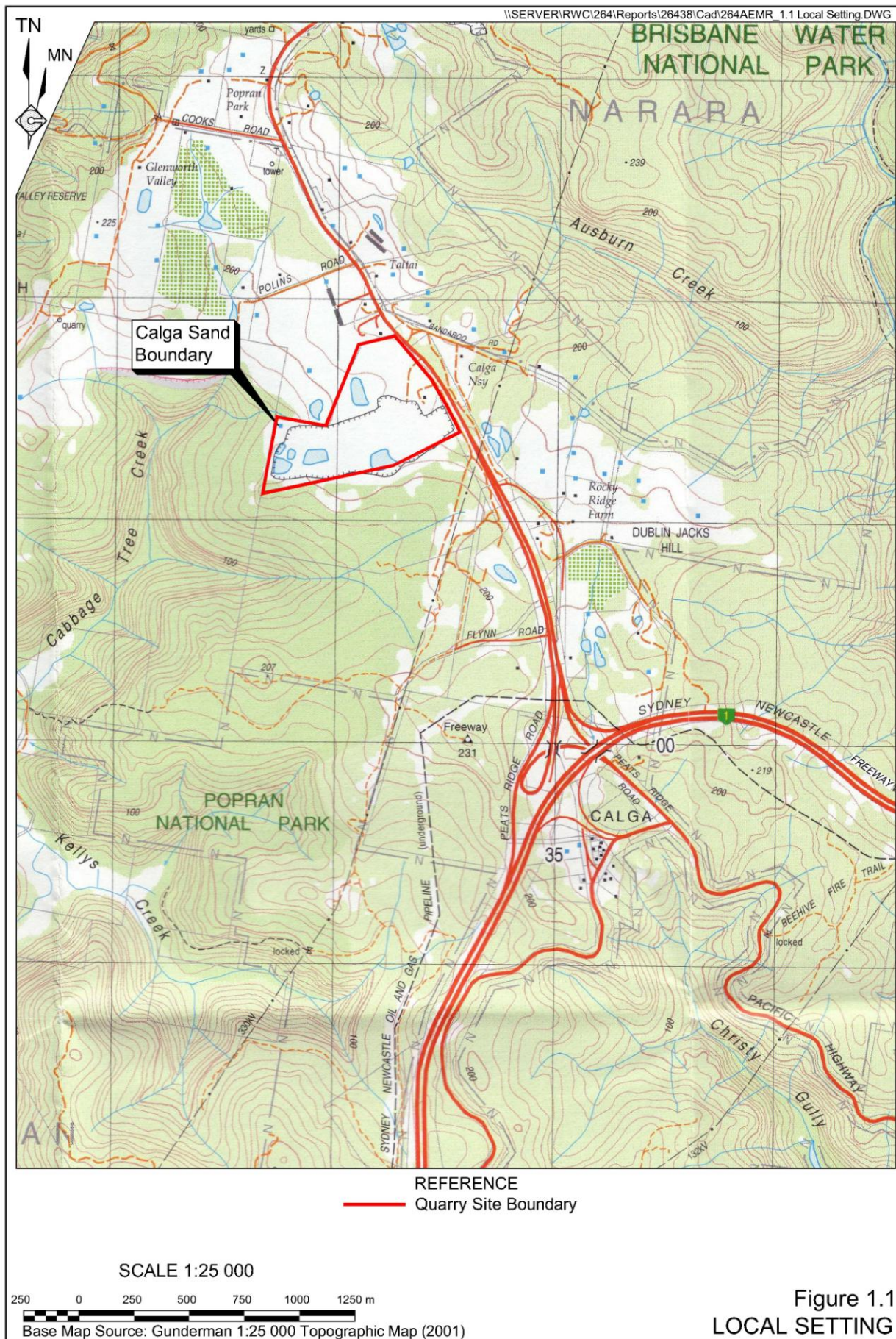
1.2.1 The Proponent

The Proponent and operator of the Calga Sand Quarry is Rocla Materials Pty Ltd (ABN 30 083 169 091), the current owner of the existing Calga Sand Quarry. Rocla Materials Pty Ltd is owned by Rocla Pty Ltd which in turn is wholly owned by Fletcher Building from New Zealand.

The raw materials division of Rocla Materials Pty Ltd trades as Rocla Quarry Products. Since its formation in the 1960s, Rocla Quarry Products has been involved in the production and distribution of a range of construction materials, especially sand.

Rocla Quarry Products currently operates 16 sites across the mainland Australian states. Fifteen of these sites are involved with the extraction, processing and distribution of sand and one of aggregates. Rocla Quarry Products has been the operator of the Calga Sand Quarry since October 2002.





1.2.2 Background to the Proposal

The initial development application in 1990 for the Calga Sand Quarry was considered and determined by the NSW Land and Environment Court with a development consent granted in July 1991 (Development Consent No. 10604). The Court approved extraction Stages 1 and 2 but rejected the area of extraction north of Stages 1 and 2 principally because of the lack of a definitive understanding of impacts upon the groundwater regime north of the proposed extraction area, and a conflict at that time between Sydney Regional Environmental Plans 8 and 9 with respect to the use of the land for agricultural or extractive industry purposes.

Extraction continued under the Development Consent No. 10604 until December 2004 when the sand resources within Stages 1 and 2 were exhausted and the development consent expired. At that time, operations at the Calga Sand Quarry were suspended whilst an application to extend operations northwards onto Stage 3 was determined. Following the granting of Development Consent DA 94-4-2004 on 28 October 2005, sand extraction commenced within Stage 3 of the Quarry Site and processing and product despatch resumed. Consent for the existing Calga Sand Quarry extends to 1 July 2030.

Rocla has sought approval to extend its existing sand extraction and processing operations to the south onto Lots 1 and 2, DP 805358 (“the Southern Extension”). The *Environmental Assessment* for the proposed Southern Extension was submitted in November 2009. A response to submissions document is currently being prepared.

1.2.3 The Quarry Site and Extraction Stages

Figure 1.2 displays the existing layout of the Quarry Site and identifies the six extraction sub-stages within Stage 3, namely Stages 3/1 to 3/6.

The 2010 AEMR included reference to Rocla’s intention to prepare the rehabilitated quarry floor for the new wash plant and administration centre within the former Stage 2/3 in October/November 2011.

1.2.4 Product Information and Extraction Operations 2010

The processing of the raw friable sandstone results in the production of two principal products, namely, concrete sand (a washed sand product) and mortar sand (a dry-screened product). Within these two broad classifications, products are also sold according to colour and with specified size grading. All blended products may include blends incorporating imported materials and washed sand.

Table 1.1 records the 2009 annual sales and the monthly/annual sales of the various products produced at the Quarry during 2010.

Table 1.1
Calga Sand Quarry – 2010 Monthly Sales

	Double Washed	Yellow Brick	White Brick	Fill	Factory Double Washed	Overburden	Total
Total – 2009	139 835	20 880	23 200	8	11 145	1 460	196 528
Jan	9 250	1 418	1 822	-	155	280	12 925
Feb	10 742	1 551	2 026	-	566	2 108	16 993
Mar	12 396	2 145	2 521	-	1 123	3 192	21 377
Apr	11 270	1 599	1 975	-	436	46	15 326
May	11 820	1 698	2 361	-	1 431	5	17 315
Jun	13 020	1 905	2 017	-	1 253	42	18 237
Jul	12 806	1 809	2 873	-	507	112	18 107
Aug	13 599	1 911	2 869	-	1 733	11	20 123
Sep	14 294	2 092	3 021	-	894	33	20 334
Oct	12 861	1 774	3 060	-	1 283	10	18 988
Nov	14 526	1 867	3 270	-	964	12	20 639
Dec	13 042	1 783	2 594	-	1 642	25	19 086
Total – 2010	149 626	21 552	30 409	-	11 987	5 876	219 450

1.2.4.1 Operating Capacity and Production Rate

The combined capacity of both the existing wash plant and mortar sand plant is estimated to be between 400 000tpa and 600 000tpa, although production from Stage 3 would not exceed 400 000tpa, consistent with the production limit imposed by DA 94-4-2004. The additional capacity would be used to process friable sandstone extracted from Stage 4 if extraction is approved for the Southern Extension.

