Regional Quarries & Concrete Pty Ltd
trading as Cleary Bros

ABN: 95 682 599 882

Response to Submissions

for the

Gerroa Sand Quarry

Prepared by:

RWCorkery&co

January 2026

ACKNOWLEDGEMENT

R.W. Corkery & Co. acknowledge and pay our respects to the Traditional Custodians of the lands in NSW and Australia on which our projects are located. We value the knowledge, advice and involvement of the Elders and extended Aboriginal community that contribute to our Projects and extend our respect to all Aboriginal and Torres Strait Islander peoples.

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1. Introduction

1.1 Scope

This *Submissions Report* has been compiled to provide a response to the matters raised in submissions lodged with the Department of Planning, Housing and Infrastructure (DPHI) for the *Modification Report* supporting a modification application to Project Approval MP05_0099 (Mod 2) for the Gerroa Sand Quarry (the 'Quarry' or the 'Project Site'). The Project Site consists of Lot 2 DP1111012 and Lot A DP185785 and is located approximately 2km southwest of Gerroa, NSW, with areas of the Project Site located within both the Kiama Local Government Area (LGA) and the Shoalhaven LGA (**Figure 1**).

The Mod 2 and supporting technical assessments were exhibited by DPHI from 16 October 2025 to 6 November 2025. During and following the exhibition period, a total of 59 submissions were received by DPHI from the public, community organisations and government agencies

As Cleary Bros ('the Applicant') has not made reportable political donations, Mod 2 does not require referral to the Independent Planning Commission[1]. As MP05_0099 was originally granted by the NSW Land and Environment Court, the Proposed Modification was sought under Part 4, Division 4.9, Section 5.56 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The consent authority for Mod 2 will be the Minister for Planning and Public Spaces (or delegate).

This document provides a response on behalf of the Applicant to the matters raised in submissions. For ease of review, the responses to Government authorities are presented separately to public and organisation submissions with the responses to public and organisation submissions generally grouped under the matter raised and presented in alphabetical order. The Applicant is confident that the concerns and objections raised in the submissions have been appropriately identified and addressed in this report. A summary of the matters raised in each public or organisation submission is presented in **Appendix 2**. The Applicant considers that this *Submissions Report*, when reviewed with the Mod 2 and supporting documents, provides sufficient information for the consent authority to determine the development application.

1.2 Overview of the Proposed Modification

The Applicant proposes to modify MP 05_0099 (Mod 1) to increase the annual product transport limit at the Quarry by 50% from 80,000tpa to 120,000tpa (the 'Proposed Modification'). The increased transportation limit would also necessitate a respective increase in annual extraction and processing operations at the Project Site. The Proposed Modification would represent Modification 2 to MP05_0099.

[1] Clause 2.7(3) of the *State Environmental Planning Policy (Planning Systems) 2021*

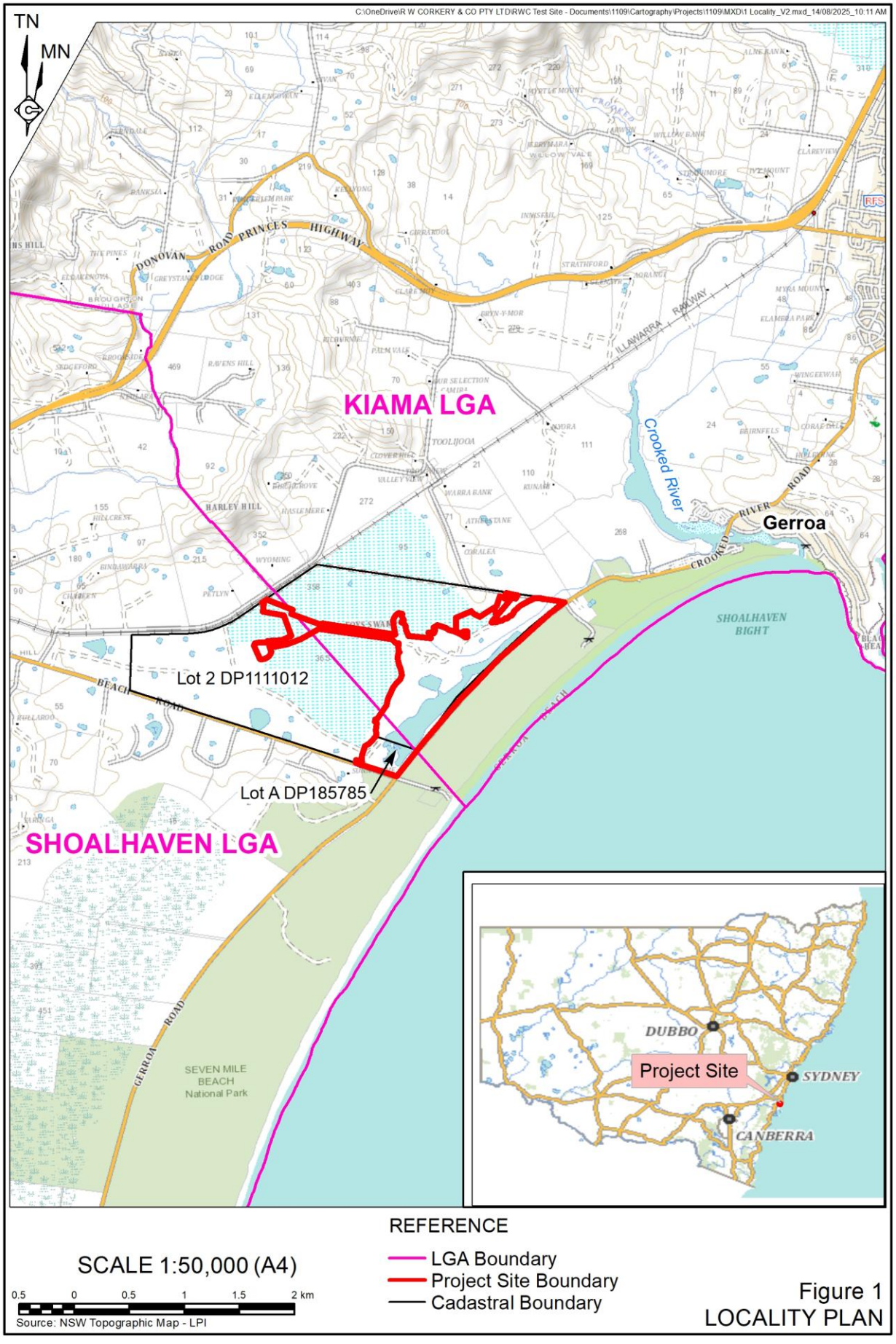

C:\OneDrive\R W CORKERY & CO PTY LTD\RWC Test Site - Documents\1109\Cartography\Projects\1109\MXD\1 Locality_V2.mxd_14/08/2025_10:11 AM
TN
MN
KIAMA LGA
SHOALHAVEN LGA
Lot 2 DP1111012
Lot A DP185785
Crooked River
Gerroa
SHOALHAVEN BIGHT
SEVEN MILE BEACH National Park
GERROA ROAD
BEACH ROAD
CROOKED RIVER ROAD
PRINCES HIGHWAY
DONOVAN ROAD
ILLAWARRA RAILWAY
HARLEY HILL
DUBBO
Project Site
SYDNEY
CANBERRA
REFERENCE
LGA Boundary
Project Site Boundary
Cadastral Boundary
SCALE 1:50,000 (A4)
0.5 0 0.5 1 1.5 2 km
Source: NSW Topographic Map - LPI
Figure 1
LOCALITY PLAN

Table 1 presents an overview of the Proposed Modification. In summary, the Proposed Modification would increase the maximum transportation rate by 50% from 80,000tpa to 120,000tpa. No changes to the extraction or processing methods, the approved disturbance footprint of the Quarry, or the rehabilitation objectives for the Project Site are proposed.

Table 1
Overview of the Proposed Modification

Component	Approved Operations – MP05_0099 (Mod 1)	Current Application – Mod 2
Limits on Approval		
Life of Project	Extraction and processing operations up to 31 July 2038	No change. It is noted that increased production may reduce the life of the Project, however, it is proposed to retain the currently approved duration to provide for potential future fluctuations.
Maximum Dredge Pond Depth	Approximately up to 12m or to the base of the sand resource	No change
Extraction Operations		
Extraction Area	As per **Figure 2** 42.9ha footprint	No change
Extraction Method	Dredge-based extraction system	No change
Processing Operations		
Processing Method	Dredged material passes through the wet sorter	No change
Transportation Operations		
Product Transportation	Up to 80,000t of product per year	Increase to a maximum of 120,000tpa
Traffic Levels	Average of 19 laden trucks per day (38 truck movements per day)	No change
Transportation Route	As per **Figure 3**	No change
Heavy Vehicle Types	Range from small trucks (1t to 9t capacity) up to tri-axle, eight wheeler truck and dog vehicle configurations	No change, although a greater proportion of larger capacity vehicles.
Hours of Operation		
Operating Times	• 7:00am to 6:00pm, Monday to Friday • 7:00am to 1:00pm, Saturdays • At no time on Sundays or Public Holidays	No change
Rehabilitation and Final Landform		
Rehabilitation Objectives	As per rehabilitation objectives included in Appendix 5 of MP05_0099	No change
Key Changes to Environmental Impacts		
Impacts and criteria	As approved	No significant change to environmental impacts and no change to impact criteria sought.

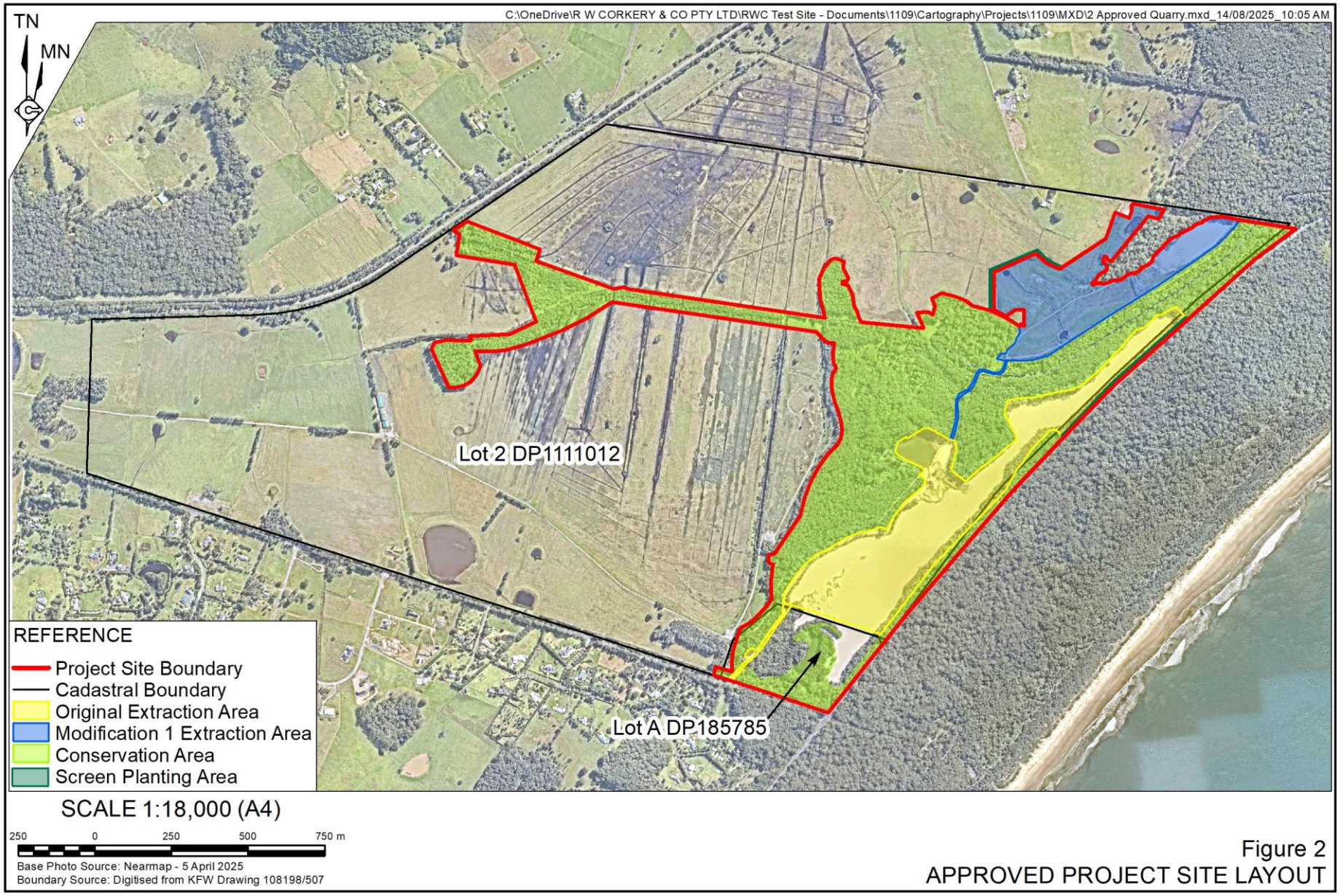


Figure 2
APPROVED PROJECT SITE LAYOUT

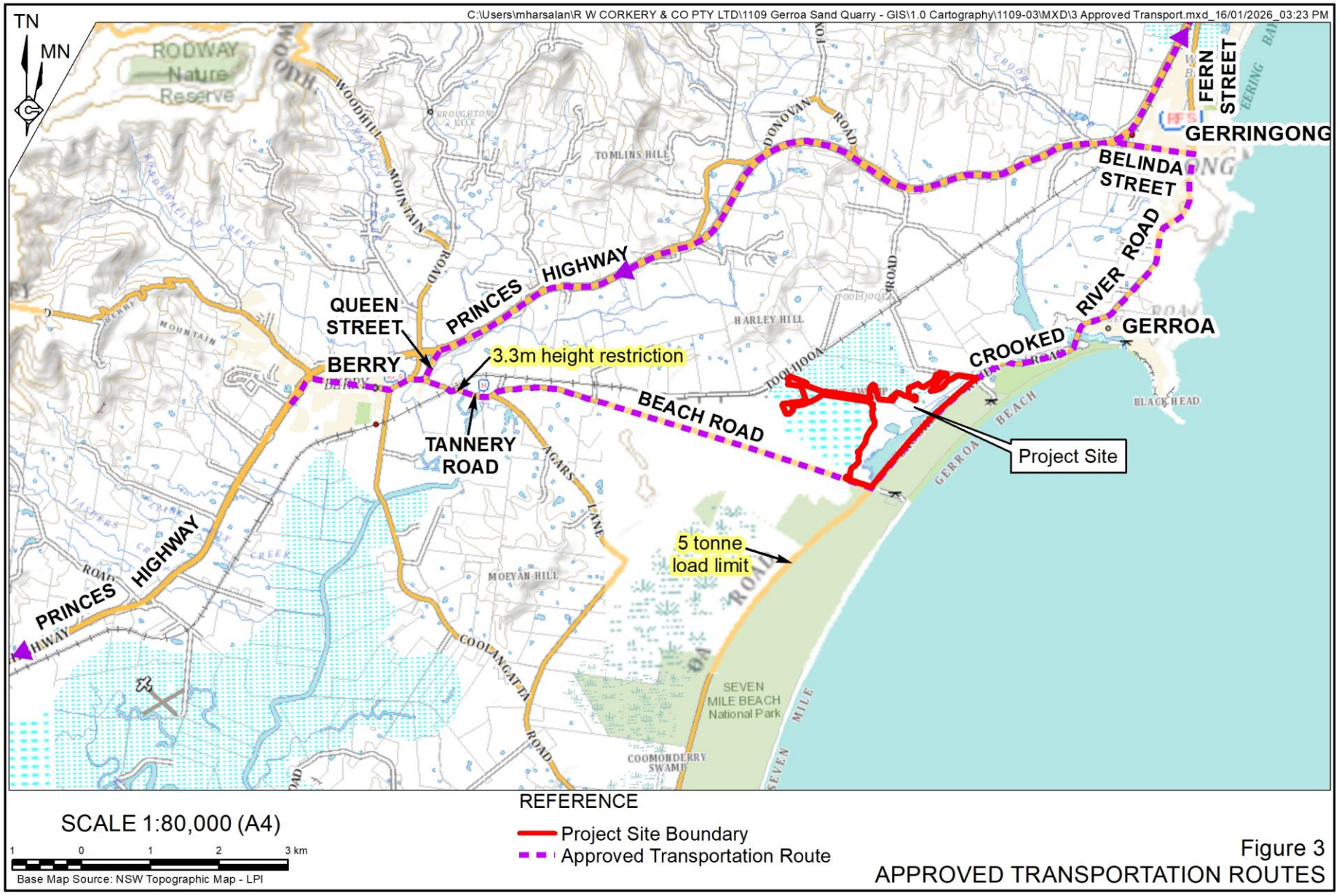


Figure 3
APPROVED TRANSPORTATION ROUTES

1.3 Project Documentation and Format

This document has been compiled in eight sections with five appendices, and considers the NSW Planning, Housing and Infrastructure publication *State significant development guidelines – preparing a submissions report*, March 2024.

Section 1: Introduces the scope and format of this document.

Section 2: Presents an analysis of submissions categorised according to the issues raised.

Section 3: Provides a summary of the actions undertaken since the exhibition period to address the issues raised in submissions.

Section 4: Provides a detailed summary of the Applicant's response to issues raised in Government Agency submissions.

Section 5: Provides a detailed summary of the Applicant's response to issues raised in public submissions.

Section 6: Provides a detailed summary of the Applicant's response to issues raised in organisation submissions.

Section 7: Presents an evaluation of the merits of the Project, drawing upon the relevant responses to the issues raised in submissions.