1.2.4.2 Project Life

Five million tonnes of product are left in Cell 3. Based on 400 000 tonnes per annum sales, the raw friable sandstone resource within the Quarry Site would be exhausted by approximately 2023. If the Southern Extension is approved, the Quarry could theoretically operate for between 17 and 42 years. Considering the likely fluctuation in sales over such an extended period of time and a projected average annual production of approximately 550 000tpa, the extended Quarry could operate for a further 30 years.

1.3 EXISTING AND APPROVED ADMINISTRATION CENTRES

1.3.1 Existing Administration Centre

The existing administration centre, displayed on **Figure 1.2**, is located within approximately 200m of the existing Quarry Site entrance and includes the following.

- Office.
- A lunchroom.
- Amenities (male and female).
- Laboratory.
- Covered outdoor barbeque area.
- Emergency Meeting Point.
- Weighbridge.
- Storage and welding shed.
- Refuelling station.
- A 14 space car park for site employees, contractors and visitors.

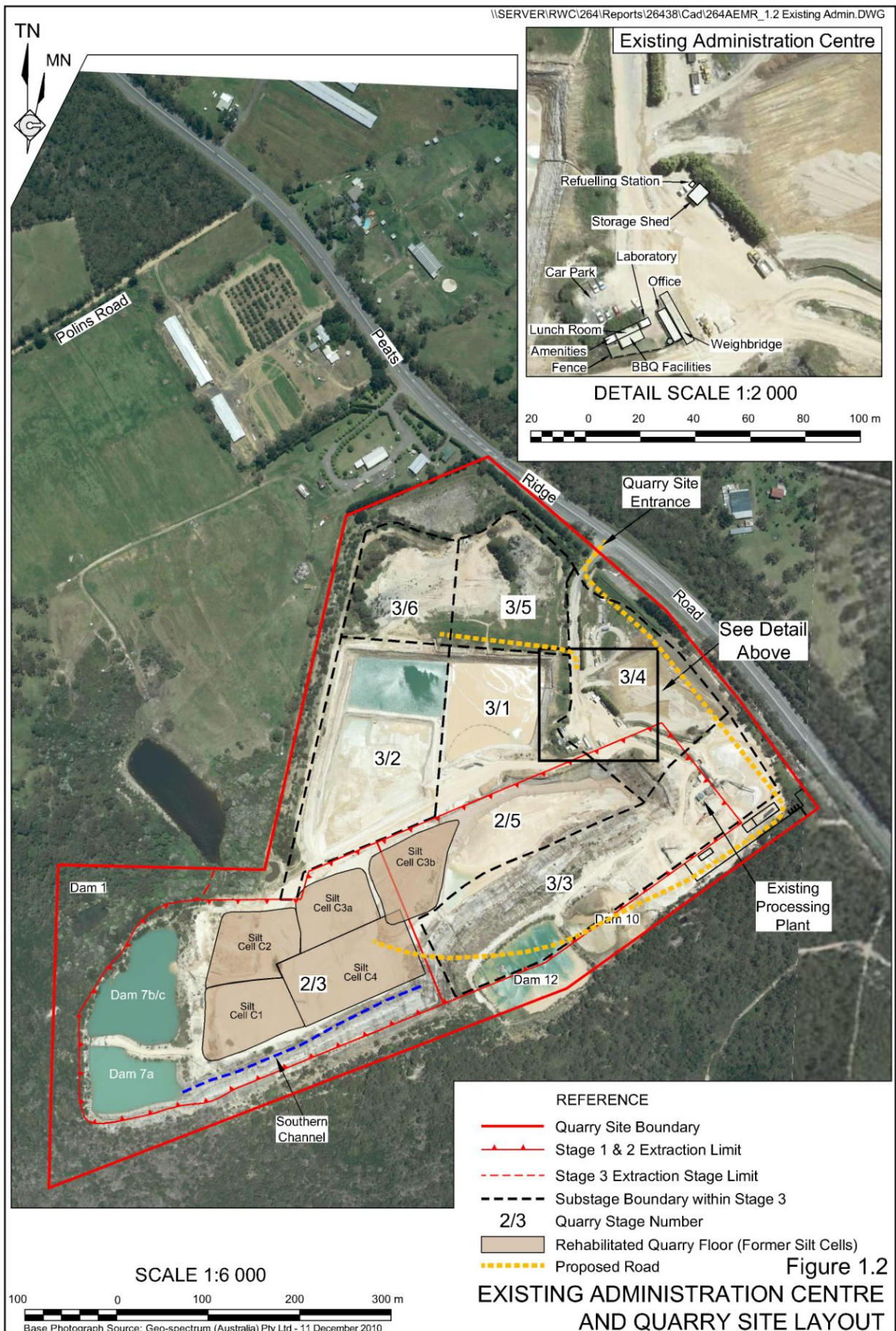
Plates 1, 2 and 3 display the components of the existing administration centre.

The existing administration centre is presently serviced by telephone lines for telephone, internet and fax. Potable water currently used at the Calga Sand Quarry is currently drawn from a bore adjacent to the administration centre. Refuelling facilities and fuel storage areas are currently located immediately northwest of the wash plant (see **Figure 1.2**). The diesel tank is separately bunded to prevent any spillage within this facility from entering the surface water catchment within the Calga Sand Quarry. The sewerage system located on site comprises an envirocycle septic system which discharges to an on-site vegetated evaporation area.

It is noted the existing administration centre is located within the Stage 3/4 extraction area which will ultimately be fully extracted within approximately 5 years of the relocation of the centre.

1.3.2 Approved Administration Centre

In the 2004 *Environmental Impact Statement*, it was proposed that for the duration of Stages 3/1 and 3/2, the administration centre would remain in its existing location. With the completion of Stage 3/2 and relocation of the main site access road, Rocla intended to relocate the administration centre, as well as the storage shed and refuelling facilities to the southeastern corner of the Quarry Site. This area is referred to as the “approved administration centre”. **Figure 1.3** displays the layout of the approved administration centre, as outlined in Figure 3.8 in the 2004 *Environmental Impact Statement*. Areas were allocated for the mobile plant, parking trucks and staff and visitor parking, the weighbridge and tip-off bins.



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Domestic Water Supply Tank

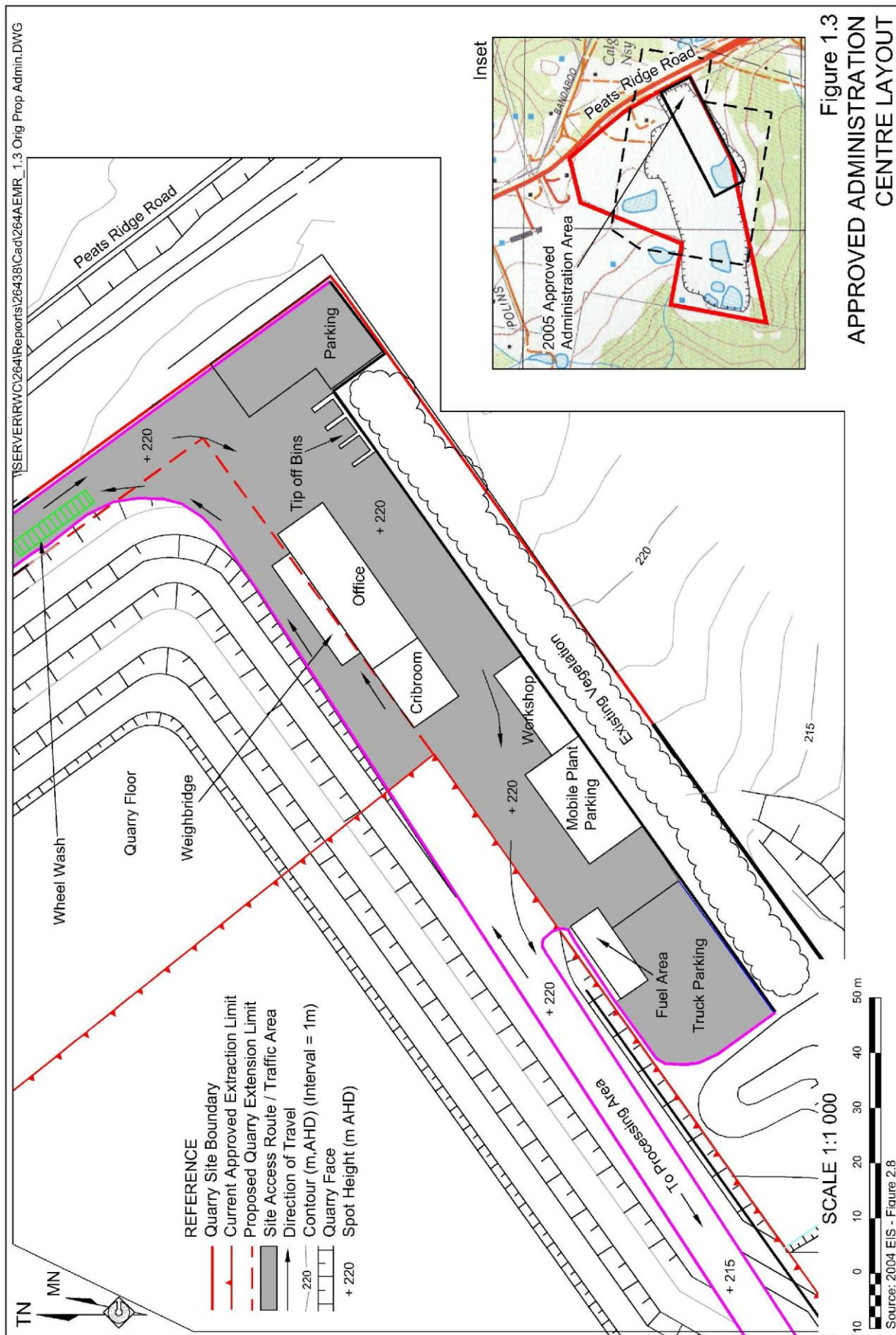
Plate 1: View of the Lunch Room.
(Ref: 0635)



Plate 2: View of the Existing
Car Park (14 spaces).
(Ref: 0633)

Plate 3: View of the
Weighbridge, Car Park &
Office.
(Ref: 0632)





2. PROJECT DESCRIPTION

2.1 INTRODUCTION

The design of Calga Sand Quarry reflects Rocla's intention to maximise the recovery of the friable sandstone resource whilst developing it in such a manner that reflects the environmental and community constraints. Rocla proposes to relocate the administration centre to the rehabilitated quarry floor (formerly extraction Cell 2/3) as opposed to the southeastern corner of the Quarry Site for the following reasons.

- In the 2004 Environmental Impact Statement the administration centre was to be located approximately 300m from the wash plant. From the experience gained operating Calga Sand Quarry over the past 7 years, Rocla has recognised that a number of operational benefits have arisen from having the plant located in close proximity to the administration centre. Employees, contractors and visitors are centralised which allows for quick response times and greater workflow efficiency. The proposed administration centre is located within 120m of the wash plant.
- The floor of the rehabilitated quarry floor provides a more secure location for the administration centre as it is not visible from Peats Ridge Road.
- The proposed administration centre would be approximately 500m from Peats Ridge Road. Topographically, the lower elevation of the rehabilitated quarry floor provides greater protection to surrounding residents, with consequential improvements to noise, air quality, and visibility.

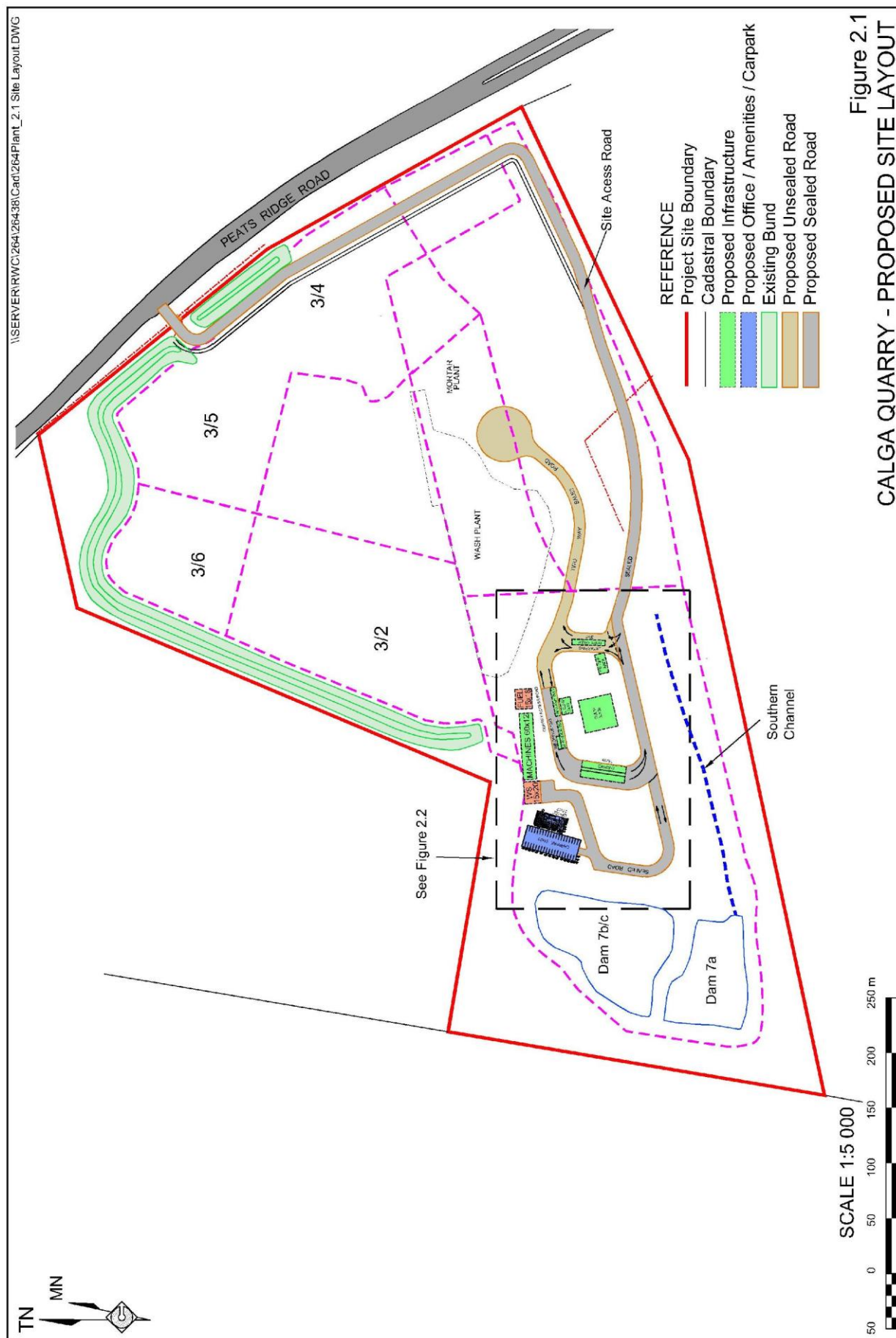
Figure 2.1 presents the layout of the Calga Sand Quarry showing the location of the proposed administration centre and the re-aligned internal road network.