Section 8: Provides references.

A set of appendices is attached to this document including supplementary assessments prepared to support the *Submissions Report*.

Appendix 1: Provides the Cleary Bros' 2026 *Updated Water Balance* report

Appendix 2: Provides a summary of the public submissions received.

Appendix 3: Provides a summary of the additional comments received after the submissions closure date.

Appendix 4: Provides the Cleary Bros *Driver Code of Conduct.*

Appendix 5: Provides the Northstar 2025 *Air Quality and Greenhouse Gas Assessment.*

2. Analysis Of Submissions

2.1 General Review of Submissions

During the exhibition period, 56[2] submissions were received by DPHI from the public, community organisations and government agencies and included the following.

- 47 submissions from individuals and community organisation:
  - 1 submission supported Mod 2;
  - 1 submission commented on Mod 2; and
  - 45 submissions objected to Mod 2.
- 9 NSW Government agencies, public authorities and local Councils provided comments and recommendations on the application including Kiama Council.

Following exhibition, additional submissions were received that have been included in the responses, including one government agency submission from Shoalhaven City Council, two new public submissions, an addendum to a previous submission, and an addendum to an organisation submission.

A Submissions Summary is presented in **Appendix 2**, and additional comments are located in **Appendix 3**.

2.2 Government Agencies, Public Authorities and Local Councils

The following Government agencies, public authorities and local Councils provided a submission. These submissions have been separately addressed in Section 4.

- Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) - Conservation Programs, Heritage and Regulation Group (CPHR)
- Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) – Water Group
- Department of Primary Industries and Regional Development – Fisheries
- Environment Protection Authority
- Kiama Municipal Council
- National Parks and Wildlife Service

[2] One submission (SE-98512474) was omitted, as it was not related to the Project. This submission is not taken into consideration for the remainder of this report.

- Shoalhaven City Council
- Transport for NSW
- Water NSW

2.3 Individual and Community Organisations

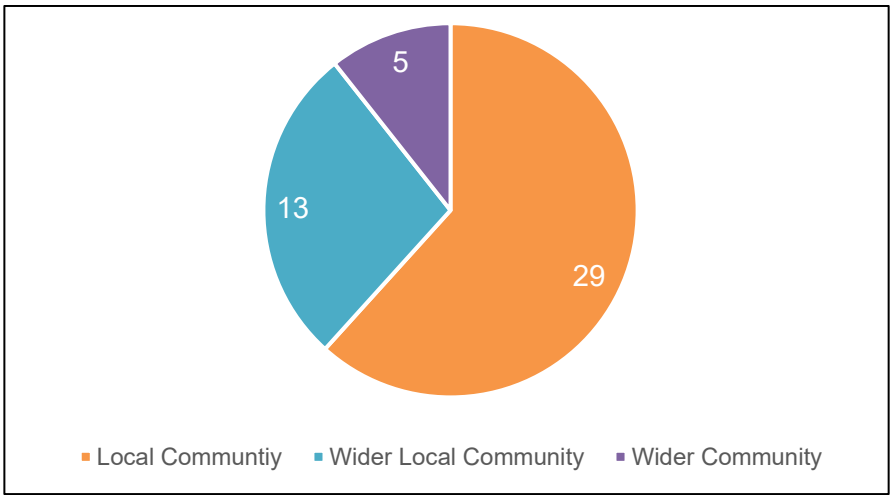
Of the 47 submissions received from individuals and community and organisations during the exhibition period the majority were received from the suburbs of Gerroa and Gerringong (29 submissions, 62% of the total submissions) in the Kiama LGA, all of which objected to Mod 2. Other submissions were received from Berry (4 objections and 1 comment), Kiama Downs (4 objections), and Wollongong (2 objections). Singular submissions objecting Mod 2 were received from Toolijooa, Willow Vale, Concord West, Foxground, Manyana and Old Erowal Bay. Jeremadra had a singular submission supporting the Project.

In order to quantify the level of interest in Mod 2, the Applicant used the residence location information provided by each submitter and classified them as follows.

- Local community – those living within Gerroa and Gerringong
- Wider local community – the Kiama LGA and Shoalhaven LGA.
- Wider Community – those living elsewhere in NSW.

Figure 4 presents an overview of the proportion of each location classification.

Figure 4
Submitter Locations



Key outcomes from the summary of submissions are as follows.

- The majority of public submissions were made by individuals (45), with 2 community organisations making submissions.

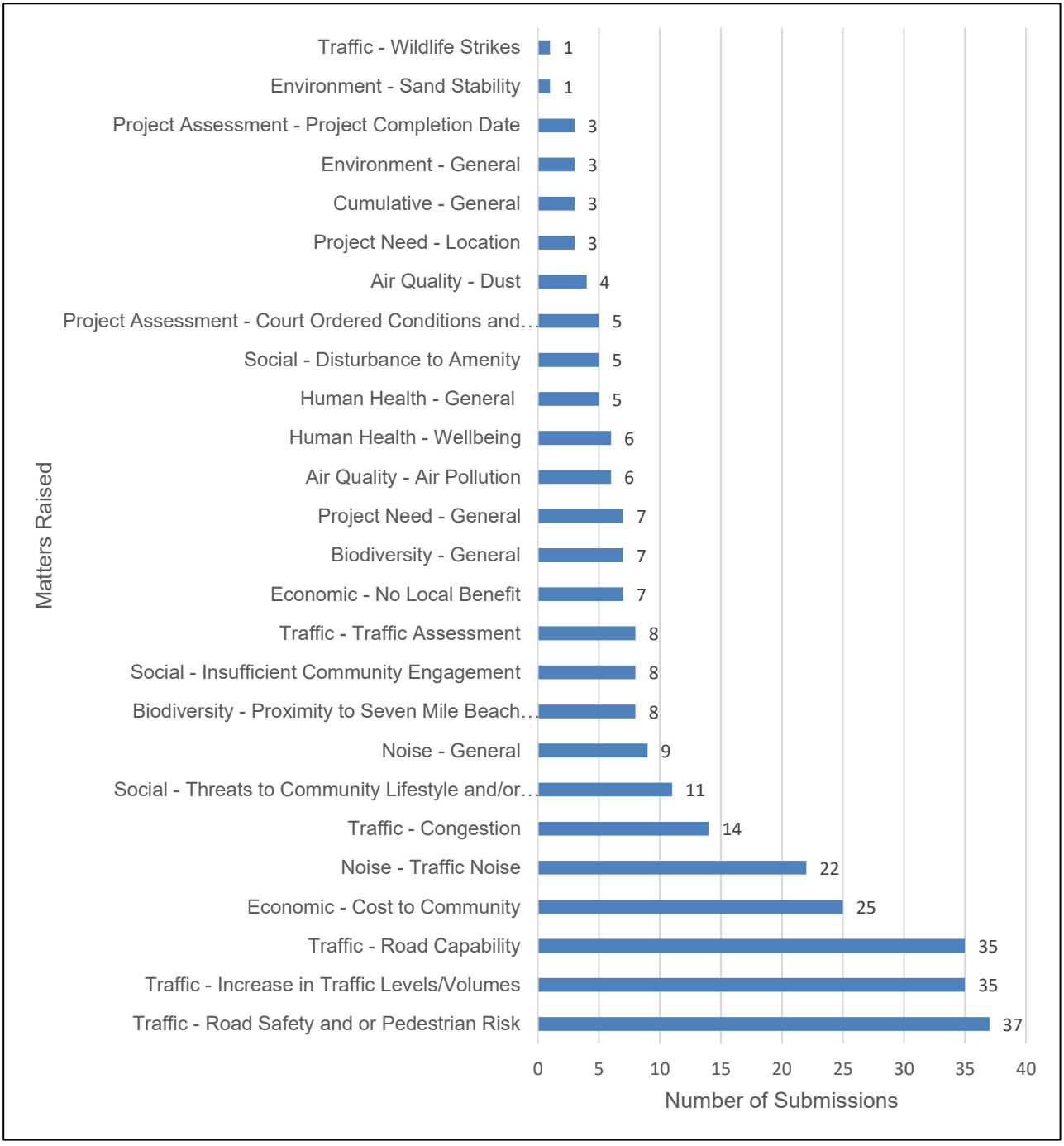
- The majority of submitters expressed opposition to the project (45), with only one submission supporting Mod 2 and one submission commenting on Mod 2.
- The majority of submissions came from the local community area.

2.4 Categorisation of Issues

Figure 5 displays the frequency of environmental, economic and social topics raised in the submissions by individuals and community organisations. The most frequently identified matters raised in objecting submissions relate to traffic and road-related aspects.

All topics raised in these submissions are comprehensively addressed in Section 6 of this document.

Figure 5
Frequency of Topics Raised



3. Actions Taken Since Exhibition

3.1 Consultation

No Mod 2 specific additional community consultation has been undertaken since exhibition. A number of submissions were received by DPHI following exhibition through the Planning Portal and some were provided directly to Cleary Bros for consideration. The Applicant will continue stakeholder engagement through:

- ongoing CCC meetings to provide an overview of Quarry operations and discuss matters relevant to the broader community; and
- ad hoc engagement with surrounding landowners and sensitive receivers regarding operations at the Quarry.

3.2 Amendments to the Project

No amendments or adjustments to the Proposed Modification have been made. However, as a result of the submissions received, the Cleary Bros Driver Code of Conduct has been updated and will be applied to the currently approved operations and the proposed modified operations. A copy of the updated Driver Code of Conduct is provided in **Appendix 4**. The document provides specific safety management activities relating to the Quarry including the following.

Gerroa Sand Quarry Site Access

Gerroa Sand Quarry is open Monday to Friday 7:00am – 4:00pm (until 6:00pm by special arrangement only – no access at all outside of 7:00am-6:00pm).

Trucks heading north must access via:

- Crooked River Road -> Fern St -> Belinda St -> Highway

Trucks heading south may use either:

- Berry - Beach Road (3.3m height limit) -> Highway; or
- Gerringong - Crooked River Road -> Fern St -> Belinda St -> Highway

Slow down and take special care in the following high pedestrian areas:

- When passing the caravan parks on either side of the Crooked River bridge.
- Gerringong township, particularly near the Fern/Belinda St roundabout and along Belinda St near the retirement village.
- Avoid the use of compression brakes when travelling through Gerroa and Gerringong.

3.3 Supplementary Assessment

The following subsections provide a brief summary of the additional assessments undertaken for Mod 2 in response to submissions. These include a revised site water balance, additional vehicle noise monitoring, and updated traffic assessment data.

3.3.1 Site Water Balance

The site water balance has been further reviewed and updated to determine the maximum water take. The review considered the potential water take for the maximum proposed transport rate of 120,000tpa under a range of climatic conditions and operational scenarios. The full review is included as **Appendix 1** with key outcomes summarised as follows.

Based on the outcomes of the calculated scenarios the reasonable maximum water take during the life of the operations is 162.5ML. A breakdown of the components of this water take are as follows.

- Net evaporative loss = 128.2ML
- Water entrained in product = 6.0ML
- Water inflows to replace the physical component of sand below the water table – 27.0ML.
- Water pumped out for use in dust suppression and watering of vegetation/rehabilitation = 1.2ML

As evident from the breakdown, water take is principally driven by net evaporative loss (during dry / low rainfall years). For the purposes of assessing the relative change in water take that would result from the Proposed Modification, the pro-rata water take under the same scenario with an extraction rate of 80,000tpa would total 151.5ML with the following breakdown.

- Net evaporative loss = 128.2ML
- Water entrained in product = 4.0ML
- Water inflows to replace the physical component of sand below the water table – 18.0ML.
- Water pumped out for use in dust suppression and watering of vegetation/rehabilitation = 1.2ML

Therefore, the Proposed Modification would result in an increased annual water take of 11ML / 7.2% under the maximum water take scenario.

Notably for both current and proposed operations, the water take during the majority of the Project life would be significantly less. For context, at the maximum extent of extraction and median rainfall / evaporation, annual water take at maximum extraction is calculated to be 45.5ML.

The Applicant currently holds a total water allocation of 106 units (ML) from the water source Metropolitan Coastal Sands Groundwater Source via Water Access Licences (WALs) 43271 and 43272.

In order to secure allocations that will account for maximum water take, the Applicant has sought an additional 57ML of allocation as part of the current Controlled Allocation Order (Various Groundwater Sources) 2025 for which 406ML within the Metropolitan Coastal Sands Groundwater Source has been made available.

3.3.2 Noise Measurements of Quarry Vehicles

A detailed noise assessment for the Proposed Modification was not undertaken for the following reasons.

- The Proposed Modification does not propose any material change in traffic volumes

  The modification does not alter the total number of heavy vehicle movements from that originally assessed. Traffic noise impacts under the NSW Road Noise Policy (EPA, 2011) and the Construction Noise and Vibration Guideline (TfNSW, 2020) are primarily driven by the volume and frequency of vehicles rather than truck size. As vehicle movement numbers would remain unchanged from those previously assessed, no increase in cumulative traffic noise is expected.

- Vehicle type remains within the assessed heavy vehicle category

  The existing approval and previous assessments considered heavy vehicles as a single noise generating category. The proposed truck types fall within this category and therefore do not introduce a new acoustic class or noise source not previously considered.

- There is no change to road geometry, speed environment and other conditions

  The modification would not change road alignment, speed limits, gradient, or surface conditions, all of which are major determinants of traffic noise. Local authorities have reduced speed limits along most parts of the transport route in recent years, which would have had the effect of reducing heavy vehicle noise levels.

- There is a potential for reduction in overall noise exposure

  The use of a greater proportion of trucks with larger load capacities is expected to increase haulage efficiency, which may reduce the total duration of haulage activities and overall traffic presence on the network. Newer heavy vehicle configurations also comply with existing Australian Design Rules (ADR 83/00), which set maximum permissible noise emissions and have resulted in reduced noise outputs for modern truck fleets.

The existing Development Consent includes noise criteria and monitoring requirements which are addressed by the Quarry's Noise Management Plan included as Appendix C of the Quarry Environmental Management Plan (QEMP). Section 8.3 of the QEMP summarises the noise monitoring requirements and specifies that noise monitoring is undertaken annually in winter.

The Applicant will continue to monitor noise levels associated with the Quarry in line with the Noise Management Plan.

Annual monitoring of noise levels undertaken in line with the Noise Management Plan since 2023 (when annual noise monitoring recommenced) has demonstrated compliance with the conditions of the Development Consent and Environment Protection Licence 4146. Three of the monitoring locations are located near road traffic sensitive receivers (R1, R2 and R3). It was noted that Quarry-related vehicles on public roads were audible at times, however these 15-min contributions were less than the background noise level in each instance.

Additional measurements of peak noise levels for a range of Quarry vehicles (37 in total) during acceleration and deceleration at Cleary Bros Albion Park Quarry was undertaken in December 2025 to assess the relative noise levels of heavy vehicles of various sizes. This monitoring shows that the typical noise level generated by the measured trucks during acceleration and deceleration is generally not related to the load size, with larger capacity truck and dog (T&D) configurations recording similar noise levels to smaller capacity rigid trucks and concrete agitators. T&D configurations recorded a greater range of noise levels than other configurations, however this can be attributed to the larger sample size of these vehicles (**Table 2**).

Table 2
Measured Vehicle Noise Levels

	Load Capacity (t)	Traffic Count	Average dB(A))	Min dB(A))	Max dB(A))
Truck and Dog	32t-40	21	78	69	89
B-double	36	2	83	77	88
Concrete Agitator (rigid)	16-20	7	77	72	84
Other Rigid truck	12	5	78	70	80
Bus	N/A	1	75	75	75
Source: Cleary Bros					

Traffic noise impacts under the NSW Road Noise Policy (EPA, 2011) and the Construction Noise and Vibration Guideline (TfNSW, 2020) are primarily driven by the volume and frequency of vehicles rather than truck size. As vehicle movement numbers would remain unchanged from that previously modelled, no increase in cumulative traffic noise is expected from that previously modelled.

Given the existing traffic environment, and the absence of changes to haulage routes or operating hours, the Proposed Modification is not expected to result in a significant change in average traffic noise levels or exceed applicable assessment criteria.

3.3.3 Updated Traffic Assessment Data

3.3.3.1 Data from Previous Traffic Assessments

The Traffic Report undertaken by Masson, Wilson and Twiney (2001) for the *Gerroa Sand Quarry Proposed Extension Environmental Assessment* (Perram and Partners 2006) modelled the truck sizes, movements, and average tonnage per load. The modelling determined that the

majority of haulage trucks (74%) used by the Quarry were standard rigid trucks (six wheelers) and semi-trailers (tri-axle trailers) with a smaller number of larger rigid trucks (eight wheelers) and truck and dogs (six wheelers and dog) (see **Table 3**). The proportion of vehicle combinations has changed over time to reflect changes to the regional road networks, heavy vehicle regulations, and operating efficiencies.

Table 3
Quarry Vehicle Size and Count - 2001

Truck Type	Direction			Total	
	North	South	Ex Bin	Number	%
Tri-Axle Eight Wheeler	732	83	358	1,173	35
Eight Wheeler	83	12		95	3
Six Wheeler and Dog	163	33		196	6
Six Wheeler	434	770	106	1,310	39
Small Trucks			274	274	8
Other (utes/box trailers)	2		316	318	9
Source: Masson, Wilson and Twiney (2001)					

The Traffic Impact Statement undertaken by Cardno (2018) to support the *Gerroa Sand Quarry Modification* Mod 1 application to extend the extraction area determined that the traffic growth rate from 2014 to 2034 will be equivalent to a reduction of 2.2% per annum and the predicted baseline traffic flows generally shows that, by 2034 9.2% of the vehicles will be considered as 'heavy' vehicles (see **Table 4**). It was determined that, under Mod 1, the increase in heavy vehicle movements would not materially alter overall traffic volumes along the identified transport routes.

Table 4
Forecast 2034 Base Volumes

	Light Vehicles	Heavy Vehicles
Total	90.8%	9.2%
Source: Cardno (2018)		

Mod 2 does not propose to increase the number of heavy vehicle movements or the approved truck sizes from that previously assessed. Rather a greater proportion of material would be transported in the larger capacity truck configurations. Therefore, the previously predicted proportion of heavy vehicles would not change as a result of the Proposed Modification with the level of traffic generation estimated from the Quarry considered to remain minor in the context of the baseline traffic volumes.

3.3.3.2 Existing Traffic Volumes

Transport for NSW operated a permanent count station on Fern Street, south of Gerringong town centre (id 07101) until 2020. This site is located on the approved transport route for the Project. As shown in Cardno (2018) and the updated traffic counts at the permanent count station, traffic volumes on Fern Street have been relatively steady up until 2017. Traffic volumes decreased in 2017 following the completion of the Foxground and Berry Bypass.

The traffic counts identified in Cardno (2018) have been updated with the most recent available data (see **Table 5**). Consistent with predictions by Cardno (2018), the traffic volumes have continued to decrease since 2017 (although 2020 traffic counts were likely reduced due to the travel restrictions associated with covid-19). The volume of haulage vehicles associated with the Quarry is not proposed to change from that previously assessed as a result of the modification. Traffic counts were discontinued at this site in 2020.

Table 5
Fern Street – Daily Average Traffic Volumes

	2014	2015	2016	2017	2018	2019	2020
Northbound	4,892	5,528	5,305	3,855	2,769	2,251	1,614
Southbound	5,130	5,548	5,275	3,806	2,784	2,184	1,702
Total	**10,022**	**11,076**	**10,580**	**7,661**	**5,553**	**4,435**	**3,316**
Source: TfNSW							

3.3.3.3 Existing Accident History

Updated crash data was obtained from the Centre for Road Safety for the most recent five year period (2020 – 2024) with heavy vehicle incident data available for the last 10 years (2015-2024). The historic crash analysis is focused on the intersection of Beach Road / Crooked River Road / Gerroa Road and Beach Road / Site Access as identified in Cardno (2018). In summary, there were no documented crashes, however there was one fatal accident just north of the Beach Road intersection, a single vehicle crash involving a car (**Figure 6**). There are no recorded accidents at the interface of the Quarry's access road with Beach Road. There were also no heavy incidents recorded along the approved transport routes (excluding the Princes Highway sections).

Figure 6
Road Users by Local Government Area of Crash

3.3.3.4 Summary

Mod 2 would not increase the number of heavy vehicle movements for the Quarry above that previously assessed or the proportional distribution of Quarry related traffic using the approved transport routes to/from the north or south of the Quarry Site. Mod 2 would also not increase the maximum vehicle size or largest heavy vehicle configuration used for product despatch at the Quarry. However, the proportion of larger vehicles used for product despatch may increase as a result of Mod 2 compared to that previously assessed.

Based on the results of the updated accident data, the following conclusions from Cardno (2018) are considered to remain valid.

- The level of traffic generation estimated from the Quarry is considered to be minor in the context of the surrounding traffic volumes and with due consideration to the forecasted future traffic volumes predicted to occur on the surrounding road network. There are no capacity issues identified (in terms of Level of Service) due to the likely peak hour traffic movements associated with the site being minor.
- A review of the crash history in close proximity to the site does not identify any crash clusters or result in any nexus between the historic crash data and the site. There are no recorded accidents at the site's driveway with Beach Road.

4. Responses to Government Agency Submissions

4.1 Introduction

The *Modification Report* and supporting technical assessments were exhibited by DPHI from 16 October 2025 to 6 November 2025. During that period, submissions were received from nine Government agencies that provided comments and recommendations on the application including Kiama Municipal Council (Kiama Council). The Applicant also received a submission from Shoalhaven City Council following the submission period.

A number of government agencies provided limited comment or provided no further comment.

4.2 DCCEEW- Conservation Programs, Heritage and Regulation Group (CPHR)

Comment(s)

NSW DCCEEW has reviewed the Modification Report and has no further comments to make on the current proposal. Should the increase in extraction rate result in a faster exhaustion of the sand resource, for any subsequent future proposals to extend development footprints, we recommend that all remnant vegetation be avoided, including suitable buffers, given the environmentally sensitive nature of the area

Response

The Applicant notes CPHR's submission.

4.3 DCCEEW Water

Pre-determination: Water Take and Licencing

Comment(s)

Pre-determination recommendation to clarify the maximum annual groundwater take from aquifer interference activities and to confirm the ability to obtain sufficient water entitlement.

- *Clarify the maximum annual volume of groundwater take due to aquifer interference activities.*

- *Demonstrate the ability to acquire sufficient entitlement in the relevant water source unless an exemption applies.*

Explanation: The proponent has estimated an increase in groundwater take of 13.3ML/yr based on an average. Entitlement is required to account for the maximum volume of for estimated take, Where insufficient entitlement is held to account for maximum potential take, the proponent must demonstrate that additional entitlement can be obtained prior to take occurring.

Response

The Applicant has reviewed and updated the site water balance to determine the maximum annual volume of groundwater take due to aquifer interference activities.

Based on the outcomes of the calculated scenarios the reasonable maximum water take during the life of the operations is 162.5ML.

The Applicant currently holds a total water allocation of 106 units (ML) from the water source Metropolitan Coastal Sands Groundwater Source via Water Access Licences (WALs) 43271 and 43272.

In order to secure maximum water take, the Applicant has sought an additional 57ML of allocation as part of the current Controlled Allocation Order (Various Groundwater Sources) 2025 for which 406ML within the Metropolitan Coastal Sands Groundwater Source has been made available.

A summary of the updated water balance is presented in Section 3.3.1 and **Appendix 1**.

Post Approval: Water Take and Licencing

Comment(s)

Post Approval recommendation to ensure the Water Access License (WAL) proposed to account for water take by the project nominate an extraction point and that relevant applications are completed prior to water take occurring.

Explanation: WALs must nominate an extraction point to avoid committing an offense under section 60D of the Water Management Act 2000. WAL43271 currently does not nominate an extraction point and therefore should not be used to account for water take until the relevant dealing applications have been completed.

Response

The Applicant notes WAL43271 does not currently nominate a works approval. An application will be made to update WAL43271 to include the works approvals 10MW119337 and 10MW119338.

Post Approval: Water Management Plan

Comment(s)

Post Approval request to update the Water Management Plan based on the Mod2 activities. This is to include a revised water balance model assessment and updated site Water Management Plan.

Response

The Applicant would update the Gerroa Sand Resource Water Management Plan (Appendix E of Quarry Environmental Management Plan Section 10 Groundwater Management) to include the updated maximum water balance.

4.4 DPIRD Fisheries

Comment(s)

DPIRD Fisheries has reviewed the scoping report for this proposal and has determined that no environmental assessment requirements have been triggered for matters under the Fisheries Management Act (FM) Act 1994.

The reason for this is that there is no proposed increased footprint or changes proposed to the water quality treatment and mitigation measures that would impact key fish habitat in the vicinity of the subject site.

*It is recommended that existing water quality treatment measures are continued under any approval iss*ued for this modification.

Please do not send any further stages of this proposal to DPIRD Fisheries for advice.

Response

The Applicant notes DPIRD Fisheries submission.

4.5 EPA

Environment Protection Licence Limits

Comment(s)

The EPA has reviewed the Application and advises the following: Environment Protection Licence Limits The Licence limits "Extractive activities" and "Crushing, grinding or separating" activities at the Premises to 100,000 tonnes per annum. If the Application is approved by Planning, the Proponent will need to make a separate application to the EPA to vary the Licence and increase this limit.

Response

The Applicant notes EPA's submission and would apply to vary Environment Protection Licence 4149 to increase the production limit under the licence.

4.6 Kiama Municipal Council

Transport Route

Comment(s)

as a result of the modification requiring an increase of larger vehicles from small trucks (1ft to 9ft capacity) to tri-axle, eight wheeler truck and dog configurations (32t to 42t capacity), Council staff are not satisfied that the proportional distribution of the approved transport routes have not changed and impacts properly assessed.

Traffic route from Beach Road to Princes Hwy via Berry includes a height restriction of 3.3m located on Tannery Rd (Shoalhaven LGA) due to the rail overpass. Heavy vehicles will unable to use this route, diverting majority of heavy vehicles north on local roads through the Gerroa and Gerringong township.

The modification report has not adequately addressed the impacts of transport routes and heavy vehicles, where changes conflict detail provided in the traffic impact statement by Cardno in 2018 through Mod 1.

Council requests DPHI ensures that an updated traffic impact assessment is provided to support the application prior to making a determination.

Response

The Proposed Modification does not propose any change to maximum vehicle sizes, number and timing of traffic movements or how vehicles access, move within and leave the Quarry and there would be no change to the existing transport routes.

The traffic impact statement undertaken by Cardno (2018) to support the *Gerroa Sand Quarry* Mod 1 application was calculated based on an average of 19 laden trucks per day (38 total truck movements). The Applicant has determined that the currently approved truck and dog vehicle configurations used at the Quarry, with capacities ranging between 32t and 42t would meet the proposed maximum transportation rate of 120,000tpa. As such, the Proposed Modification would not generate traffic volumes (daily average) greater than those modelled under the original application. The Proposed Modification would not alter any of the following from what has previously been assessed

- The proportional distribution of laden and unladen vehicle traffic using the approved transport routes to travel to/from the north or south of the Project Site.
- The maximum vehicle size or largest heavy vehicle configuration used for product transportation (i.e. truck and dog vehicle configurations with maximum capacities of 42t).
- The maximum traffic volumes generated at the Quarry (maximum per hour or maximum per day).

Furthermore, the capacity of the truck is not directly proportional to the height of the truck, such that some of the heavy vehicles in Cleary Bros current truck and dog fleet have a height less than 3.3m, and as such preferentially utilise the approved transport route via Berry when delivering to the south. Truck and dog combinations will continue to use both transport routes where possible to minimise haulage distances and associated environmental and community impacts.

Relevant components of the traffic assessment have been updated with the most recently available data and is presented in Section 3.3.3.

Road Safety and Pedestrian Risk

Comment(s)

Feedback from community members have provided observations that truck movements have predominantly been on the route of Crooked River Rd to Princes Hwy via Belinda Street Gerringong. Concerns have been raised regarding the additional heavy vehicle interaction with pedestrians and potential road safety issues.

Response

Heavy vehicle movements would continue to utilise the existing approved haulage routes along regional classified roads, which are established public roads that already accommodate a range of vehicle types. The anticipated level of heavy vehicle traffic represents a small proportion of total traffic volumes and would not alter the function of the regional road network.

Data sourced from the Centre for Road Safety shows no incidents involving heavy vehicles on the approved transport routes (to the Princes Highway) for the last 10 years (the period for which data is available). Cleary Bros engages experienced and professional drivers, who are well versed on the sections of the route frequented by pedestrians and vulnerable road users. Cleary Bros have robust processes to ensure compliance with Heavy Vehicle National Law, including truck maintenance, driver fatigue management, speed monitoring, and heavy vehicle load limits. Robust monitoring and internal and external auditing protocols regularly ensure compliance with this system, in line with Heavy Vehicle National Law and form part of Cleary Bros ISO45001 certified Safety Management System. While the Applicant acknowledges there will always remain some residual risk to the public associated with the transport of quarry material that cannot be eliminated completely, this risk has been reduced to as low as reasonably practicable, and is arguably no greater than risks the public faces on any other road in the regional road network.

The traffic assessment has been updated with the most recently available data and is presented in Section 3.3.3 and updated safety management measures in Section 3.2.

Contributions for the Maintenance/Repair of Public Roads

Comment(s)

Council requests that the updated details of the traffic impact assessment inform DPHI to provide clear conditions as to how the contributions are calculated, indexation method, timing of payment; including review of cost/tonne of material haul and fair distribution to the Local Government Road Authorities should it be found that Kiama Municipal Council bears majority of the haulage traffic.

Response

The *Modification Report* determined that there would be no change to traffic volume, transportation routes, approved heavy vehicle types (outside of greater proportion of larger capacity vehicles) and operating hours.

The *Modification Report* details the potential increased product transportation tonnage estimates, which would factor into the Section 94 (now Section 7.11) contributions framework of the existing development consent.

4.7 Shoalhaven City Council

Traffic and Transport

Comment(s)

- *While the proponent states that maximum and average heavy vehicle movement limits remain unchanged, the shift to larger truck configurations (tri-axle, eight-wheeler, truck and dog combinations with 32–42 tonne capacity) materially alters the nature of traffic and road pavement impacts on local roads.*
- *The approved transport route via Beach Road to Princes Hwy through Berry is constrained by a 3.3m height restriction at Tannery Road rail overpass. Consequently, larger vehicles will be unable to use this route, forcing diversion northwards through Gerroa and Gerringong. This could potentially also result in an increase in existing truck movements when considering only smaller vehicles could traverse Tannery Road and head south from Berry.*
- *This diversion increases the likelihood of heavy vehicle traffic through residential and pedestrian-sensitive areas, raising concerns about road safety, amenity, and cumulative impacts not adequately addressed in the modification report.*
- *The modification report conflicts with assumptions made in the Cardno Traffic Impact Statement (2018, Mod 1), which formed the basis of prior approvals.*
- *The current proposal does not adequately assess the changed distribution of haulage traffic or the implications for local road networks in both Shoalhaven and Kiama LGAs.*

Response

The Proposed Modification does not require any change to the maximum vehicle size, number and timing of traffic movements or how vehicles access, move within and leave the site and there would be no change to the existing transport routes.

The traffic impact statement undertaken by Cardno (2018) to support the *Gerroa Sand Quarry* Mod 1 application was calculated based on an average of 19 laden trucks per day (38 total truck movements). The Applicant has determined that the currently approved truck and dog vehicle configurations used at the Quarry, with capacities ranging between 32t and 42t would meet the proposed maximum transportation rate of 120,000tpa. As such, the Proposed Modification would not generate traffic volumes (daily average) greater than those modelled under the original application. The Proposed Modification would not alter any of the following from what has previously been assessed.

- The proportional distribution of laden and unladen vehicle traffic using the approved transport routes to travel to/from the north or south of the Project Site.

- The maximum vehicle size or largest heavy vehicle configuration used for product transportation (i.e. truck and dog vehicle configurations with maximum capacities of 42t).
- The maximum traffic volumes generated at the Quarry (maximum per hour or maximum per day).

Furthermore, the capacity of the truck is not directly proportional to the height of the truck, such that some of the heavy vehicles in Cleary Bros current truck and dog fleet have a height less than 3.3m, and as such preferentially utilise the approved transport route via Berry when delivering to the south. Truck and dog combinations will continue to use both transport routes where possible to minimise haulage distances and associated environmental and community impacts.

Road Maintenance Contributions

Comment(s)

Shoalhaven City Council engineers support Kiama Council's position that Condition (9) must be revised to reflect the altered traffic distribution and increased burden on local roads.

Contributions must be recalculated to ensure fair distribution between Shoalhaven and Kiama Councils, based on updated traffic impact assessment findings.

Response

The *Modification Report* determined that there would be no change to traffic levels, transportation routes, approved heavy vehicle types (outside of greater proportion of larger capacity vehicles) and operating hours. The only change resulting from the Proposed Modification relevant to contributions is the proposed increase to the maximum transportation tonnage. As the existing Section 94 (now Section 7.11) contributions framework outlined in Schedule 2 Condition 9 provides for a per tonnage contribution no change is required.

Road Maintenance Contributions

Comment(s)

Indexation, timing of payment, and methodology for calculating contributions should be clearly defined by DPHI to avoid ambiguity and ensure transparency.

Response

Methodologies for the calculation and payment of the contribution, including indexation and timing, are described in the current development consent. While indexation protocols are clearly described in each Council's Contributions Plan, the protocols around timing of payment aren't applicable to the nature of the Project. Traditionally, Cleary Bros have made contributions based on the quantity of material transported each calendar year, with payments made in the first half of the following year. For example, for the 2024 calendar year, payments were made to each Council in May 2025. The Applicant is open to discussions with both Councils to clarify protocols around the preferred timing of ongoing contribution payments.

Unsafe and Non-compliant Access

Comment(s)

The updated traffic impact assessment is required to include a warrant assessment of the access point on Beach Road against Austroads guidelines, based on the proposed increase in heavy vehicle traffic, trip distribution and vehicle type.

Sight distances, turning radii, and pavement strength may also not be adequate for the proposed increase in larger truck movements. This has not been considered within the Proposed Modification and needs to be addressed within the updated traffic impact assessment.

These deficiencies pose risks to both quarry traffic and general road users, particularly given the mix of local residential traffic, school buses, and tourist vehicles using Beach Road.

Response

Mod 2 does not require any change to the current maximum vehicle size, number and timing of traffic movements or how vehicles access, move within and leave the site and there would be no proportional change to the existing transport routes. Based on these assumptions a formal Austroads warrant assessment was not undertaken for Mod 2 as there are no changes to previous traffic assessment assumptions which have adequately addressed the criteria.

Nature of the Existing Access

The Beach Road access is an existing, established Quarry access that has previously been upgraded to accommodate heavy vehicle movements, including articulated vehicles under the current approved operations. Mod 2 does not introduce a new access point or change the form, control type or geometric layout of the access point.

Austroads warrant assessments are primarily intended to determine the need for new access treatments or upgraded intersection controls such as auxiliary lanes or higher order intersection forms. No applicable works are part of Mod 2 and as such a formal warrant assessment is not triggered.