2.2 APPROVALS REQUIRED

Based upon the current project design and understanding of environmental issues, the relocation of the administration centre would require the following approvals to proceed.

- Modification of Development Consent 94-4-2004 from the Minister for Planning and Infrastructure – as the quarry has previously been approved by the Minister for Planning.
- Approval to decommission the existing domestic bore and to construct a replacement bore near the proposed administration centre – submitted to the NSW Office of Water.
- A Construction and Occupation Certificate for all new buildings – submitted to Gosford City Council.

The existing Environment Protection Licence 11295 would not need to be modified as the new location of the administration centre is within the same landholding already identified in the licence.



2.3 PROPOSED ADMINISTRATION CENTRE

2.3.1 Introduction

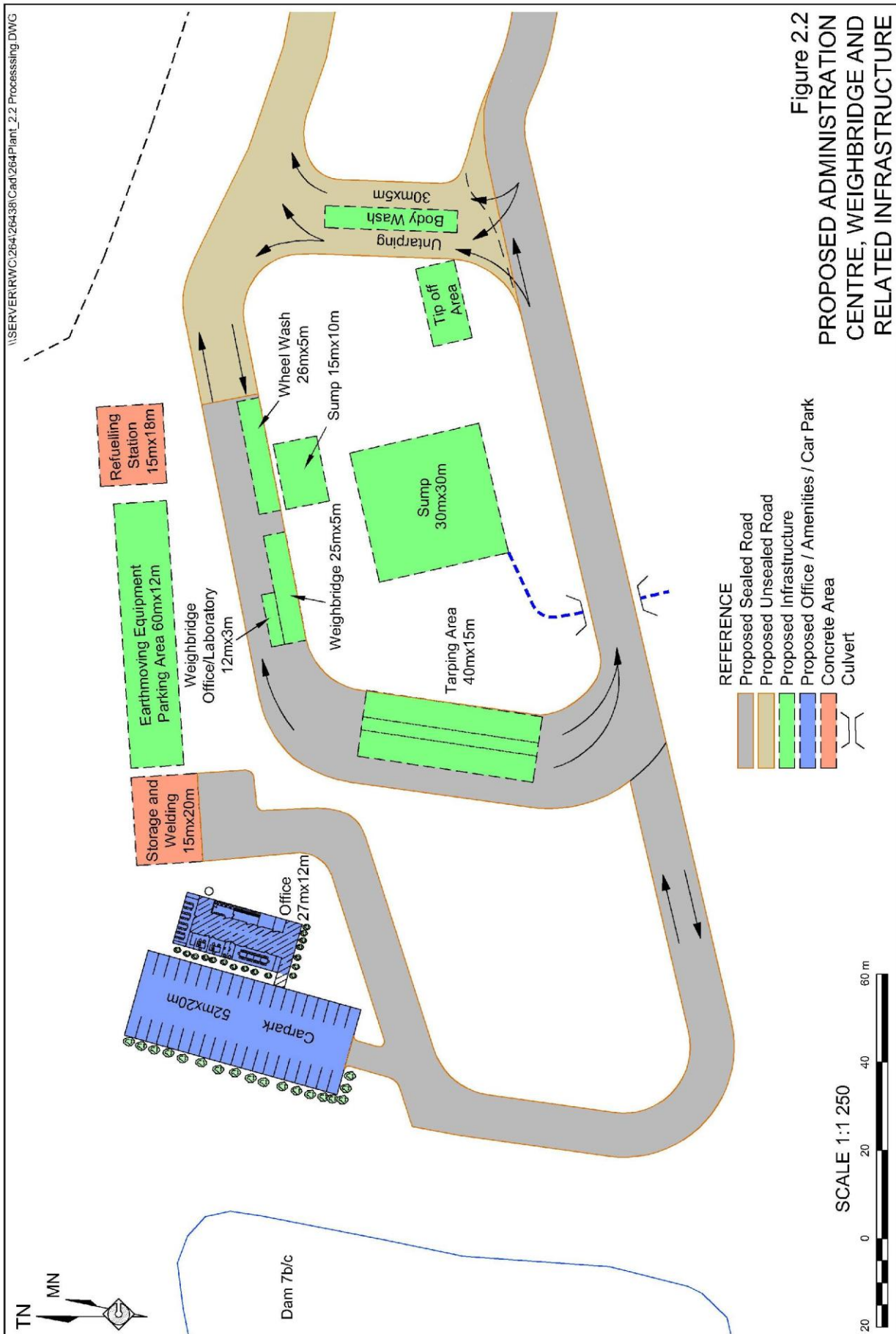
For the purposes of this document, the proposed administration centre comprises the office, amenities, light vehicle car park, storage shed and related facilities and infrastructure. **Figure 2.2** displays the layout of the proposed components within the floor of the extraction area.

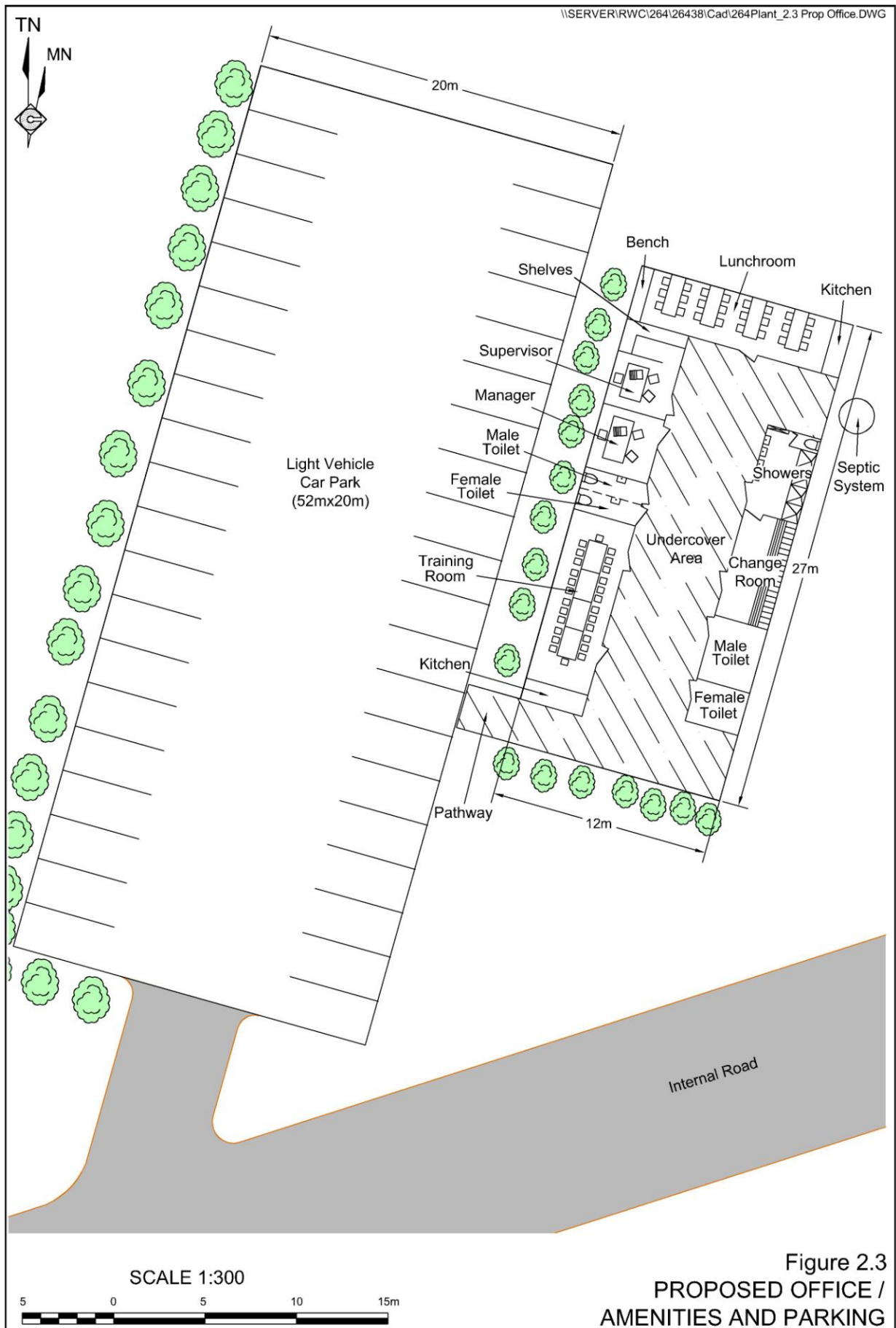
2.3.2 Office, Amenities, Lunchroom and Training Room

A 27m x 12m undercover area would act as the administration centre hub (see **Figure 2.3**). The following components would be linked by the undercover area.

- Lunchroom and Kitchen (seating 24)
- Training Room and Kitchen (seating 26)
- Manager's Office
- Supervisor's Office
- Guest Amenities (1 Male / 1 Female)
- Employee Amenities (3 Male / 1 Female)
- Change Room
- Showers (4 Male / 1 Female)
- Weighbridge, weighbridge office and Laboratory
- Wheel wash (for trucks leaving site)
- An Outdoor Covered Area (Emergency Assembly Point).

Each of the buildings would be demountable units that would be placed on suitable foundations with the required services, i.e. telephone, power and water.





2.3.3 Internal Roads and Car Park

Internal Site Access Road

Condition 3(26b) of Development Consent 94-4-2004 requires the following design features to be included in the site access.

Prior to the commencement of extraction in the applicable quarry stages, the Applicant shall:

seal the internal access road from the site entrance to the Stage 3 extraction limit for Stages 3/1 and 3/2; and

seal the internal access road from the site entrance to the administration area for Stages 3/3 onwards,

to the satisfaction of the Director-General.

Other Internal Roads

The sealed section of the internal site access road (for which approval is already granted) would be extended from the existing Quarry Site entrance to the new car park and weighbridge. The full extent of road sealing is displayed on **Figure 2.1**. The sealed road would be used by light vehicles travelling to the administration centre and road registered product trucks travelling to the product stockpile areas. The road used by the road registered trucks would be sealed from the wheel wash to the Quarry Site entrance.

Details of the proposed internal roads surrounding the administration centre are displayed in **Figure 2.2**.

In addition to the access routes for road registered product trucks transporting products from the quarry, roads within the Quarry Site would be required for internal access between operational areas by light vehicles, earthmoving equipment and internal haulage of raw materials.

The internal roads are and would continue to be temporary and reflect the day-to-day position of the active extraction area(s). Wherever practicable, they would be constructed on the margins of the extraction areas to minimise the amount of re-positioning. The formation of the internal roads would usually involve a bulldozer simply pushing a new route to the desired area and completion of the final surface with a grader.

Throughout all stages of development and extraction, the unsealed internal roads would be regularly maintained and watered for dust suppression, as required.

Internal roads within the existing Quarry Site are designated as either:

- internal access routes for the movement of earthmoving equipment and internal haulage of raw materials; or
- roads for light vehicles and registered trucks transporting sand products from the quarry.

The internal site access road to be used by product trucks would incorporate approximately 900m sealed section of road from the Quarry Site entrance at Peats Ridge Road to the floor of the extraction area. The road would comprise a 7m wide sealed pavement with 3m shoulders and roadside drainage.

Condition 3(29) of Development Consent 94-4-2004 requires Rocla to provide sufficient parking on site for all quarry-related traffic, in accordance with Council's parking codes, and to the satisfaction of the Director-General.

The proposed car park would be situated to the west of the undercover administration centre. The car park would cover an area of 52m x 20m, would be sealed and line marked for 40 cars. The car park is intended for all light vehicles entering the quarry i.e. employees, visitors and contractors. A defined pathway (see **Figure 2.3**) would be constructed from the car park to the undercover administration area.

2.3.4 Storage and Welding Shed, Weighbridge and Relocated Facilities

Details of the infrastructure related to the administration centre are as follows.

- The Storage and Welding Shed (15m x 20m)
This facility is primarily intended for the storage of parts for the wash plant and minor work such as welding and fitting. All major fabrication would be undertaken off site by contractors. This facility would also house greases and oils with appropriate storage and bunding features.
- Earthmoving Equipment Parking Area (60m x 12m)
Storage area for mobile equipment when not in use and outside operational hours.
- Refuelling Station Area (15m x 18m)
The refuelling station would be constructed to the east of the earthmoving equipment parking area in accordance with the design specification nominated within Australian Standard (AS) 1940-2004: The Storage and Handling of Flammable and Combustible Liquids. All the diesel tanks would be self-bunded.
- Weighbridge (25m x 5m) and Weighbridge Office/Laboratory (12m x 3m)
Provides documentation to customers as well as ensuring the trucks do not leave the site overloaded. The quarry's laboratory would also be incorporated into this building.
- Sump (30m x 30m)
Runoff collection point within the road loop. The sump would provide a sediment collection point. Runoff from the sump would be directed by an open drain and piped to the Southern Drain (see **Figure 2.1**) to the Southern Drain.
- Wheel Wash (26m x 5m) and Wheel Wash Sump (15m x 10m)
The drive-through wheel wash would clean the undercarriage of trucks prior to entering the weighbridge and exiting the quarry onto Peats Ridge Road.
- Tip off Area
Allow trucks to tip off material if overweight prior to dispatch.

- Truck Body Wash Area (30m x 5m)
Refresh bodies of truck prior to loading to ensure integrity of transported product.
- Untarping and Tarping Areas
Safe locations for tarping and untarping of trucks.

2.3.5 Landscaping

Figure 2.3 displays the area of proposed landscaping around the administration centre and light vehicle car park. These areas would be landscaped with native species.

2.3.6 Utilities and Services

2.3.6.1 Introduction

The current services used on site would be duplicated for the new administration centre. The new services would be connected prior to the removal of the existing services.

2.3.6.2 Power

Electricity is currently supplied to the quarry by an 11kV power line. A pole-mounted transformer is located adjacent to the eastern boundary of the Quarry Site.

A new power line would be taken from a pole located on the eastern boundary to the site of the proposed administration centre and the relocated wash plant. The power lines would be buried on the floor of the extraction area primarily for safety reasons.

Lighting would be installed within the administration centre and around the processing plant for use in the early mornings and late afternoons during winter. No or minimal lighting would be left on at night.

2.3.6.3 Telephone

The quarry is presently serviced by telephone lines to the existing office. The relocation of the administration centre would require the installation of new telephone lines.

2.3.6.4 Water Supply

The potable water supply used in the office and amenities is currently sourced from a bore in Stage 3/4. This bore would be decommissioned and a new bore drilled near the proposed administration centre.

2.3.6.5 Sewage and Waste Disposal

The sewerage system would be installed and maintained adjacent to the proposed administration centre in accordance with Gosford City Council requirements. Approval for the most appropriate system would be sought from Gosford City Council.

Other wastes generated by the activities on the Quarry Site, including domestic wastes and maintenance consumables, construction and workshop wastes would continue to be disposed of through waste contractors removing the wastes at appropriate frequencies.