Scale of Traffic Volume Change

While Mod 2 will increase the proportion of larger vehicles it will not increase the number of truck movements from that considered in previous assessments and the Quarry's contribution to total traffic volumes remains low in the context of Beach Road's rural function. Mod 2 will not increase traffic volumes or turning movements from that previously assessed and the operational characteristics of the access remain consistent with those of a low-volume rural priority access.

Sight Distance and Geometry

The operating conditions for the Project are unchanged and the existing Quarry access provides adequate sight distance in both directions for the prevailing speed environment, consistent with stopping sight distance requirements. The unrestricted line of site is greater than 500 metres for traffic approaching the Quarry entrance from the west, which may interact with trucks entering and exiting the site. Vehicle turning movements associated with the Quarry truck configurations can be accommodated within the existing access geometry and vehicles of the type considered by this modification application have historically used the access without incident.

Pavement Strength

The pavement on Beach Road in the vicinity of the access is part of the existing approved heavy vehicle route serving the Quarry. Mod 2 does not involve the introduction of vehicle types or capacities outside those already operating on Beach Road.

Road User Safety

The interaction between the Quarry traffic and other road users has been considered in previous traffic assessments (Cardno (2018) and Masson, Wilson and Twiney (2001)). Given the unchanged Quarry traffic volumes, clear sight lines, and existing operational controls including driver protocols and speed management, Mod 2 does not materially alter the risk profile of the access or the surrounding road network compared to that modelled under previous assessments.

Noise

Comment(s)

Council has not previously received any amenity complaints from the use of the existing sand mine processing. All sites met noise criteria, with quarry activity inaudible at all receivers except for truck movements. Concerns have been raised by the community in regard to the additional noise impacts from the trucks. A study of the Annual Review shows there is exceedances currently at 670 Beach Rd in the SCC LGA. It is anticipated this exceedance will increase with larger trucks. However, with the short duration of the truck leaving this did not increase LAeq or LAmax above background (LA90). It doesn't appear that this property has put in a submission against the proposal on the portal.

Response

As acknowledged by Council, there have been no noise related complaints related to the site in at least the past 15 years of operations. Annual monitoring of noise levels is also undertaken in line with the approved Noise Management Plan. Council's comment that the Annual Review shows noise exceedances at 670 Beach Road is incorrect. Whilst Quarry trucks were audible at this, and one other, location, noise levels were compliant with the relevant criteria. It is noted that there have been no non-compliances with conditions of the Development Consent or Environment Protection Licence 4146 related to noise in at least the last 15 years of operation.

The concern that that noise emissions will increase with larger trucks is also acknowledged, however, as outlined in Section 3.3.2 of this *Submissions Report,* traffic noise impacts are primarily driven by the volume and frequency of vehicles rather than truck size. This has been empirically demonstrated through additional measurements of peak noise levels for a range of quarry vehicles (37 in total) during acceleration and deceleration at Cleary Bros Albion Park Quarry undertaken in December 2025. This monitoring supports the modelling assumptions that the typical noise level generated by the measured trucks during acceleration and deceleration is generally not related to the load size, with larger capacity truck and dog configurations recording similar noise levels to smaller capacity rigid trucks and concrete agitators. As vehicle movement numbers would remain unchanged from that previously modelled, no significant increase in Quarry-related traffic noise is expected.

It is also important to note that the transport route is currently exposed to traffic noise generated by a mix of light and heavy vehicles associated with both the approved Quarry activities and other activities associated with the local communities and region. The Proposed Modification would not result in an increase in the approved operating hours, haulage routes, access points, or the number of truck movements from that previously assessed. As such, the Proposed Modification would not significantly change the existing nature of the acoustic environment.

Air Quality

Comment(s)

Based on historical and current monitoring, dust and air quality impacts are minimal and well-controlled. The Proposed Modification is unlikely to cause exceedances provided existing mitigation measures are maintained and scaled appropriately.

Response

Council's comments are acknowledged and the Applicant re-confirms its commitment to continuing to implement appropriate management and monitoring measures as outlined in the *Gerroa Sand Resource Quarry Environmental Management Plan* (*Air Quality Management Plan Appendix D Section 6 Air Quality Mitigation Measures and 7 Air Quality Monitoring Program*). Regular reviews of environmental monitoring data and management strategies will continue to be undertaken to ensure the *Air Quality Management Plan* meets its objectives. This will include formal and informal checks as follows.

- Internal review of dust deposition data each month by the Environmental Officer.
- Annual Review completed by the Environmental Officer following the end of each financial year (reporting period).
- Independent Environmental Audits conducted on a three-yearly basis.

Acid Sulphate Soils

Comment(s)

Increased extraction and new dredge pond expand acid sulphate risk footprint, but current controls and monitoring are acceptable. The current consent requires an Acid Sulphate Management Plan to be prepared and is included in the Water Management Plan (which forms part of the QEMP), and which requires a range of management and monitoring measures.

Response

It is noted that the Proposed Modification does not seek to increase the dredge pond size.

The Applicant would continue to implement the management measures, monitoring, and review and reporting methods outlined in the *Gerroa Sand Resource Water Management Plan (Appendix E of Quarry Environmental Management Plan Section 10 Acid Sulphate Soil Management Plan)*.

Groundwater

Comment(s)

The closest Groundwater Dependent Ecosystems is the Coomonderry Swamp in the SCC LGA approximately 2km southwest. Groundwater drawdown may impact Endangered Ecological Communities, including swamp, littoral, and coastal swamp oak forests — all reliant on stable groundwater conditions. It is recommended that a review of the monitoring well siting and sampling frequency occur in the WMP/QEMP and check their responsiveness to the modification groundwater volumes and that this monitoring be included in the annual review provided to SCC.

Response

The *Gerroa Sand Resource Water Management Plan (Appendix E of Quarry Environmental Management Plan Section 10 Groundwater Management)* addresses monitoring methods to ensure no unplanned adverse impact on the groundwater dependent ecosystems, including adjoining vegetation communities forming the Conservation Area for the Quarry. As such it is considered that the existing monitoring also considers those located further from the site, including the Coomonderry Swamp 2km southwest.

Notwithstanding, regular reviews of environmental monitoring data and management strategies will continue to be undertaken to ensure the Water Management Plan meets its objectives. This will include formal and informal checks and reporting as follows.

- Ad-hoc review of alerts from fixed monitoring equipment in response to pre-configured trigger values.
- Monthly internal review of water monitoring data by the Environmental Officer.
- Annual Review completed by the Environmental Officer following the end of each financial year (reporting period).
- Independent Environmental Audits conducted on a three-yearly basis.

4.8 National Parks and Wildlife Service

General

Comment(s)

Ensuring up-to-date NPWS estate and boundary information is utilised using the NSW National Parks and Wildlife Service (NPWS) All Managed Land – NSW SEED dataset via https://datasets.seed.nsw.gov.au/dataset/npws-all-managed-land. NPWS advises on recent acquisitions in this general location.

Notification to NPWS where discharge from the Quarry site, or exceedance of environmental performance criteria occurs, which is likely to affect the downstream or adjacent NPWS estate (Schedule 5, Conditions 3 of the Approval).

Ensuring the proponent has approval to access the NPWS estate to conduct all necessary environmental monitoring set under the Quarry's Quarry Environmental Management Plan

Response

The Applicant notes NPWS comments and will ensure continued compliance with notification requirements and access arrangements.

Increased Sedimentation

Comment(s)

NPWS would like to ensure that the assessment of the Proposed Modification has considered increased haulage and heavy vehicle movements and the likely risk of increased mobility of sediments distributed due to increased truck movements on the local road network, leading to increased turbid stormwater discharge onto the NPWS estate.

Response

Mod 2 would not involve physical works to the regional road network or change existing drainage pathways. Quarry haulage vehicles would continue to utilise established sealed roads that are part of the approved transport route and are subject to routine maintenance and existing erosion and sediment controls. The proportional increase in truck sizes is not expected to materially increase sediment mobilisation beyond existing conditions.

The Quarry surface water management measures remain unchanged under Mod 2 and are designed to capture site runoff. Given the separation between the haulage routes and the Seven Mile Beach National Park and the absence of direct drainage connectivity the Project is not expected to result in increased turbid stormwater discharge to NPWS land.

Noise and Vibration Impacts on Visitor Amenity

Comment(s)

NPWS would like to ensure that the assessment of the Proposed Modification has considered increased haulage and heavy vehicle movements and the likely risk of escalating noise and vibration impacts, resulting in decreased visitor amenity of the day-use areas in the national park. Recognising that the NPWS estate is treated as a sensitive receiver, with adequate monitoring to detect adverse impacts.

Response

As discussed in Section 3.3.2 of this *Submissions Report*, the Proposed Modification would not result in any significant change to traffic noise associated with the Project. The previously assessed road traffic noise is predicted to be below levels that would be perceptible to park visitors and is not expected to result in a measurable reduction in visitor amenity within nearby day use areas.

The lack of amenity impacts has been demonstrated through existing noise monitoring which includes monitoring at two sensitive receiver locations in the Seven Mile Beach National Park (R5 Picnic Area 1 and R6 Picnic Area 2). Noise monitoring is undertaken annually during the winter months which has been selected as this is the period which was identified as having the greatest likelihood of noise enhancing conditions. Monitoring at these day-use areas demonstrates that the Project is inaudible and not affecting the visitor amenity of these sites, and this is unlikely to change as a result of Mod 2.

Vibration impacts associated with heavy vehicle movements would be localised to the immediate road corridor and attenuate rapidly with distance. Given the separation distance between the haulage route and NPWS day use areas, vibration impacts are not expected to be detectable within the National Park and have not been noticeable during previous noise monitoring events.

Groundwater Demand and Groundwater Dependent Ecosystems

Comment(s)

NPWS would like to ensure that the assessment of the Proposed Modification has considered increase in groundwater demand associated with the Quarry's operation will not adversely affect or modify hydrology in this locality, or affect groundwater-dependent ecosystems (GDEs) on the NPWS estate such as Commonderry swamp.

Response

Section 6.4 of the *Modification Report* considered the potential impacts associated with increase in groundwater take and determined that the Proposed Modification would result in a minimal change in total water take and groundwater levels and would have no significant influence upon the frequency or volume of any discharges (i.e. impact to local hydrology).

Previous hydrogeological assessments have demonstrated that Quarry operations are hydraulically disconnected from groundwater systems supporting GDEs within the NPWS estate. The scale of groundwater use, combined with the distance to identified GDEs and intervening geological controls, indicates that the Proposed Modification would not adversely affect groundwater levels, flow regimes or ecological function of Commonderry Swamp or other GDEs.

Existing groundwater monitoring arrangements remain in place and provide an appropriate mechanism to detect any unanticipated changes over time. As discussed in the *Modification Report*, monitoring of groundwater levels for existing operations has confirmed groundwater levels during Quarry operations are generally consistent with long term averages, indicating no significant groundwater drawdown impact associated with operations at the Quarry.

Groundwater monitoring will continue to be undertaken in accordance with the approved Water Management Plan and results reviewed against the trigger response levels to demonstrate compliance with agreed limits.

Traffic and Transport

Comment(s)

NPWS requests assurance on the protection of safe and secure egress to visitor day-use areas on the national park, which are accessed via Crooked River Road.

Response

Heavy vehicle movements associated with the Project would continue to utilise existing approved haulage routes and would not alter access arrangements to the Seven Mile Beach National Park. The Project has considered the shared use of Crooked River Road by Quarry traffic and recreational users including those accessing National Park day use areas.

Operational controls would be maintained to manage potential interactions between heavy vehicles and general road users, including compliance with speed limits, driver induction requirements, and ongoing monitoring of traffic conditions. Truck movements would not occur on Sundays and Public Holidays, which are expected to be peak visitor periods.

With these measures in place, the proposal is not expected to compromise the safe and secure ingress to or egress from National Park visitor day use areas accessed via Crooked River Road.

Management Plan

Comment(s)

Revising the Gerroa Sand Resource Quarry Water Management Plan – Appendix E of Quarry Environmental Management Plan (Version 2: Revision 3, prepared by Cleary Bros (Bombo) Pty Ltd, dated February 2023 (WMP) to include:

a. *outcomes of the latest environmental audit for the quarry, utilising up-to-date data and a clear interpretation of performance linked to water quality, water levels, acid sulphate soil management and groundwater-dependent ecosystems (GDEs) condition.*
b. *justification on the adequacy of the existing surface and groundwater monitoring framework, confirming that it remains fit for purpose, and the bore array can detect variation in groundwater following the change in groundwater demand. Ensuring the Quarry's increased water demand does not adversely affect or modify local hydrology (Schedule 5, Condition 1 of the Approval).*
c. *nomination of key priority areas, downstream of the quarry operations within Blue Angle Creek, and within significant GDEs where maintenance flows are prescribed (Schedule 3, Conditions 11(d) and 14(c) of the Approval). Setting the monitoring criteria and standardised condition assessments for the GDE (Plant Community Type) as part of the monitoring framework for both standard and incident recovery monitoring. Consider impacts to GDEs on the adjacent NPWS estate, where applicable.*

Response

Neither the 2022 or 2025 Independent Environmental Audit include recommendations relating to water quality, levels, acid sulfate soils or GDEs. Notwithstanding, the Applicant will review and if necessary revise the Water Management Plan following approval of Mod 2 in line with Schedule 5 Condition 2B(d) of MP05_0099 and would consider the aspects listed in the comments as part of the review.

4.9 Transport for NSW

General

Comment(s)

TfNSW does not have concerns regarding the increased vehicle trips that will be required as a result of increased tonnage.

The Princes Highway can be accessed at the following locations, Berry to the south and Gerringong to the north, both are located over 8km from the quarry.

Both locations provide access to the state road via a grade separated interchange.

Response

The Applicant notes TfNSW's submission.

4.10 WaterNSW

General

Comment(s)

WaterNSW has reviewed the Modification and notes that the subject site is not located close to any WaterNSW land or assets. As such, WaterNSW has no comments or particular requirements. We request that if interaction with any WaterNSW asset is encountered during the implementation of the project, that the Proponent contact us to discuss any potential impact, and mitigation measures prior to works commencing. WaterNSW requests the Department continues to consult with WaterNSW for any development that may impact on our assets, infrastructure or land,

Response

The Applicant notes WaterNSW's submission.

5. Response to Public Submissions

5.1 Introduction

This section presents a response to the matters raised in submissions received from public and community organisations. The responses consider the actions taken since exhibition of the *Modification Report* (as discussed in Section 3)

Whilst all submissions have been reviewed in full, individual responses to every comment are not provided in this section. Instead, a selection of comments from various submissions—chosen for their representation of the key issues raised—have been extracted and presented in *italics*, with original spelling and grammar preserved. A response to the matters raised is provided, however in some cases the specific submission is responded to directly. This particularly applies to those members of the public living in Gerroa and Gerringong and are recognised as most likely to be affected by the Project.

Appendix 2 presents a submissions summary that lists each public submission, the topics raised and where in the *Submissions Report* the matter has been addressed. The matters are presented in alphabetical order for ease of review.

While the references are necessarily broad, they are intended to assist individual submitters in locating the relevant sections that respond to their concerns. Considerable effort has been made to accurately reflect each submission and the issues raised. However, it is acknowledged that some submitters may not agree with the responses provided or may feel their concerns have not been fully addressed. Cleary Bros remains open to further engagement with the community on these matters, where requests are reasonable.

5.2 Air Quality

Six submissions raised air quality in relation to air pollution and four submissions raised air quality in relation to dust.

5.2.1 Dust

Representative Comment(s)

The residents closest to the sand mine have expressed serious concern about…dust impacts expanding beyond their current levels.

Berry, Submission No. SE-98704207

Heavy truck movements… produce excess dust.

Gerringong, Submission No. SE-98159458

Response

Northstar Air Quality Pty Ltd (Northstar 2025) undertook an Air Quality and Greenhouse Gas Assessment for Mod 2 see **Appendix 5**.

It is acknowledged that heavy vehicle movements can generate dust, particularly during dry conditions. Heavy truck movements associated with the Project would continue to utilise sealed public roads and existing approved haulage routes. Northstar (2025) determined that there are no predicted exceedances of the various air quality criterion as a result of the Proposed Modification, which included assessment of maximum throughput and off-site transport. As such, the potential for dust generation from haulage activities would be limited.

The Applicant maintains an *Air Quality Management Plan* as part of the *Quarry Environmental Management Plan* for the Quarry. The *Plan* includes standard dust management measures and measures specific to dust associated with transportation such as appropriately covering loads, limiting load sizes to ensure material is not above the level of truck sidewalls, ensuring vehicles exit the site with clean wheels, and responding to complaints or observed dust generation during periods of dry or windy conditions.

5.2.2 Air Pollution

Representative Comment(s)

…there will be a commensurate increase in both noise and air pollution.

Gerroa, Submission No. SE-97363957

My concern is...Increase in diesel pollution in surrounding urban areas.

Manyana, Submission No. SE-98548505

There will also be an equivalent increase in pollution from the diesel exhaust, either through more movements or greater pollution from the larger trucks.

Foxground, Submission No. SE-98610973

In the variation document, it clearly states (Appendix 3 Consultant Report): It is anticipated that the Proposed Modification would require specialist assessments of the following key potential environmental impacts.

a. Air Quality preparation of an Air Quality Impact Assessment to address potential impacts associated with the increased production (extraction, processing and truck loading) rate...

However, the revised proposal seeks approval without the studies, by simply extrapolating completely different topography, activity and meteorology from another mine site over 20km away. An approval without these studies would go against the professional advice sought and provided to the Department of Planning and may result in serious health and property value impacts.

Berry, Submission No. SE-98704207

Response

Northstar Air Quality Pty Ltd (Northstar 2025) undertook an Air Quality and Greenhouse Gas Assessment for Mod 2.

While Mod 2 involves an increase in production the associated activities would occur within the existing approved operational footprint with no changes proposed to the location of emission sources, the nature of activities undertaken, or the proximity of sensitive receivers. The increased intensity of on-site operations resulting from the proposed increase in production was modelled by Northstar (2025) with no predicted exceedances of the various air quality criterion as a result of the Proposed Modification.

In relation to air quality impacts from heavy vehicle transport, heavy vehicle movements would continue to utilise sealed public roads, and diesel exhaust emissions from haulage traffic would represent a small component of overall background traffic emissions on the surrounding road network. The proposal would not introduce new haulage routes through residential areas nor materially alter traffic patterns or truck movements. As such, any increase in vehicle-related air emissions would be minimal and dispersed and is not expected to result in a measurable change to ambient air quality or exceed relevant health-based criteria.

5.3 Biodiversity

Biodiversity was categorised into general concerns to biodiversity and potential impacts to Seven Mile Beach National Park. Proximity to Seven Mile Beach National Park was the most frequently raised biodiversity matter being mentioned in eight submissions.

5.3.1 General

Representative Comment(s)

I am unsure however of the evidence to back the claim that the proposed modifications' effect on all other environmental aspects is considered to be minimal. Can this be guaranteed across the 15 years life of this approval? Why is there not a Biodiversity Development Assessment Report accompanying this modification application?

Gerringong, Submission No. SE-97618221

This is an extraordinary list of different Plant Community Types that currently exist on or immediately adjacent to this sand mine...yet there does not seem to be any study undertaken or consideration of the impacts of extending the operations of the sand mine on these sensitive plant communities.

Berry, Submission No. SE-98703707

The increased industrial activity is proposed at a site that is directly adjacent to a National Park with an isolated remnant population of greater gliders, an endangered species in rapid decline. It is unreasonable to expect increased industrial activity will have no impact on this important threatened population.

Gerroa, Submission No. SE-97979457

Response

The *Modification Report* assessed the key environmental issues related to Mod 2 in Section 6. The section assessed and provided mitigation and management measures for air quality and water and acid sulfate soils. Other environmental considerations would remain unaffected and generally consistent with existing approved operations. Table 15 in Section 6.5 of the *Modification Report* provides an assessment for each of these environmental considerations outlining how this conclusion was reached.

In regard to biodiversity, all disturbance would remain within the currently approved limit of disturbance at the Quarry and the Proposed Modification would not require any additional vegetation clearing. With no additional vegetation clearing required, the Proposed Modification does not meet the thresholds requiring the preparation of a Biodiversity Development Assessment Report. The Applicant would continue to act in accordance with the approved Landscape and Rehabilitation Management Plan (LRMP).

5.3.2 Proximity to Seven Mile Beach National Park

Representative Comment(s)

The increased industrial activity is proposed at a site that is directly adjacent to a National Park with an isolated remnant population of greater gliders...it is unreasonable to expect increased industrial activity will have no impact...

Gerroa, Submission No. SE-97979457

Any further changes to groundwater or habitat outside of the currently approved boundaries will contribute towards continued downturn of the seaward Seven Mile Beach National Park's ecosystem and should not be allowed.

Kiama Downs, Submission No. SE-98700482

This proposal, whilst it was previously accepted, as an adverse effect on the neighbouring national park lands and its wildlife...I object to this increase of quarrying and would rather see the operation shut down and relocated to an area where this is less long term effects on the area then to continue in its current program.

Gerroa, Submission No. SE-97786215

Response

As stated in Section 6.3.2 of the *Modification Report,* the Proposed Modification would not lead to any further changes to biodiversity including habitat. All disturbance would remain within the approved limit of disturbance at the Quarry. The Applicant follows the approved LRMP, which "*identifies the objectives and management issues associated with the retention, enhancement and replanting of forest communities in the vicinity of the proposed sand quarry extension. The document also describes the management strategies and actions required to meet the identified objectives."* The Applicant acknowledges that, while disturbance has been approved for the Project and appropriate environmental management measures are in place, this may not satisfy all community members. If the Proposed Modification is not approved, the Applicant would continue to operate as it is currently, within the approved disturbance areas.

Section 1.5 of the Modification Report considers feasible alternatives, including seeking approval for a new Quarry operation to provide for the additional output. Among other matters, this would result in greater environmental impacts such as increased disturbance, likely biodiversity impacts, and potential traffic and amenity impacts in a location that is not currently subject to such impacts. Operation of a new Quarry instead of seeking the modification is not considered viable or preferable. This is addressed further in Section 5.10 of this *Submissions Report*.

Potential changes to groundwater as a result of Mod 2 was assessed in Section 6.4 of the *Modification Report*. Based on the continued low overall water take and historic and ongoing monitoring indicating no significant impact to groundwater levels, it is anticipated that any risk of impacts to Groundwater Dependent Ecosystems in the vicinity of the Project Site would not be significantly affected as a result of Mod 2.

5.4 Cumulative Impacts

Of the submissions received, three comments related to cumulative impacts.

Representative Comment(s)

More regular movements or the movement of heavier trucks will definitely have a cumulative impact for those who are subject to those impacts for extended periods of time.

Foxground, Submission No. SE-98610973

Response

The Project does not involve a proportional increase in daily truck movements above that previously considered in past assessments or an expansion of approved haulage routes or operating hours.

Potential cumulative impacts, including noise, air quality and traffic amenity indicate that the contribution of Quarry related heavy vehicles would remain a small component of overall traffic activity and would not materially alter existing social and environmental conditions along the haulage routes (see also Sections 3.3.2 and 3.3.3 of this *Submissions Report*).

Existing operational controls, including limits on hours of operation, traffic management measures and compliance with relevant noise and environmental criteria, would continue to apply and provide safeguards against unacceptable cumulative impacts over time.

5.5 Economic

Economic matters raised were categorised into cost to community, and that the modification would generate no local benefit. Cost to community was the 4th most frequently raised matter from non-government submissions, raised in 53% of non-government submissions.

5.5.1 Cost to Community

Representative Comment(s)

I note that there is no mention of who pays for road damage in the modification...the community will wind up paying via increased rates. So in this scenario the profit goes to Cleary Brothers and the costs go to the community.

Kiama Downs, Submission No. SE-98468748

The proposal does not make clear who will be financially responsible for necessary [road] upgrades and maintenance and the community must not be left to cover these costs.

Wollongong, Submission No. SE-98684466

Response

Road impacts associated with Quarry haulage are managed through conditions of consent that require the Applicant to contribute to the maintenance of public roads used by heavy vehicles through Section 94 (now Section 7.11) contributions. The existing development consent includes conditions requiring road maintenance contributions to relevant road authorities (namely Kiama and Shoalhaven Councils) which are proportional to the tonnage of material transported from the site. As such, impacts to roads and associated maintenance from increased product transportation are paid for through increased payment of contributions to each local council.

5.5.2 No Local Benefit

Representative Comment(s)

...the proposal only provides one extra job.

Kiama Downs, Submission No. SE-98468748

Key issues... No real community benefit from this modification

Kiama Downs, Submission No. SE-98687472

Response

The Applicant currently provides substantial contributions to the social and economic setting of the Kiama and Shoalhaven region, which would continue with the Proposed Modification (see Section 2.1 and 2.2 of the Modification Report). The Proposed Modification would support the continued generation of local employment and spending on consumables and services. Construction is listed as an emerging specialisation of the Kiama region, with a growth rate above the NSW average. Cost and supply of materials and supply chain issues are listed as a vulnerability of this industry. The 50% increase in approved transportation rate would allow the Applicant to supply concrete production and other construction projects locally during periods of high demand. While the modification will provide one direct job on site, it will also support significant flow on employment beyond the Quarry site. This would include an additional two jobs transporting quarry materials from the site, and an estimated 10 additional jobs associated with concrete production and delivery to construction sites within Cleary Bros operations alone, which would not be generated in the event Mod 2 is not approved.

5.6 Environment

Environment was a less frequently raised matter, with three submissions raising a general environmental matter and one submission raising a sand stability matter.

5.6.1 General

Representative Comment(s)

My main objection is on environmental grounds as increased mining would affect the rare coastal environment where the mine is situated.

Berry, Submission No. SE-98678207

I believe that the impacts on the local wildlife and natural environment have not been adequately considered or addressed.

Berry, Submission No. SE-98703707

...this modification simply seeks to exploit the resource more quickly, leading to a more rapid arrival at the situation where the resource is fully exploited. In turn this will increase incentive to expand the quarry into environmentally sensitive areas.

Berry, Submission No. SE-98703223

Response

The Applicant acknowledges the community's concern for the surrounding environment, also expressed in Section 5.3.2 of this report with community members particularly concerned about the impact of the modification on Seven Mile Beach National Park. The *Modification Report* assesses environmental impacts of the Proposed Modification in Section 6. The outcomes of the assessments for the various environmental aspects were that the Proposed Modification would either result in no change or no significant change in impacts. The current environmental monitoring and reporting on environmental performance, operations and compliance would also continue and provide assurance that impacts remain within approved limits/criteria.

Notably, the Proposed Modification seeks approval to adjust production rates within the limits of the existing approved development footprint and does not involve any extension into new areas or environmentally sensitive land. Any future expansion of the current Quarry or proposal to open a separate quarry in a new location in order to supply ongoing construction material needs would be subject to further and separate assessment and approval processes.

5.6.2 Sand Stability

How can the mining company be sure that if the sand is mined at a much higher rate, the area around the mine will remain stable?

Willow Vale, Submission No. SE-98705958

Response

As all disturbance would be restricted to previously approved areas of disturbance, there will be no further disruption of soil stability in the locality of the development. As no stability issues have arisen as a result of existing operations and the increased extraction rates would be achieved utilising existing equipment, extraction practices and extraction designs, no stability issues are expected.

Ongoing rehabilitation would also continue to be undertaken in accordance with the approved Landscape and Rehabilitation Management Plan. The Applicant would also continue to maintain the rehabilitation bond as required by the development consent thereby providing assurance that the Quarry Site will be rehabilitated to a stable landform.

5.7 Human Health

Of the comments received, six related to wellbeing and five related to general human health.

5.7.1 General

Representative Comment(s)

...more exhaust from more trucks or more exhaust from larger trucks will increase negative health impacts along the routes used.

Foxground, Submission No. SE-98610973

Response

Heavy vehicle movements associated with Mod 2 would continue to occur on existing approved haulage routes that already accommodate regular traffic, including heavy vehicles. Diesel exhaust emissions from Quarry related traffic would represent a small proportion of overall vehicle emissions on the surrounding road network.

Any increase in exhaust emissions would be incremental and dispersed in nature, occurring during daytime hours and within an established traffic environment. Given there will be no change in traffic volumes relative to previously assessed conditions, the absence of new haulage routes through residential streets, and the separation distances to sensitive receptors, Mod 2 is not expected to result in a measurable change to local air quality or exceed relevant health based criteria.

Standard operational measures would continue to apply, including requirements for vehicle maintenance, compliance with applicable emission standards, and management of truck movements. With these measures in place, the Proposed Modification is not expected to result in adverse health outcomes for residents along haulage routes.

5.7.2 Wellbeing

Representative Comment(s)

This will adversely affect local residents wellbeing and reduce liveability in what is primarily a quiet coastal community.

Kiama Downs, Submission No. SE-98684468

A significant number of people in this area are retired and being woken by trucks noise at 7am could easily disturb sleep, reduce amenity, and contribute to stress and health issues within these two communities.

Gerroa, Submission No. SE-98696710

Response

As outlined in Section 3.3.2 of this Submission Report, the Proposed Modification is not expected to result in a perceptible change in average traffic noise levels or exceed applicable assessment criteria. Furthermore, Mod 2 does not seek to extend approved operating hours or introduce night-time or early-morning haulage outside the existing consented timeframes. Heavy vehicle movements would continue to occur at the same times and on existing transport routes that currently accommodate varied traffic activity. It is also noted that heavy vehicle traffic unrelated to the Project occurs on the local roads in the vicinity of the communities at all times of day.

Notwithstanding, the importance of maintaining residential amenity and community wellbeing is acknowledged. Existing operational controls would remain in place, including compliance with operating hours, local speed limits, driver behaviour requirements and ongoing management of traffic activity.

5.8 Noise

Of the submissions received, 9 comments were related to general noise (19%). Noise related to traffic was mentioned in 22 submissions (47%).

5.8.1 General

Representative Comment(s)

the additional industrial noise will significantly reduce residential amenity and threaten the coastal village character that is vital to both community wellbeing and the local tourism economy.

Wollongong, Submission No. SE-98686458

Since the new owners took over the sand mine operations we have noticed a great deal more noise from the sand mine. The proposal states that the sand mine operator has measured the noise from another of their sand mines and determined that the mining operations at their other location are not a big enough issue for them to need to check the noise of the Gerroa Sand Mine...I believe the increase in sand mining noise will have a detrimental impact on the peace and wellbeing of the neighbouring residents.

Berry, Submission No. SE-98703707

In the variation document, it clearly states (Appendix 3 Consultant Report):It is anticipated that the Proposed Modification would require specialist assessments of the following key potential environmental impacts.

b. Noise preparation of a Noise Impact Assessment to address potential impacts associated with the increased production (extraction, processing and truck loading) rate

However, the revised proposal seeks approval without the studies, by simply extrapolating completely different topography, activity and meteorology from another mine site over 20km away. An approval without these studies would go against the professional advice sought and provided to the Department of Planning and may result in serious health and property value impacts.

Berry, Submission No. SE-98704207

Response

Mod 2 does not introduce new noise sources, change the location of existing activities, extend approved operating hours, or alter haulage routes. Noise generating activities would continue to occur within the existing approved footprint of the Quarry and during established daytime hours. While the Proposed Modification involves an increase in production rate, this would occur within the bounds of the current approval and without changes that would fundamentally alter the noise environment.

Noise monitoring is undertaken for the Gerroa Quarry and is reported through the respective Annual Reviews. To date monitoring has consistently demonstrated compliance with noise criteria and Quarry activities have generally been inaudible at the monitoring locations. This has remained the case in the latest June 2025 noise monitoring, i.e. following the purchase of the Quarry by Maas Group Holdings in January 2025.

The Noise Impact Assessment undertaken for the Modification 1 application (SLR Consulting, 2018) predicted the maximum noise contribution at a range of sensitive receivers when the site was operated at an intensity consistent with what is proposed under Mod 2. The modelling demonstrated that the criteria adopted from the EPA's Noise Policy for Industry would be met at all sensitive receivers at all times. There will be no changes to the number or type of equipment operating on the site under Mod 2, and as such this modelling is still appropriate, and demonstrates the noise levels associated with quarry activities under Mod 2 will meet the noise criteria of the development consent.

It is uncertain what the submitters are referring to when stating that noise levels have been extrapolated from other sand quarries. All modelling has been undertaken for the Gerroa Sand Quarry based on measured equipment noise levels or from specialist databases and modelled within the local environment.

With respect to coastal village character and tourism, traffic and plant-related noise would remain intermittent and confined to daytime periods within an existing mixed industrial and traffic noise environment. The Proposed Modification would not introduce continuous or intrusive noise sources within residential or visitor areas, nor would it affect the physical or visual attributes that underpin the coastal village character.

The potential for health and amenity impacts has been considered, including concerns regarding stress, sleep disturbance and wellbeing. Given the absence of changes to operating hours, the no change to activity levels relative to existing conditions, and the existing controls on noise-generating activities, Mod 2 is not expected to result in a perceptible increase in noise levels at nearby residences or lead to unacceptable amenity or health outcomes.

5.8.2 Traffic Noise

Representative Comment(s)

More and/or larger trucks will result in elevated noise, especially during early mornings and late afternoons.

Kiama Downs, Submission No. SE-98684468

The likely outcomes will be...Increased noise either from increased number of trucks or louder noises from bigger trucks...I have attended many meetings for various groups in the RSL Hall on the corner of the intersection of Fern and Belinda Streets. Trucks need to slow right down at this intersection to navigate the roundabout there. In doing so they generate a great deal of noise. So much so that we always needed to close the doors and windows to proceed with the meeting or group gathered for training. This Proposal will add further to that noise, in what is supposed to be a quiet rural, beachside tourist town.

Willow Vale, Submission No. SE-98705958

Response

Mod 2 does not propose to alter approved hours of operation or extend truck movements into early morning or evening periods beyond those already permitted. Heavy vehicle movements would continue to occur predominantly during standard daytime operating hours. As a result, Mod 2 would not introduce new noise exposure during more sensitive periods such as early mornings or late afternoons.

While heavy vehicles can generate short-duration noise when braking, idling or accelerating at intersections these events are intermittent and of limited duration. Measurements of noise levels of a range of truck configurations undertaken since exhibition has shown that the average noise generated by a large rigid heavy vehicle with a typical load size of 12t is similar to that of a truck and dog configuration, carrying up to 40t. As such, the use of a greater proportion of larger truck and dog configurations will not significantly affect noise levels. The previous assessments indicates that even where trucks slow or accelerate noise levels would remain consistent with existing traffic conditions and within the context of an established road environment that already accommodates service and freight vehicles.

Mod 2 seeks to increase the total quantity of material able to be transported from the Project, rather than change the total number of truck movements. Average daily truck movements are anticipated to remain consistent with that previously modelled under current approvals, at approximately 19 laden trucks per day (38 movements), with variability occurring in response to market demand, weather conditions and operational constraints.

5.9 Social

The most frequently raised social matter is threats to community lifestyle and/or character with 11 comments, followed by insufficient community engagement and disturbance to amenity.