2.4 DEMOLITION AND CONSTRUCTION ACTIVITIES

2.4.1 Demolition of the Existing Administration Centre

Rocla would comply with Conditions 2(8) and 2(9) of Development Consent 94-4-2004 with respect to the decommissioning of the existing administration centre and structural adequacy of the new buildings.

- 2(8) Structural Adequacy

The Applicant shall ensure that any new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

- Notes: Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for any building works.
- Part 8 of the EP&A Regulation sets out the detailed requirements for the certification of development.

- 2(9) Demolition

The Applicant shall ensure that all demolition work is carried out in accordance with AS 2601-2001: The Demolition of Structures, or its latest version.

Demolition will be required to remove the existing buildings, as well as the concrete slabs. An excavator would be used for the demolition, which would take approximately 5 days. Once demolition of the existing administration centre is complete, preparation for extraction in Cell 3/4 would commence after which extraction activities would proceed until the defined friable sandstone is removed and the cell is rehabilitated.

2.4.2 Construction of the Proposed Activities Centre

The proposed administration centre would be constructed prior to the removal of the existing administration centre.

As indicated in the 2010 AEMR, preparations for the construction of the internal road through Cell 3/3 commenced in October 2010, with the dredging of silt and water from Dams 10 and 12 to Cell 3(1) by contract dredge. Due to difficulties associated with dredging, works are expected to continue through to November 2011. Once dredging is complete, Dams 10 and 12 will be in filled to the level required for the new access road. The road is expected to be sealed prior to occupation of the new administration centre. Further details of the proposed internal roads surrounding the administration centre are provided in Section 2.3.3 and displayed in **Figure 2.2**.

All necessary construction and occupation certificates and approvals would be obtained from Gosford City Council prior to the construction of the proposed administration centre.

Construction would be completed by June 2012 and would take approximately four months. The portable demountable offices would be fabricated off site. In accordance with Development Consent 94-4-2004 construction activities would only be carried out between 7:00am to 6:00pm Monday to Friday, and 8:00am to 1:00pm on Saturdays. The existing ambient noise levels would not be expected to change during the construction of the administration centre.

There will be a maximum work force of up to 15 during this period. The administration centre would comprise of a number of modular buildings that are designed for quick and easy construction with the occasional use of a mobile crane. Most of the staff would use hand tools such as grinders and metal drills. Other equipment on site would be generators, compressors, concrete trucks and other delivery vehicles.

2.5 REHABILITATION OF THE QUARRY SITE

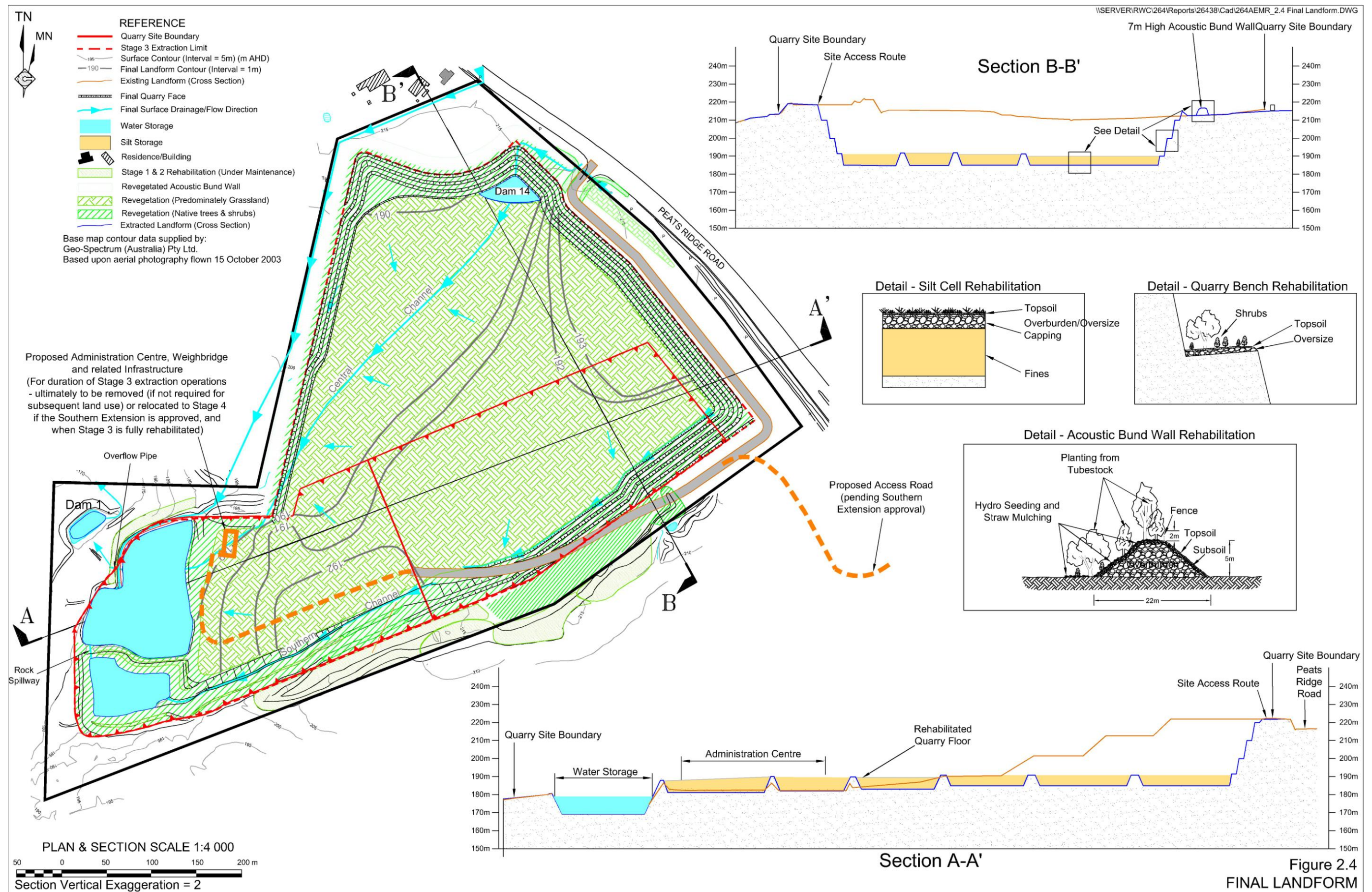
In accordance with *Condition 3(22)* of DA 94-4-2004, a Rehabilitation and Landscape Management Plan (RLMP) was prepared within 6 months of the date of consent. Rehabilitation of the Quarry Site would be consistent with the RLMP.

The quarry floor (Silt Cells C1, C2, C3a, C3b, and C4) has been capped and the perimeters of Dams 7a and 7b/c have been revegetated. None of the revegetated area would be disturbed by the construction of the proposed administration centre.

In the long term the final landform, designed as free draining and gently sloping to the southwest, would be approximately 15m to 25m below the pre-extraction elevation and will be fully formed and stabilised. **Figure 2.4** presents the final landform and detail on silt cell rehabilitation. It is proposed that the vegetation progressively established on the silt cells will provide for bands of native vegetation interspersed with open areas that will be suitable for ongoing agricultural/horticultural use.

Relocation of the administration centre to the rehabilitated quarry floor would not result in any changes to the planned rehabilitation as detailed in the RLMP. Rather, the buildings and related structures would be removed and the area revegetated as shown in the RLMP.

Following the cessation of extraction within Stage 3, the re-located administration centre would either be fully removed (if not required for a subsequent use) from site if the Southern Extension is not approved, or further re-located onto the Stage 4 area once a suitable area is created within the Stage 4 area and Stage 3 is fully rehabilitated.