5.9.1 Threats to Community Lifestyle and/or Character

Representative Comment(s)

I do not believe...that Gerringong's village atmosphere should be threatened...by furthering industrial traffic in a quiet urban precinct.

Gerringong, Submission No. SE-97618221

It seems unnecessary for such a large scale of trucks to be coming through our beautiful community.

Gerringong, Submission No. SE-98432216

Increased truck noise and disruption will reduce the current coastal lifestyle that Gerroa and Gerringong communities value.

Wollongong, Submission No. SE-98684466

Increased traffic in residential streets may discourage walking, cycling and community use of public space, reducing the liveability of Gerringong and Gerroa for residents and visitors alike.

Gerroa, Submission No. SE-98696710

The frequency and size of the trucks would act to adversely impact the image and identity of the highly visited and attractive tourist towns.

Toolijooa, Submission No. SE-99118209

...the additional industrial noise will significantly reduce residential amenity and threaten the coastal village character that is vital to both community wellbeing and the local tourism economy.

Wollongong, Submission No. SE-98686458

Increased noise will affect coastal liveability and tourism appeal.

Kiama Downs, Submission No. SE-98687472

Response

Mod 2 does not introduce new sources of industrial noise, extend operating hours or alter approved haulage routes. Noise-generating activities would continue to occur within the existing approved operational framework during daytime hours. Heavy vehicle movements would continue to utilise existing approved routes that already accommodate a mix of local, tourist and service traffic. The Proposed Modification would not change the function of regional roads comprising the approved transport route or convert them to industrial transport corridors.

Heavy vehicle activity would remain a small proportion of overall traffic volumes and would be intermittent in nature, occurring predominantly during daytime hours. Traffic related noise and visual presence would therefore remain within an established traffic environment and are not expected to result in a perceptible change to the character or liveability of surrounding coastal communities.

The importance of maintaining safe, walkable and attractive public spaces has been considered. Existing operational controls, including driver behaviour requirements, vehicle tracking, and speed compliance, would continue to apply to minimise potential impacts on pedestrians, cyclists and general road users.

The coastal identity and tourism appeal of Gerringong and Gerroa are driven by their natural setting, beaches, recreational opportunities and village-scale centres. The Proposed Modification would not alter these defining attributes nor introduce continuous or intrusive industrial activity within town centres.

Given the separation distances of Quarry operations to sensitive receivers, existing background noise levels associated with coastal roads, and the absence of changes to hours or transport routes, the Proposed Modification is not expected to result in a perceptible change to average noise levels or a loss of residential amenity.

5.9.2 Insufficient Community Engagement

Representative Comment(s)

Contained in the application documents is the statement that no complaints have been received since 2008...However, it is widely accepted that the number of complaints/issues raised is often not reflective of the actual situation. Fear of retribution, well-being considerations often provide an overwhelming block to reporting.

Gerringong, Submission No. SE-97846211

I don't believe that community consultation has been done adequately surrounding this project, because if it was these issues would have been raised.

Old Erowal Bay, Submission No. SE-98478708

There has also been a complete lack of engagement with affected members of the community (especially those most impacted), their representatives and even Shoalhaven City Council. This has manifested in a lack of understanding, confusion and even awareness among impacted parties about the proposal.

Berry, Submission No. SE-98704207

The Proposed Modification is not consistent with community feedback or views as none have been expressed through the CCC (Ref S7.5).

Toolijooa, Submission No. SE-99118209

Response

Section 5.2 of the Modification Report outlines community consultation undertaken regarding the Proposed Modification.

The Applicant acknowledges that some members of the public may have hesitancies around raising complaints with Cleary Bros. The Applicant maintains a phone line and email address for recording complaints relating to the Gerroa Sand Quarry ((02) 4275 1000). Feedback is recorded and required actions are taken depending on the feedback/complaint received. Furthermore, there are other avenues for complaints to be made where a community member has concerns around retribution, such as via Council or other regulatory authorities such as EPA. Given no adverse feedback has been received in relation to the Quarry in many years it is contended that the operations have not been a cause of significant community concern.

Community consultation for Mod 2 has been undertaken in accordance with the statutory requirements of the NSW planning system, including public exhibition and the opportunity for written submissions. These processes are intended to ensure that all interested and affected parties are able to raise issues directly with the DPHI independently of the Applicant.

In addition, the role of the Community Consultative Committee (CCC) is to provide a forum for ongoing discussion of operational matters. During the CCC meeting held on 28 August 2025, community representatives were advised of the Applicant's intent to lodge a modification application of this nature, and invited to provide preliminary feedback at this time. The Applicant answered all questions from committee members at that time and advised that the community would be provided with further opportunities to comment on the modification application through the submission process. The Applicant also committed to notifying committee members when the application was placed on exhibition, so that they would have a chance to review and respond if they chose. Committee members were subsequently advised that the modification application was on public exhibition on the first day of exhibition.

While the CCC remains a valuable forum for ongoing engagement with the community, the absence of specific feedback through the CCC does not preclude consideration of issues raised through the formal submissions process. All submissions received during and following the exhibition have been reviewed and addressed on their merits as part of the assessment.

5.9.3 Disturbance to Amenity

Representative Comment(s)

My concern is...A general disturbance of natural amenity for local residents and holiday makers.

Manyana, Submission No. SE-98548505

How will this all be managed ensure safety, maintain amenity and the quality of roads in the local area.

Gerroa, Submission No. SE-98657208

Response

Mod 2 does not introduce new operational areas, extend approved operating hours, or alter existing haulage routes. Activities would continue to occur within the established approved Quarry footprint and operating framework, and within an existing industrial and traffic environment. As such, Mod 2 is not expected to result in a material change to the natural amenity of surrounding coastal communities or visitor areas.

Safety and amenity would continue to be managed through established operational controls, including compliance with approved traffic routes and hours, driver induction and behaviour requirements, and ongoing monitoring of heavy vehicle movements. Measures to minimise amenity impacts, such as load covering and vehicle tracking, speed management would remain in place.

The condition and safety of roads comprising the transport route are managed through the existing consent conditions requiring the proponent to contribute to road maintenance through Section 94 (now Section 7.11) payments. These arrangements ensure that road safety and quality are maintained and that costs associated with haulage traffic are appropriately managed.

5.10 Project Need

General project need matters were raised seven times, along with three submissions raising a project need matter related to location. One submission supported the project on the basis of project need.

5.10.1 General

Representative Comment(s)

Profitability and income generation by the applicant should not be a pivotal consideration or factor...The extraction is of a public resource, and the maximisation of its value either in situ or for other use is at the discretion of the people of NSW and their representatives, not the applicant.

Berry, Submission No. SE-98704207

The need to increase the limit on approval to "not transport more than 80,000 tonnes of product from the site in a year" has not been established

Toolijooa, Submission No. SE-99118209

They state the desired increase to be from 80,000 tpa to 120,000 tpa. However, based upon the information known by the project's Community Consultative Committee, there has never been 80,000 tpa transported from the site, but instead only an average of 56,000 tpa. So in reality it is more like a 100% increase being sought, which will have a far greater impact on the adjacent residents who have never experienced such intensity of trucking.

Kiama Downs, Submission No. SE-98700482

Also, if it is accurate that Cleary Bros was averaging 52,000 t.p.a., and MA2 is approved which seeks an increase from the "allowable" 80,000 t.p.a. to 120,000 t.p.a., in reality would that not be an increase of over 100% in 'real terms'?

Gerringong, Submission No. SE-99104457

Response

The Applicant outlines the project need in Section 1.4.1 of the *Modification Report* and concludes that the 50% increase in the transportation rate from 80,000tpa to 120,000tpa is necessary to supply concrete production and other construction projects during periods of high demand.

The annual total sand transported from the Quarry is provided in the Applicant's respective Annual Reviews published on their website. The Applicant reported transporting 79,968 tonnes from site during the 2024/2025 reporting year, and 79,591 tonnes throughout 2023/2024. As demand for Cleary Bros concrete is expected to remain high in the short and medium term, an increase to the transport limit on the Project will provide greater certainty of supply, reduce risks associated with raw material variability, and reduce the risk of increases in the costs of construction materials.

The Applicant acknowledges that the decision to approve the Proposed Modification ultimately sits with Minister for Planning and Public Spaces (or delegate).

Submission SE-98434458 from Jeremadra supports the Proposed Modification based on project need, stating *"We need local quarries to continue to build road, homes, etc. it's perfectly sensible to continue this venture".*

5.10.2 Location

Representative Comment(s)

Where does the sand being mined here go to? Is it for local usage in the area or does it get taken further away? If the answer is to transport the sand to other locations, why does the sand mined need to be increased at Gerroa? There are so many other locations where sand is more readily available and does not affect local communities as much.

Gerroa, Submission No. SE-98684463

I firmly believe it is unnecessary to increase the amount of sand mining at this location.

Berry, Submission No. SE-98703707

There are a number of significant proposals/developments in Gerringong including MA2...All the above will have an impact on Belinda Street and residents in the vicinity.

Gerringong, Submission No. SE-99104457

Response

Material produced by the Quarry is supplied to local and regional construction and infrastructure projects. As a bulk material, transport costs make up a large proportion of the cost of the delivered material, and as such it is almost exclusively used in the Illawarra and Shoalhaven regions.

The Applicant considers feasible alternatives to the Proposed Modification in Section 1.5 of the Modification Report. A new Quarry operation to provide the additional output is not considered viable or preferable as it would result in greater environmental impacts, greater costs and would overall result in upward pressure on the cost of supply of Quarry products. It is also likely that the location would be further from the point of consumption, resulting in an increase in transportation costs and total vehicle kilometres travelled. Conversely it has been assessed that the Proposed Modification would either result in no change or no significant change in impacts.

5.11 Project Assessment

Of the submissions, three commented on the completion date for the Project, while five submissions commented on court ordered conditions and historical agreements.

5.11.1 Project Completion Date

Representative Comment(s)

if the extracted sand tonnage is increased by 50% per annum and the end date for the projects remains unchanged then it is highly likely that the extracted tonnage from the site will actually increase , Therefore i think that the total extracted tonnage should have an upper bound applied to it , or be made clear to the community

Kiama Downs, Submission No. SE-98468748

...the quarry has requested it keep the original end date for its operations, even if it exhausts the sand supply earlier. This should not be granted but instead the end date should be closely tied with the exhaustion of sand deposits in the currently approved mining area.

Kiama Downs, Submission No. SE-98700482

When this company have mined the 120, 000 tonnes, will they then put in a proposal to mine more? There is a situation now in NSW, where overdevelopment is happening everywhere at significant cost to people's amenity, their long-term investment in the places they live, and in the damage to our environments both urban and rural.

Willow Vale, Submission No. SE-98705958

Response

The Project is currently limited to an approved disturbance footprint that will be unchanged as a result of Mod 2. The current end date allows for the complete extraction of the identified resource prior to this date, and the Proposed Modification will not change the quantity of resource available to be extracted. Whilst the Proposed Modification is expected to result in exhaustion of the resource prior to the end date, the end date remains appropriate as annual production is likely to vary from year to year.

The assessment of the current modification has been undertaken on its own merits and does not pre-empt, enable or approve any future expansion of quarrying activities. Furthermore, the determination of various housing developments (as identified by SE-99104457) is unrelated to Mod 2 and not relevant to this assessment.

5.11.2 Court-ordered Conditions and Historical Agreements

Representative Comment(s)

These issues were previously covered by the decision made by the Land and Environment Court to limit the transportation at 80,000tpa...I therefore ask that the transportation tonnage be limited as per the previous L&E court decision.

Manyana, Submission No. SE-98548505

I was involved in the last battle to stop major sand mining at Gerroa and the outcome from The Land and Environment Court then was an agreement that no more than 88,000 t pa was to be taken...Why is it possible that this decision should be changed just because a new owner wants it to happen? The exact same reasons as before still apply but this time the result will impact the local community even more.

Gerroa, Submission No. SE-98684463

On considering all factors (environment, traffic, safety, amenity, employment, demand, etc.) a court has restricted extraction to 80,000 tonnes of sand. What has changed to make this situation so different?

Gerroa, Submission No. SE-98699457

Initial concern relates to the reliance on historical agreements dating back to 2001 and more recently updated. Any application to substantially change the original consent/agreements should reflect current development requirements and the significant demographic and Tourism changes in Gerringong over the past decade.

Gerringong, Submission No. SE-97846211

Response

In relation to the decision made by the Land and Environment Court, the 2006 EIS did not propose to increase the production limits which were already approved at up to 80,000tpa and as such the Land and Environment Court did not impose a lower production limit as indicated in the submissions but specified the limit as proposed. In order to appropriately regulate activities all development consents include a range of limits, such as extraction rates, hours of operation etc.

Notwithstanding, it remains appropriate to assess the proposed increase in the production limit in accordance with current planning requirements and system. The *Modification Report* has demonstrated that Project would remain 'substantially the same development' as defined by the *Environmental Planning and Assessment Act 1979*. Furthermore, all relevant environmental impacts have been assessed and the need for the Proposed Modification presented for determination.

Mod 2 does not rely on historical agreements or operate under historic consents. All existing operations are undertaken in accordance with Development Consent MP 05_0099, last modified in June 2022.

5.12 Traffic

Of the submission received, the three most frequently raised matters were related to traffic – road safety and/or pedestrian risk (37), increase in traffic levels/volumes (35) and road capability (35).

5.12.1 Road Safety and Pedestrian Risk

Representative Comment(s)

Heavy trucks in our suburban narrow streets create more potential for danger to our children, elderly residents who frequent bus stops and road crossings, cyclists as well as people accessing the railway station.

Gerringong, Submission No. SE-98159458

I can attest that the current number of truck movements already cause...obstructed view from small vehicles or whilst riding bicycles...Beach Road, Crooked River Road, Fern Street and Belinda Street are residential streets which small vehicles, cyclists and pedestrians use to access the beaches and other amenities in the area. Any increase to the traffic movements of large vehicles will cause potentially-dangerous circumstances. Any increase to the traffic movements of large vehicles will cause potentially-dangerous circumstances.

Gerroa, Submission No. SE-98259457

The current movement of the heavy vehicles through the Northern route impacts the town as described...Lack of preparedness of tourists not expecting heavy vehicles consistently passing through residential streets.

Gerringong, Submission No. SE-98458957

The increased risk to road users is unacceptable, especially considering the high pedestrian activity around homes, businesses and public transport access points. The safety of residents, school students and visitors must come before increased quarry output.

Wollongong, Submission No. SE-98686458

The trucks then move on through several roundabouts in Gerringong again with multiple movements of people walking to/from shops, walking dogs, children crossing the roads going to/from preschool and school. Elderly people around residential and aged care services, walking, using mobility devices, drop offs and pickups. I am concerned for the potential for serious accidents.

Gerringong, Submission No. SE-98706457

Response

The Proposed Modification does not introduce new haulage routes or divert heavy vehicles onto new residential streets and utilises the existing gazetted regional road network. Heavy vehicle movements would continue to utilise existing approved routes that already accommodate a mix of traffic, including local, tourist and service vehicles. The proposal would not change the function or classification of these roads within the local road network.

Heavy vehicle movements would continue to utilise the existing approved haulage routes along regional classified roads, which are established public roads that already accommodate a range of vehicle types. The anticipated level of heavy vehicle traffic represents a small proportion of total traffic volumes and would not alter the function of the regional road network.

Data sourced from the Centre for Road Safety shows no incidents involving heavy vehicles on the approved transport routes (to the Princes Highway) for the last 10 years (the period for which data is available). Cleary Bros engages experienced and professional drivers, who are well versed on the sections of the route frequented by pedestrians and vulnerable road users. Cleary Bros have robust processes to ensure compliance with Heavy Vehicle National Law, including truck maintenance, driver fatigue management, speed monitoring, and heavy vehicle load limits. Robust monitoring and internal and external auditing protocols regularly ensure compliance with this system, in line with Heavy Vehicle National Law and form part of Cleary Bros ISO45001 certified Safety Management System. While the Applicant acknowledges there will always remain some residual risk to the public associated with the transport of quarry material that cannot be eliminated completely, this risk has been reduced to as low as reasonably practicable and is arguably no greater than risks the public faces on any other road in the regional road network.

The traffic assessment has been updated with the most recently available data and is presented in Section 3.3.3 and updated safety management measures in Section 3.2.

5.12.2 Road Capability

Representative Comment(s)

...we feel the need state we believe 32t and 42t truck are way too big and heavy on our current roads.

Gerroa, Submission No. SE-98698214

Our residential streets are not designed or constructed to accommodate existing let alone increased heavy truck movements.

Gerringong, Submission No. SE-98159458

Gerringong streets are already hard to get through with a medium sized car due to all he street parking and it is hard to see pedestrians. Now imagine that but with semi trailer trucks carrying a heavy load.

Old Erowal Bay, Submission No. SE-98478708

This proposal will increase the truck movements along the narrow and winding Crooked River Road south of Gerringong township, into the town, along the residential Belinda Street and onto the Princes Highway.

Gerroa, Submission No. SE-97490957

Response

The Proposed Modification does not introduce new haulage routes or alter the classification or function of the roads used for quarry haulage. Heavy vehicle movements would continue to occur on existing approved routes that are already subject to heavy vehicle use and classified as regional

roads. The size and configuration of trucks proposed are consistent with vehicles permitted under the National heavy vehicle framework and are commonly used for a wide range of purposes on public roads.

Road safety would continue to be managed through existing operational and regulatory controls, including compliance with posted speed limits, driver induction and behaviour requirements, vehicle standards, and adherence to approved routes.

Visibility constraints caused by on-street parking and the geometry of roads are acknowledged as existing conditions. However, the Proposed Modification would not materially increase the risk profile of these locations given there would not be an increase in existing approved heavy vehicle movements or upper carrying capacities from that previously assessed. Any potential safety risks are mitigated through adherence to approved routes, existing traffic controls, and ongoing consultation with road authorities regarding signage, line-marking and operational measures where warranted.