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3. ENVIRONMENTAL FEATURES, SAFEGUARDS AND IMPACTS

3.1 INTRODUCTION

Figure 1.1 displays the local setting of the Calga Sand Quarry. The Quarry Site lies on an elevated region commonly referred to as the Hunter Plateau which forms part of the dissected Hornsby Plateau locally, the Quarry Site is located near the southern end of the Somersby Plateau. The topography of the Quarry Site is significantly modified by the extraction that has been underway on site for over 20 years although the overall slope remains to the southwest. A small rocky ridge forms the southwestern boundary of the Quarry Site with gently sloping to steeply sloping gradients (1 to 18 degrees) and elevations of approximately 170m AHD to 195m AHD. The remainder of the topography within the Quarry Site has been altered by extraction and related activities including the extraction area, water storage dams, silt cells and stockpiles. The elongated east-west orientated quarry void currently is located on the southern half of the Quarry Site with steep (60° to 70°) walls and a quarry floor between 185m and 190m AHD.

The proposed administration centre would be located immediately east of Dam 7b/c on the rehabilitated quarry floor. Both Dam 7b/c and Dam 7a receive runoff from the entire extraction area principally via an excavated drain referred to as “the southern drain” – see **Figure 2.1**.

Dense native bushland is currently present along the southern and western boundaries of the Quarry Site and on surrounding properties to the west and south. **Figure 1.1** displays the considerable areas of native bushland in the Calga area, including the Brisbane Water and Popran National Parks.

Figure 3.1 displays the land ownership and residences around the Calga Sand Quarry. Most of the neighbouring properties are life-style blocks, some with varying degrees of agriculture. A groundwater bottling enterprise is located on property D3 immediately north of the quarry. The property which borders the Quarry Site to the west is operated as the Glenworth Valley Horse Riding Facility. The owner of the “Glenworth Valley” property, B.A. & B.J. Lawler, owns two residences on the property near Poplins Road and also operates several agistments for horse selling and stabling. The two closest non-project related residences to the proposed administration centre are approximately 600m to the northeast i.e. on properties D3 and L. In both cases, the residences are shielded from quarry-related activities by perimeter bund walls. The relocation of the existing administration centre to the floor of the rehabilitated extraction area would not influence a number of environmental components of the surrounding environment. The only components where changes would occur relate to noise, visibility and air quality. The relocation of the administration centre would also influence public safety and site security. Each of these issues are addressed briefly in the remainder of this section.

3.2 NOISE

The background noise in the Calga area is dominated by traffic on Peats Ridge Road and the F3 Freeway. The regular monitoring undertaken at surrounding residences has demonstrated that the on-site activities do not cause noise criteria for the quarry to be exceeded although it is acknowledged that some specific activities around the existing wash plant are distinguishable to some neighbours.

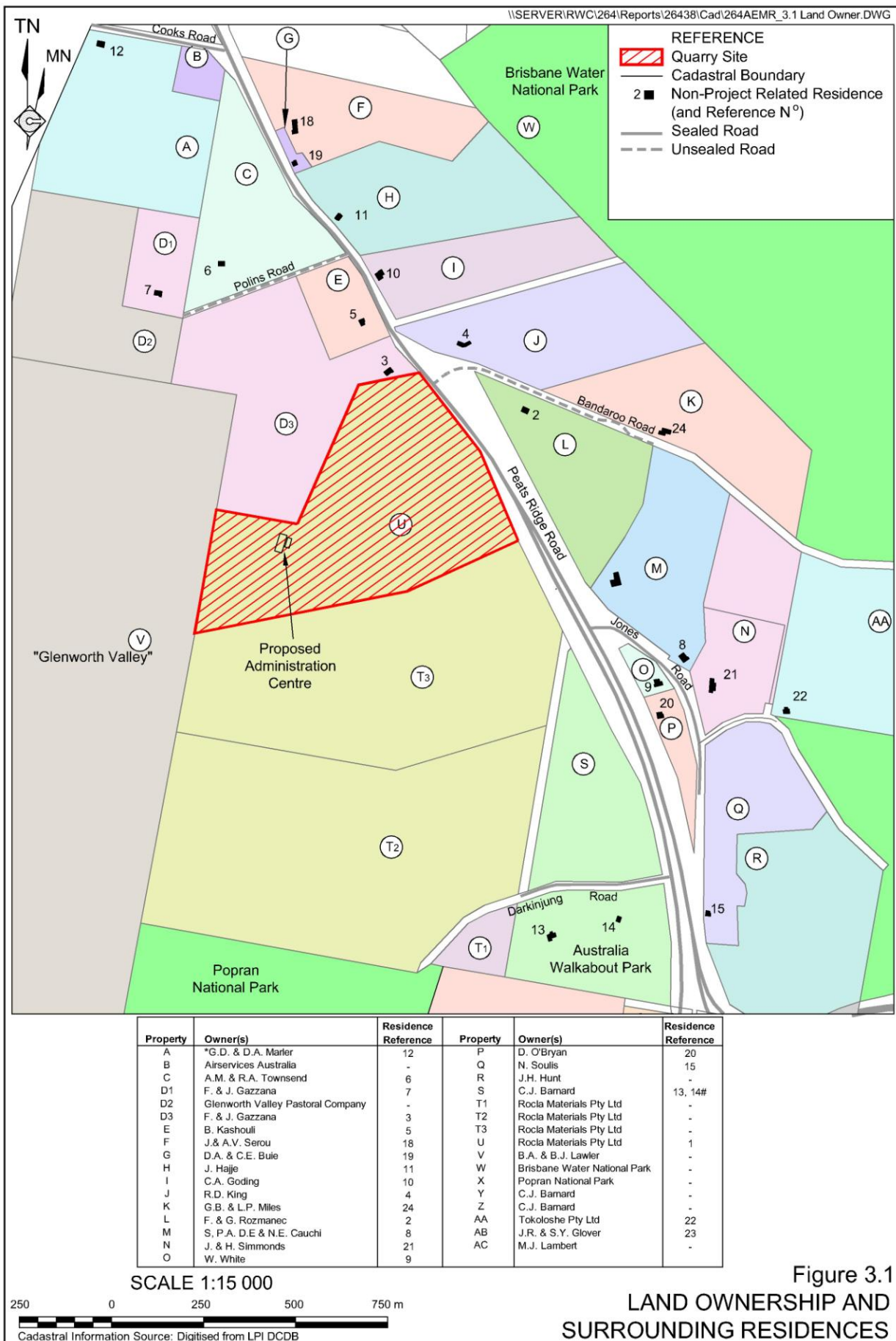


Figure 3.1
LAND OWNERSHIP AND
SURROUNDING RESIDENCES

The existing noise sources within the Quarry Site are generated by extraction, processing and product transportation operations.

Although the administration centre would not be a notable source of noise, each component of the centre would be designed with consideration given to minimising noise impacts at surrounding properties. Topographically, the lower elevation of the rehabilitated quarry floor provides greater protection to surrounding residences than the existing or approved sites. Furthermore, the proposed administration centre will be on average, approximately 500m further away from the majority of the surrounding residences than the existing centre. F. and J. Gazzana (Residence 3 – **Figure 3.1**) will be the closest residence to the relocated administration centre albeit at a considerable distance of 600m, and the intervening topography preventing line of sight. Occupants of all surrounding residences would not be impacted by noise during construction or daily activities associated with the administration centre.

During demolition activities associated with the existing administration centre, short term exceedances of the operational noise criteria for the quarry would occur literally for a matter of hours during the period when the concrete components at the existing centre are broken. Although the demolition activities will be limited to a short period of time, Rocla would adopt the following measures to ensure surrounding residences are minimally impacted.