Heavy vehicles associated with the proposal would represent a small proportion of total traffic volumes and would be subject to existing safety requirements, including compliance with posted speed limits, intersection controls and driver management procedures. Cleary Bros engages experienced and professional drivers, who are well versed on the sections of the route frequented by pedestrians and vulnerable road users. Cleary Bros have robust processes to ensure compliance with Heavy Vehicle National Law, including truck maintenance, driver fatigue management, speed monitoring, and heavy vehicle load limits. Robust monitoring and internal and external auditing protocols regularly ensure compliance with this system, in line with Heavy Vehicle National Law and form part of Cleary Bros ISO45001 certified Safety Management System. While the Applicant acknowledges there is some residual risk to the public associated with the transport of quarry material that cannot be eliminated completely, this risk has been reduced to as low as reasonably practicable, and is arguably no greater than risks the public faces on any other road in the regional road network.

5.12.3 Congestion

Representative Comment(s)

Traffic delays are already experienced at important intersections and turning points. More trucks will reduce the efficiency of daily travel and could restrict the movement of emergency services when every second matters.

Kiama Downs, Submission No. SE-98687472

The traffic itself is already a concern, especially during tourist heavy periods...

Old Erowal Bay, Submission No. SE-98478708

Possible implications...Traffic issues in built up areas such as along Belinda Street from Fern Street to the highway intersection near Gerringong Station, at major intersections and roundabouts and at critical places along the Crooked River Road and Fern Street.

Gerroa, Submission No. SE-98501988

The likely outcome will be...Traffic issues in built up areas such as along Belinda Street from Fern Street to the highway intersection near Gerringong Station, at major intersections and roundabouts and at critical places along the Crooked River Road and Fern Street.

Willow Vale, Submission No. SE-98705958

Response

The Traffic Impact Assessment for the currently approved operations (Cardno 2018) considered the performance of key intersections and road links along the approved haulage routes, including heavy vehicle turning movements and interaction with general traffic. Heavy vehicle movements remain a small proportion of overall traffic volumes were not expected to materially alter intersection performance or levels of service.

Mod 2 would not result in an increase in heavy vehicle movements and does not propose to alter the approved haulage routes or extend operating hours. Heavy vehicle movements would continue to occur predominantly during standard daytime operating periods on weekdays and would not be undertaken on Sundays or public holidays, when traffic volumes are significantly increased.

Emergency vehicle access has also been considered. The proposal does not involve road closures, physical obstructions or changes to road layouts that would restrict emergency vehicle movements. Heavy vehicle drivers would continue to be required to comply with road rules and to give way to emergency vehicles at all times.

Traffic delays associated with heavy vehicle movements would be intermittent and short in duration, consistent with existing conditions on the road network. With existing traffic management measures in place, the proposal is not expected to result in unacceptable impacts on daily travel efficiency or emergency service access.

5.12.4 Traffic Assessment

Representative Comment(s)

It is important to note that there has been no traffic assessment in the application of the impacts on the capacity, condition, safety and efficiency of the local and town roads along the transport routes that would result from the proposed increase in frequency and/or truck size.

Toolijooa, Submission No. SE-99118209

I strongly suggest the proposed Production Increase be rejected and a traffic management plan be developed for the existing vehicle movements until alternatives can be arranged.

Gerringong, Submission No. SE-98458957

Just because the amount of truck movements have been approved previously it does not automatically make it correct or appropriate.

Gerringong, Submission No. SE-98159458

I challenge the claim that more material can be moved without greater impact simply by 'optimising' existing vehicle types, when community impact is about more than just vehicle count...Increased truck size still increases impact: Even if the number of trucks per day does not increase, replacing smaller loads with consistently larger truck and dog configurations raises the average size and weight of vehicles on the road.

Gerroa, Submission No. SE-98493465

Response

The Proposed Modification does not increase the number of heavy vehicle movements or the approved truck sizes from that previously assessed and approved. Rather a higher proportion of material would be transported in the larger capacity truck configurations. The Proposed Modification does not introduce new haulage routes, alter the function of the regional roads comprising the transport route, or extend operating hours. Heavy vehicle movements would continue to occur within an established traffic environment and represent a small proportion of total traffic volumes.

It is acknowledged that, whilst traffic movements would remain consistent with approved levels, this would be achieved through use of a greater proportion of larger capacity trucks. It is noted however that the existing 80,000tpa transportation rate has been approved for >20 years. Over this time substantial advancements have been made to heavy vehicles in both safety and efficiency. Additionally, existing traffic management measures would continue to be implemented, including compliance with approved routes and rigorous controls around driver behaviour, speed, vehicle maintenance and training.

5.12.5 Increase in Traffic Levels/Volumes

Representative Comment(s)

This proposal will increase the maximum rate of road transportation by 50% through the small towns of Gerroa and Gerringong.

Willow Vale, Submission No. SE-98705958

A fifty percent increase in sand extraction means fifty percent more huge trucks going up and down our streets.

Concord West, Submission No. SE-98700480

The Modification Proposal indicates that there will be no change in daily traffic levels Average of 19 laden trucks per day (38 truck movements per day). Whilst this may in affect apply over a period of 12 months, anecdotal evidence suggests that truck movements vary significantly daily, weekly and monthly. Effectively truck movements on any day excepting Sunday could far exceed the Average of 38 movements.

Suggestion: Daily Truck movements be capped at 40 or 42 (5-10% above the current limit) on any given day.

Gerringong, Submission No. SE-97846211

Response

Mod 2 seeks to increase the total quantity of material able to be transported from the Project, rather than change the total number of truck movements. Average daily truck movements are anticipated to remain consistent with that previously modelled under current approvals, at an average of approximately 19 laden trucks per day (38 movements), with variability occurring in response to market demand, weather conditions and operational constraints.

Daily variability in truck movements is acknowledged and is a characteristic of quarry operations. However, heavy vehicle movements would continue to be managed within the existing approved operating framework, including hours of operation, haulage routes and traffic management controls. Higher-activity days would be balanced by periods of reduced or no haulage, and in both cases would represent a minor proportion of total vehicle movements on local roads on any day.

5.12.6 Wildlife Strikes

Representative Comment(s)

I am particularly concerned that an increase in large trucks using Beach Road is going to increase the number of wildlife killed on the road…

Berry, Submission No. SE-98703707

Response

Mod 2 would not introduce new haulage routes or change the current use of regional roads by Quarry traffic. Heavy vehicle movements would continue to occur within existing operating hours and would represent a small proportion of overall traffic volumes on this road. As such, the proposal is not expected to materially change the frequency of vehicle and wildlife interactions compared with existing conditions.

Beach Road already functions as a public road used by a range of vehicles, including passenger vehicles, service vehicles and occasional heavy vehicles. Wildlife movement across the road is an existing condition that is influenced by surrounding habitat and driver behaviour rather than Quarry traffic alone.

Existing traffic controls, speed limits and driver management requirements would continue to apply. Quarry drivers are subject to site inductions and operational procedures that emphasise safe driving practices, including vigilance in areas where wildlife may be present, particularly during dawn and dusk periods.

6. Responses to Organisation Submissions

6.1 Gerroa Environmental Protection Society (GEPS)

6.1.1 Traffic and Transport

Truck Sizes

Comment(s)

Using 22t load carrying trucks which CB have been used for a significant time to achieve up to 80,000t per annum seems to be a reasonable compromise on truck weight vs number of truck. It has served the previous owners and in fact the community well.

we feel the need state we believe 32t and 42t truck are way too big and heavy on our current roads

Gerroa Environmental Protection Society Submission No. SE-98698214

Response

Mod 2 does not require any change to the approved vehicle size, number and timing of traffic movements or how vehicles access, move within and leave the site and there would be no change to the existing transport routes. Heavy vehicle configurations carrying loads of between 32t and 40t have been used for many years to transport sand products from the Gerroa Sand Resource along the approved regional road network and were considered in the original transport assessment for the Project.

The traffic impact statement undertaken by Cardno (2018) to support the *Gerroa Sand Quarry Modification* Mod 1 application was calculated based on an average of 19 laden trucks per day (38 total truck movements). The Applicant has determined that the currently approved truck and dog vehicle configurations used at the Quarry, with capacities ranging between 32t and 42t would meet the proposed maximum transportation rate of 120,000tpa using the modelled average 19 laden daily truck movements, whilst still providing for usage of some smaller capacity trucks. As such, the Proposed Modification would not result in a net increase in traffic volumes (daily average) generated by the Quarry compared to those modelled under the original application. The Proposed Modification would not alter any of the following from what has previously been assessed:

- the proportional distribution of laden and unladen vehicle traffic using the approved transport routes to travel to/from the north or south of the Project Site;
- the maximum vehicle size or largest heavy vehicle configuration used for product transportation (i.e. truck and dog vehicle configurations with maximum capacities of 42t); or

- the maximum traffic volumes generated at the Quarry (maximum per hour or maximum per day).

Refer to Section 3.3.3 outlining the updated traffic assessment.

6.2 Gerringong and Gerroa Amenities and Safety Group

6.2.1 Noise

Comment(s)

Large trucks carrying heavy loads make lots of noise as they drive by...the kind of increase in heavy truck movements CB have applied for will exacerbate this noise factor and is out of step with our coastal village ambience. I am concerned lots of noisy trucks on our roads will turn visitors away and affect the local economy.

Gerringong, Submission No. SE-98501711

Response

Mod 2 does not alter approved hours of operation or extend truck movements into early morning or evening periods. Heavy vehicle movements would continue to occur predominantly during standard daytime operating hours. As a result, Mod 2 would not introduce new noise exposure during more sensitive periods such as early mornings or late afternoons.

While heavy vehicles can generate short-duration noise when braking, idling or accelerating at intersections, these events are intermittent and of limited duration. Measurements of noise levels of a range of truck configurations undertaken since exhibition has shown that the average noise generated by a large rigid heavy vehicle with a typical load size of 12t is similar to that of a truck and dog configuration, carrying up to 40t (see Section 3.3.2 of this *Submissions Report*). As such, the use of a greater proportion of larger truck and dog configurations will not significantly affect noise levels. The previous assessments indicates that even where trucks slow or accelerate, noise levels would remain consistent with existing traffic conditions and within the context of an established regional road network that already accommodates service and freight vehicles.

Mod 2 seeks to increase the total quantity of material able to be transported from the Project, rather than change the total number of truck movements. Average daily truck movements are anticipated to remain consistent with that previously modelled under current approvals, at approximately 19 laden trucks per day (38 movements), with variability occurring in response to market demand, weather conditions and operational constraints.

6.2.2 Road Safety

Comment(s)

Our narrow roads traverse sweeping bends, steep gradients and busy town traffic that are not suitable for the large trucks Cleary Bros (CB) use to transport sand… The amount of car traffic triples on weekends and throughout summer as tourists flock to our beautiful part of the world. I

am concerned car accidents will happen if there is an increase in the frequency of these truck transports… I am concerned pedestrian accidents may occur with an increase in the number of these truck transports.

Response

Mod 2 does not require any change to the approved vehicle size, number and timing of traffic movements or how vehicles access, move within and leave the site and there would be no change to the existing transport routes. Heavy vehicles have been used for many years to transport sand products from the Gerroa Sand Resource along the approved regional road network without incident, as evidenced by the absence of complaints received, and nil heavy vehicle incidents in crash data obtained from the Centre for Road Safety over the past 10 years.

Cleary Bros engages experienced and professional drivers, who are well versed on the sections of the route frequented by pedestrians and vulnerable road users. Cleary Bros have robust processes to ensure compliance with Heavy Vehicle National Law, including truck maintenance, driver fatigue management, speed monitoring, and heavy vehicle load limits. Robust monitoring and internal and external auditing protocols regularly ensure compliance with this system, in line with Heavy Vehicle National Law and form part of Cleary Bros ISO45001 certified Safety Management System. While the proponent acknowledges there is some residual risk to the public associated with the transport of quarry material that cannot be eliminated completely, this risk has been reduced to as low as reasonably practicable and is arguably no greater than risks the public faces on any other road in the regional road network.

6.2.3 Road Damage and Cost to Community

Comment(s)

Heavy trucks on coastal roads cause a great deal of damage…I am concerned the cost of repair will fall to local rate payers.

Response

Road impacts associated with quarry haulage are managed through conditions of consent that require the proponent to contribute to the maintenance of public roads used by heavy vehicles through Section 94 (now Section 7.11) contributions. The existing development consent includes conditions requiring road maintenance contributions to Kiama and Shoalhaven Councils which are proportional to the tonnage of material transported from the site. As such, the proposed increase in the tonnage of material transported from the site will lead to increased contributions to Kiama and Shoalhaven councils for the purposes of maintaining local roads. This ensures that costs associated with increased road maintenance are borne by the Applicant rather than the community.

6.2.4 Economic – Local Benefit

Comment(s)

Does 120,000tpa go way beyond what the local area needs are for sand (housing and other construction)? A 50% increase to 120,000tpa seems to suggest that CB will be providing sand to other regions in NSW as local requirements for sand are already met. But the impact of this increase and the cost to local amenity will be felt locally.

Response

Material produced by the Quarry is supplied to local and regional construction and infrastructure projects. As a bulk material, transport costs make up a large proportion of the cost of the delivered material, and as such it is almost exclusively used in the Illawarra and Shoalhaven regions.

The Applicant considered the project need in Section 1.4.1 of the *Modification Report* (Modification 2). The report concludes that the 50% increase in the transportation rate from 80,000tpa to 120,000tpa would increase the Applicant's ability to supply concrete production and other construction projects during periods of high demand.

Notably, the Applicant transported 79,968 tonnes from site during the 2024/2025 reporting year, and 79,591 tonnes throughout 2023/2024. As demand for Cleary Bros concrete is expected to remain high in the short and medium term, an increase to the transport limit on the Project will provide greater certainty of supply, reduce risks associated with raw material variability, and reduce the risk of increases in the costs of construction materials.

7. Updated Project Justification

7.1 Introduction

This section provides an update to the evaluation of Mod 2 presented in Section 8 of the Modification Report, taking into consideration the matters raised in submissions. In response to submissions received during the public exhibition of the *Modification Report*, a number of specialist studies and report updates have been made including a revised site water balance, additional vehicle noise monitoring, updated traffic assessment data and an updated Cleary Bros Driver Code of Conduct. Other than the revised water balance assessment, the MOD 2 assessment outcomes have not changed from those presented in the *Modification Report*.

As a result, the justification for the Proposed Modification has not changed to that presented in the *Modification Report*.

7.2 Project Revisions and Supplementary Assessments

The Applicant has undertaken a detailed review of matters raised in submissions and has provided clarification, additional information and where necessary, reassessed data to address potential impacts. The outcomes of the revisions and supplementary assessments are summarised as follows.

- A revised site water balance.
- Additional vehicle noise monitoring.
- Updated traffic assessment data.
- An updated Cleary Bros Driver Code of Conduct.

The outcomes of the revisions and supplementary technical assessments undertaken for the Proposed Modification continue to support the overall conclusion that the Project would result in relatively minor environmental impacts, which can be appropriately managed through the Applicant's commitments and enforced through the conditions of consent.

7.3 Updated Justification of the Project

7.3.1 Socio-economic Considerations

Following a review of public and Government agency submissions, the Applicant has a greater understanding of the concerns of some residents particularly relating to truck movements through Gerroa and Gerringong and has presented a Driver's Code of Conduct in advance of an approval of Mod 2 in order to demonstrate its commitment to the management of transportation activities.

It remains the conclusion of the Applicant and this document that the net economic benefits of the Proposed Modification would outweigh the costs as the Proposed Modification would:

- Provide sufficient production (i.e. extraction and processing) and road despatch capacity to meet increasing demand for Quarry products.
- Maintain downward pressure on prices and encourage competition.
- Provide for continued employment of local personnel both at the Quarry and within the construction industry and continue to provide flow-on benefits to the local community.
- The environmental outcomes would be consistent with existing Project Site operations resulting in no additional significant adverse impacts.

The concerns raised by the community regarding social amenity within Gerroa and Gerringong principally relate to the experience and safety of heavy vehicles travelling through urban areas. Concerns regarding road safety, truck noise and dust have been raised in submissions and have been reviewed by the Applicant. However, it is not agreed that the Proposed Modification would result in the expected impacts as expressed in submissions. At a peak of operations (average of 19 laden trucks in a day), the Proposed Modification would result in no changes to total traffic on the approved haul routes from that previously modelled for the Project as originally approved.

It should also be noted that Mod 2 would result in social benefits through the provision of employment opportunities which would build human capital in the region. Mod 2 would also open up of an important source of sand for local markets and the broader, growing region. The Applicant would continue to work with the community through the Community Consultation Committee (CCC) on an ongoing basis. Through that forum, the Applicant will keep the community informed of the development's progress and be able to hear first-hand the feedback from the community.

7.3.2 Consequences of Not Proceeding with the Proposed Modification

The Quarry provides a reliable, cost effective source of readily extractable sand suitable for construction and concrete manufacturing. The fine-grained nature of the sand enables its use in concrete mixes when blended with by-products from hard rock quarries, facilitating the beneficial reuse of those materials and reducing demand for virgin fine-grained sand resources. As such, the Quarry is a critical component of the raw material supply chain supporting concrete production and the broader construction industry.

The consequences of not proceeding with the Project would include:

- disadvantages to the Applicant, integrated construction projects, and other users of Quarry products;
- a lost opportunity to supply increased quantities of materials to local and regional construction and manufacturing operations, potentially constraining the delivery of some projects;
- a reduction in income, supply capacity and market alternatives for the Applicant and its customers; and
- increased costs for construction materials and projects at the local and regional level as a result of reduced market competition.