- Surrounding residents are to be notified that demolition works are to take place during a particular week.
- All appropriate demolition activities are to occur during approved operating hours. Preferably, the more noisy demolition activities would occur between 9:00am and 4:00pm to avoid the early morning and late afternoon.

During the construction phase of the relocated administration centre noise levels would exceed background levels, however, the considerable topographical barrier that exists, the short duration of the constructions activities and the increased distances between the site and surrounding residences, the associated construction work noise would not be readily discernible.

The existing ambient noise levels are not expected to change directly as a result of the relocation of the administration centre to the rehabilitated quarry floor.

However, its relocation from the currently approved location would result in reduced noise levels given the product trucks would not be stopping/starting at the eastern side of the Quarry Site as is currently approved. The trucks would travel on the sealed internal site access road without stopping.

The key improvement is the noise impacts of the ongoing operation of the quarry would be the relocation of the wash plant and mortar sand plant to the rehabilitated floor of the extraction area. Its relocation should significantly reduce the opportunity for neighbours to distinguish project-related noise from the background noise on Peats Ridge Road and the F3 Freeway.

Compliance monitoring would continue at the same locations as is currently undertaken to ensure that operations do not exceed the conditional requirements for the Quarry. Noise monitoring would continue in accordance with the approved Noise Monitoring Program prepared in accordance with Condition 3(7) of the Development Consent 94-4-2004. Four periods of attended monitoring and one unattended monitoring would continue to be conducted each year.

3.3 VISIBILITY

Condition 3(32) in Development Consent 94-4-2004 requires Rocla to “implement all practicable measures to minimise the visual impacts of the development;

- establish, re-vegetate and subsequently maintain the acoustic barrier to minimise the visual impacts of development, in accordance with the concept final landform in the Amendment Report;
include a progress report on the re-vegetation and maintenance of the acoustic barrier in the AEMR,
to the satisfaction of the Director General.

The Applicant shall take all practicable measures to prevent and/or minimise any off-site lighting impacts from the development.

All external lighting associated with the development shall comply with Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting.”

Due to the nature of the topography between the floor of the rehabilitated extraction area and the surrounding land to the north and east of the Quarry Site, the lack of public access to the surrounding land and the elevation of the rehabilitated extraction floor, there would be no long or short distance vantage points toward the proposed location for the administration centre.

It is acknowledged that the approved location of the administration centre, near Peats Ridge Road would have been visible to varying degrees from Peats Ridge Road and possibly one or two residences. However, the proposed administration centre would not be visible from any off-site location.

3.4 AIR QUALITY

Since 2001, dust deposition gauges located at representative locations within and around Calga Quarry have been monitoring deposited dust. The data show that, on an annual average basis, dust deposition levels are generally very low. In December 2011, monthly averages at the six monitoring sites ranged from 0.7g/m²/month to 1.1g/m²/month. Demolition and construction activities associated with the relocation of the administration centre would not influence the annual average dust deposition levels as the activities involved would not be significant sources of dust. Furthermore, they would not be distinguishable from existing quarry-related activities.

The relocation of the administration centre to the rehabilitated extraction floor would result in marginal improvements to air quality. The greater length of sealed road on the internal site access road is likely to reduce dust generation.

Assuming the continued implementation of the Project design features, operational safeguards and mitigation measures, the impacts on air quality at surrounding residences would continue to comply with the Quarry Site’s air quality conditional requirements.

3.5 HAZARDS AND PUBLIC SAFETY AND SITE SECURITY

Relevant conditions within Development Consent 94-4-2004 which nominate specific environmental criteria are as follows.

3(36) Dangerous Goods

The Applicant shall ensure that the storage, handling, and transport of dangerous goods is conducted in accordance with the relevant Australian Standards, particularly AS1940 and AS1596, and the Dangerous Goods Code.

3(37) Safety

The Applicant shall secure the development to ensure public safety to the satisfaction of the Director-General.

It is Rocla's policy that each person employed on, or visiting the Quarry Site is provided with a safe and healthy working environment. The design of the proposed administration centre has been undertaken with consideration of regulations.

Central to all aspects of site security and safety at the Quarry Site is and would continue to be:

- the adoption of a pro-active approach to employee and public safety;
- strict compliance at all times with the requirements of the:
 - Mine Health and Safety Regulation 2007;
 - Mine Health and Safety Act 2004;
 - Occupational Health and Safety Act 2000;
 - Occupational Health and Safety Regulation 2001; and
 - All other relevant legislation and Australian Standards
- an Occupational Health and Safety Policy covering all component activities at the quarry.

Rocla would implement the following measures in association with the development of the proposed administration centre.

- Clearly signpost the route from the Quarry Site entrance to the administration centre.
- Keep the administration centre well lit during operational hours (winter mornings and afternoons).
- Maintain lockable gates at the entrance to the Quarry Site. The gates would be locked whenever sand extraction, associated activities, and product despatch are not being undertaken.
- Position security/warning signs at strategic locations around the administration centre. The signs would identify the presence of earthmoving equipment, deep excavations and steep slopes.

- Install bunds along the margins of all internal haul roads where those roads are positioned adjacent to steep slopes, adjacent to the boundary of the extraction areas(s) and adjacent to all other steep slopes.

The storage, handling, and transport of dangerous goods would continue to be undertaken in accordance with the relevant Australian Standards, particularly AS1940 and AS1596, and the Dangerous Goods Code. The refuelling area would be constructed in accordance with the design specification nominated within Australian Standard (AS) 1940-2004: The Storage and Handling of Flammable and Combustible Liquids.

The laboratory is used for sand testing and does not use any harmful chemicals. Essentially, sand is washed to determine clay content, then oven dried and passed through sieves to determine particle distribution for quality assurance purposes.

The emergency meeting point would be located at strategic locations at the quarry as determined by risk assessments for emergency preparedness on site.

Overall, the relocation of the administration area would improve site security and provide the quarry's management with the benefits of the processing and administration activities in the one area.

3.6 EVALUATION AND JUSTIFICATION OF THE PROPOSED ADMINISTRATION CENTRE

This *Environmental Assessment* has been prepared to assist in the assessment of the likely environmental impacts associated with the relocation of the administration centre at Calga Sand Quarry.

Relocating the administration centre to the rehabilitated quarry floor next to the plant would allow for centralisation of the workforce, improved security and greater separation to surrounding residents. The potential for adverse impacts associated with the relocation of the administration centre would be mitigated through the location of the centre itself on the quarry floor and through the implementation of a range of appropriate safeguards and management measures.

In light of these conclusions, it is assessed that the administration centre, as presented in this *Environmental Assessment*, could be relocated and operated in a manner that would satisfy all relevant statutory goals and criteria and environmental objectives.

The new relocated centre would meet best practice design to comply with all relevant health and safety objectives.

Appendices

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Appendix 1 Correspondence to Department of Planning and Infrastructure

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Appendix 1

Correspondence to Department of Planning and Infrastructure

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29 September 2011

Department of Planning
23-33 Bridge Street,
SYDNEY NSW 2001

Sales Offices

Attention: Mr Howard Reed

Sydney
02 9632 0122

Dear Howard,

Melbourne
03 9775 7855

**Calga Sand Quarry on Lot 2 DP229889
DA 94-4-2004**

Brisbane
07 3335 1080

Rocla applies for a variation to this Consent to relocate the administration services/ weighbridge to the rehabilitated floor of the quarry, next to the washplant.

Adelaide
08 8447 9800

Rocla engaged RW Corkery & Co to review the impacts of this variation. The Environmental Assessment supports the relocation.

Perth
08 9353 9888

Please advise if additional material is required in your assessment of this application.

Yours faithfully,

John Gardiner
Regional Manager NSW & Victoria

Rocla Pty Limited ABN 31 000 032 191 A member of the Fletcher Building Group



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