7.3.3 Public Interest

In response to the review of submissions received from the public and Government agencies some elements of Mod 2 have been revised or undergone supplementary assessment to improve environmental and management outcomes. Additional technical assessment of the Proposed Modification has provided a greater understanding of the potential environmental risks. However, the outcomes of assessment remain largely consistent with those presented in the Modification Report. Mod 2 incorporates a range of design and operational mitigation measures to ensure all relevant statutory goals and criteria, environmental objectives and reasonable community expectations are satisfied. These measures would be given force through conditions of consent which would include requirements for ongoing reporting, auditing, and compliance management.

The Quarry would provide important social and economic benefits through employment (directly and indirectly), local spending on consumables and maintenance and the distribution of this contribution through the local community. The Project would continue to be an important supplier of sand products in NSW.

The predicted environmental impacts of Mod 2 are considered acceptable and would be managed and monitored over the life of the Project. It is concluded that Mod 2 would result is a net benefit for the local community, the Kiama and Shoalhaven LGAs and the State of NSW and therefore it is considered to be in the public interest.

7.4 Conclusion

In light of the assessment presented throughout the *Modification Report* and the outcomes of this *Submissions Report* it is concluded that the Proposed Modification to the Gerroa Sand Quarry could be implemented and operated in a manner that would satisfy all relevant statutory goals and criteria, environmental objectives, and reasonable community expectations and is overall in the public interest.

8. References

Cardno (NSW/ACT) Pty Ltd (Cardno) (2018a). *Updated Traffic Impact Statement* to support the *Gerroa Sand Quarry Modification* Mod 1 application

Cleary Bros (Bombo) Pty Ltd (2023). *Gerroa Sand Resource Water Management Plan*. Version 2 Revision 3. Issued February 2023.

Cleary Bros Pty Ltd (2023). *Quarry Environmental Management Plan (QEMP)*.– Appendix E: *Gerroa Sand Resource Water Management Plan* (Section 10 – Groundwater Management).

Department of Planning, Industry and Environment (DPIE) (2020). *Developments adjacent to National Parks and Wildlife Service lands – Guidelines for consent and planning authorities*

Masson Wilson Twiney Traffic and Transport Consultants (MWT) (2001). *Traffic Assessment* to support the *Gerroa Sand Quarry Proposed Extension Environmental Assessment (2006).*

NSW Environment Protection Authority (EPA) (2011). *NSW Road Noise Policy*. NSW EPA, Sydney.

Northstar Air Quality Pty Ltd (2025). *Air Quality Impact Assessment*

SLR Consulting (2018). *Noise Impact Assessment – Modification 1 Application*. Prepared for Cleary Bros Pty Ltd

Appendices

Appendix 1 Updated Water Balance Report

Appendix 2 Public Submissions Summary

Appendix 3 Additional Comments

Appendix 4 The Cleary Bros Driver Code of Conduct

Appendix 5 Air Quality and Greenhouse Gas Assessment

Appendix 1

Updated Water Balance

(Total No. of pages including blank pages = 6)

1. Introduction

The site water balance has been further reviewed by RWC and Clearly Bros and updated in response to DCCEEW Water Group's request to determine the maximum water take.

This review has considered a range of climatic conditions and a number of operational scenarios under which water take could occur.

2. Assumptions and Scenarios

2.1 Climatic Conditions

For the purposes of assessing maximum water take the water balance has been completed during a range of climatic conditions as outlined in **Table A**. Data has been sourced from the SILO database (accessed 14 August 2025). The net rainfall (rainfall vs Morton's shallow lake evaporation) for each year (1889 to 2024) was calculated and ranked, and the representative rainfall and evaporation for the year closest to each major percentile identified.

Table A
Analysis of Rainfall and Evaporation Data

	Driest Year	5th percentile Dry Year	10th percentile Dry Year	20th percentile Dry Year	Median Year	80th percentile Wet Year	90th percentile Wet Year	95th percentile Wet Year	Wettest Year
Rainfall (mm)	634.0	779.3	965.2	1,094.5	1,267.5	1,580.7	1,852.0	2,117.5	3,128.6
Evaporation (mm)	1296.1	1,304.6	1,356.8	1,347.6	1,286.5	1,193.0	1,265.9	1,213.6	1,164.6
Net Rainfall (mm)	-662.1	-525.3	-391.6	-253.1	-19.0	387.7	586.1	903.9	1,964.6

Source: SILO database (2025) – SILO grid point (Latitude: -34.80, Longitude: 150.80)
Extracted from SILO 'BoM Only' dataset on 14/8/2025

2.2 Operational Scenario – Maximum Extraction Extents

The Quarry contains two extraction areas, the "Original Extraction Area" and the "MOD1 Extraction Area". The water surface area within these ponds varies pending prevailing climatic conditions and the corresponding water table elevation. **Table B** summarises the surface area assumptions for each pond under different climatic conditions.

The surface area of water for the Original Extraction Area is based upon measured site bathymetric survey data under both dry and wet conditions. The MOD1 Extraction Area is currently ~2.2ha in size with an approved extraction area of 15.4ha (which has a perimeter of 3,082m). As bathymetric data is not available for the MOD1 Extraction Area, the surface area of water under different climatic scenarios has been calculated using the perimeter of extraction, an upper batter of 1:3V:H, and the depth of water below ground level.

Table B
Pond Water Surface Area – Maximum Extents

	Driest Year	5th percentile Dry Year	10th percentile Dry Year	20th percentile Dry Year	Median Year	80th percentile Wet Year	90th percentile Wet Year	95th percentile Wet Year	Wettest Year
Approximate Depth of Water below surface (m)	1.5	1.5	1.5	1.0	1.0	1.0	0.5	0.5	0.5
Original Extraction Area Pond Surface (ha)	15.1	15.1	15.1	18.5	18.5	18.5	19.4	19.4	19.4
MOD1 Extraction Area Pond Surface (ha)	14.0	14.0	14.0	14.5	14.5	14.5	14.9	14.9	14.9
Source: Cleary Bros									

2.3 Operational Scenario – Construction of Landbridge

Prior to the MOD1 Extraction Area reaching its full extent it is a requirement that the northern portion of the Original Extraction Area be returned to the Blue Angle Creek floodplain. This would be achieved through completion of backfilling to create a land bridge (adjacent the processing area) and removal of the flood bunding surrounding the northern portion of the Original Extraction Area. **Table C** presents the scenario assuming maximum extraction extent within the MOD1 Extraction Area and the construction of the land bridge within the Original Extraction Area. This would reduce the operational pond to 10.4ha during dry years, ~12.7ha during median years, and 13.4ha during wet years.

Table C
Pond Water Surface Area – Maximum Extents with Land Bridge

	Driest Year	5th percentile Dry Year	10th percentile Dry Year	20th percentile Dry Year	Median Year	80th percentile Wet Year	90th percentile Wet Year	95th percentile Wet Year	Wettest Year
Approximate Depth of Water below surface (m)	1.5	1.5	1.5	1.0	1.0	1.0	0.5	0.5	0.5
Original Extraction Area Pond Surface – with land bridge (ha)	10.4	10.4	10.4	12.7	12.7	12.7	13.4	13.4	13.4
MOD1 Extraction Area Pond Surface (ha)	14.0	14.0	14.0	14.5	14.5	14.5	14.9	14.9	14.9
Source: Cleary Bros									

2.4 Operational Scenario – Annualised

In order to present a realistic review of annual water take over the life of the operation, water take has been reviewed on an annualised basis with the following key assumptions

- Year 1

  MOD1 Extraction Area = 2.2ha

  Original Extraction Area – land bridge not yet complete.

- Year 2

  MOD1 Extraction Area = 3.7ha (a 1.5ha per annum increase)

  Original Extraction Area – land bridge complete. Reduced operational area applied.

- Year 3 to 10

  MOD1 Extraction Area increases by 1.5ha per year to maximum 15.4ha extraction. Original Extraction Area retained reduced operational area with land bridge and assumed no further reduction in area from backfilling.

Surface water areas have been applied with the same assumptions outlined in Section 2.2 and pro-rated to reflect the increasing size of the MOD1 Extraction Area over time.

2.5 Other Assumptions

Water outflows include the following.

- Evaporation (per **Table A**).
- Water in dredge slurry (which is subsequently returned minus water entrained in product) – 290L per tonne of sand.
- Water entrained in product transported from site (~5% by weight).
- Water inflows to replace the physical component of sand below the water table – apply a sand particle density of 2.65.
- Water pumped out for use in dust suppression and watering of vegetation/rehabilitation – assumed to be a consistent 1.2ML/year.
- Water transfers from the Original Extraction Area to the MOD1 Extraction Area to balance water levels (outflow for original pond).

Water inflows include the following.

- Rainfall (per **Table A**)
- Return water from processing plant (equivalent to dredge slurry minus water entrained in product).
- Water transfers from Original Extraction Area to the MOD1 Extraction Area to balance water levels (inflow for MOD1 pond).

3. Water Take and Licencing Outcomes

Tables D present the calculated reportable water take for each scenario.

Table D
Water Take Calculations – Annualised

Reportable Take (ML)	Driest Year	5th percentile Dry Year	10th percentile Dry Year	20th percentile Dry Year	Median Year	80th percentile Wet Year	90th percentile Wet Year	95th percentile Wet Year	Wettest Year
Year 1	142.3	119.1	96.4	89.3	41.4	0.0	0.0	0.0	0.0
Year 2	120.3	101.7	83.4	78.2	40.5	0.0	0.0	0.0	0.0
Year 3	129.5	108.9	88.8	81.8	40.8	0.0	0.0	0.0	0.0
Year 4	138.6	116.2	94.2	85.4	41.1	0.0	0.0	0.0	0.0
Year 5	147.8	123.4	99.7	89.0	41.4	0.0	0.0	0.0	0.0
Year 6	156.9	130.7	105.1	92.6	41.6	0.0	0.0	0.0	0.0
Year 7	166.1	137.9	110.5	96.2	41.9	0.0	0.0	0.0	0.0
Year 8	175.2	145.2	115.9	99.8	42.2	0.0	0.0	0.0	0.0
Year 9	184.4	152.5	121.3	103.4	42.4	0.0	0.0	0.0	0.0
Year 10	195.9	162.5	129.8	109.1	45.5	0.0	0.0	0.0	0.0
Source: Cleary Bros									

Based on the outcomes of the calculated scenarios the reasonable maximum water take during the life of the operations is 162.5ML, based upon the 5th percentile dry year during Year 10 of operations in the annualised breakdown (**Table F**). A breakdown of the components of this water take are as follows.

- Net evaporative loss = 128.2ML
- Water entrained in product = 6.0ML
- Water inflows to replace the physical component of sand below the water table – 27.0ML.
- Water pumped out for use in dust suppression and watering of vegetation/rehabilitation = 1.2ML

The Applicant currently holds a total water allocation of 106 units (ML) from the water source Metropolitan Coastal Sands Groundwater Source via Water Access Licences (WALs) 43271 and 43272.

In order to secure maximum water take the Applicant has sought an additional 57ML of allocation as part of the current *Controlled Allocation Order (Various Groundwater Sources) 2025* for which 406ML within the Metropolitan Coastal Sands Groundwater Source has been made available.

Appendix 2

Public Submissions Summary

(Total No. of pages including blank pages = 66)

Table A2
Public Submissions Summary

Submission ID	Submitter type	Date Created	Classification	Suburb	State	Postcode	Submission	Section Addressed
SE-100867707	Public Authority	1/12/2025	Comment	Nowra	New South Wales	2541	Attached.	Addressed as Government Agency submission
SE-97363957	Public	24/10/2025	Object	Gerroa	New South Wales	2534	I wish to raise a very strong objection to this project on the grounds that this proposal will create a significant increase in heavy vehicle traffic on Beach and Crooked River Roads, Fern Street and through the townships of Gerroa and Gerringong. These heavy vehicles have constantly caused damage to these roads which are not repaired in a timely way. Local Government (KMC), already under significant financial stress, is left to pay thew costs of these road repairs. Furthermore there will be a commensurate increase in both noise and air pollution. We front on to Crooked River Road and so are directly affected by this proposed increase. It seems that whenever a business is taken over the new owner pays a high price that then has to be recouped by either higher charges or increased capacity extraction as in this case. The consequence is that the local community pays a price too.	5.2.2
SE-97490957	Public	26/10/2025	Object	Gerroa	New South Wales	2534	This proposal will increase the truck movements along the narrow and winding Crooked River Road south of Gerringong township, into the town, along the residential Belinda Street and onto the Princes Highway. The proponent claims that it will only be a 50% increase to the transportation rate. (80,000t/pa to 120,000t/pa). However, over the most recent 14 years Cleary Bros. have only averaged 56,000t/pa. So, this calculates to be over a 100% increase in trucking movements. This is a doubling of large truck and dog (35t to 42T), movements. My concerns are: 1. An increase in noise related to larger and more frequent truck engines throughout a residential area. From 7am to 6pm Mon to Fri. and Saturdays. 2. Road safety will be a real concern as the trucks negotiate the narrow Crooked River Road with its bends and inclines. There is no shoulder on this 80kmph section of country road. The road caters for residents, and tourists often towing caravans, who are unfamiliar with the sharp bends. 3. When within the town limits there are numerous roundabouts and streets crowded with parked cars. 4. The route travels through a caravan park precinct that is heavily patronized during peak holiday periods. Thank you.	5.12.2, 5.12.2
SE-97590726	Public	27/10/2025	Object	Gerroa	New South Wales	2534	Having driven from Berry to Gerroa this morning on the route the increased sized trucks or volume of trucks will be travelling, I would suggest you do the same. There are white paint marks alerting drivers of the dangerous â€œeruptionsâ€ on sections of the road. The poor condition of the road will only be exacerbated if the sand extraction is almost doubled. There are far more cyclists using the same road the trucks will be using. From the safety aspect, I feel this increase should be rejected.	Represented in Section 5.12
SE-97618221	Public	27/10/2025	Object	Gerringong	New South Wales	2534	Gerroa Quarry Modification Application No MP05_0099-Mod-2 Gerringong 27/10/25 Department of Planning, Housing and Infrastructure. NSW Government. Thank you for the opportunity to comment on the proposed modification for Gerroa Quarry. I would like to question the proposition by the Applicant, expressed numerous times in this Modification Application, that the development as originally approved remains substantially the same because no changes to the Project Site disturbance footprint or infrastructure would be required. Increasing the annual extraction and processing operations at the project site, and the annual product transport limit by 50%, from 80,000 tpa to 120,000 tpa is a significant increase that I believe has the potential to impact the surrounding community and environment in a number of ways. The two main issues I would like to highlight and which are the reason why I am opposing this Modification Application are: 1. Truck traffic through Gerringong. 2. Protection of Biodiversity on and near the Quarry site, especially the â€œSeven Mile Beach National Parkâ€ adjacent to this property. 1. The applicant highlights that the proposed modification would not increase the maximum or average heavy vehicle movements, or the maximum vehicle size or largest heavy vehicle configuration previously approved. What is easy to miss in Table 15, p65 RW Corkery & Co. Pty Ltd Report No. 1109/01 however, is that â€œthe proportion of large vehicles used for product dispatch may increase as a result of the proposed modificationsâ€ or as previously stated â€œa greater proportion of larger capacity vehiclesâ€. So, this is not the same as what we are used to. I would like to highlight issues with the route from the site to the Princes Highway via Beach Rd, Crooked River Rd, Fern St and Belinda St. I believe this is not a suitable route for increased numbers of â€œtri-axle, eight wheeler truck & dog vehicle configurations (32t â€“ 42t capacity)â€ for the following reasons, some of which were not present in the initial very old 2001 traffic study referred to or the later update.	5.3.1 and 5.9.1

Table A2 (Cont'd)
Public Submissions Summary

Submission ID	Submitter type	Date Created	Classification	Suburb	State	Postcode	Submission	Section Addressed
Cont'd							This route now passes through three fairly tight round-abouts in Gerringong, and three traffic calming devices â€“ one at the bottom of a hill and used by elderly residents to access the Post Office, one to access the local Aged Care Facility and Public School, and another to access the other Primary School entrance especially used for Bike Riders and for elderly residents accessing the Railway Station. The route along Belinda Street in particular, is also usually lined with parked cars on both sides making access difficult for larger vehicles. There is also a School Traffic Zone on Belinda Street where the ability to stop quickly for children is essential. 2. I appreciate the Applicantâ€™s efforts to â€œprotect viable agriculture and agricultural lands and protect scenic rural landscapesâ€□. I am unsure however of the evidence to back the claim that â€œthe proposed modificationsâ€™ effect on all other environmental aspects is considered to be minimalâ€□. Can this be guaranteed across the 15 years life of this approval? Why is there not a Biodiversity Development Assessment Report accompanying this modification application? Or have I missed it? The National Parks Guidelines for developments adjacent to National Parks have been referred to, but have these been determined by the National Parks as compliant for this development adjacent to the outstanding â€˜7-Mile Beach National Parkâ€™? While Shoalhaven Council has not challenged this proposal, I find this hard to reconcile with their current â€˜Shoalhaven Councilâ€™s Strategic Plan 2022-2032â€™ that aims to see â€œresource consumption is reduced, natural environment improved and biodiversity and urban greencover be enhancedâ€□. As admirable as it is to provide employment and supplies for building, I cannot see enough evidence to ensure the applicants claim that â€œBenefits would be realised with no significant additional environmental or community impactsâ€□, especially over the 15 Years of the application. I do not believe we can risk the beautiful coastal environment adjacent to this Development, or that Gerringongâ€™s village atmosphere should be threatened or the community endangered by furthering industrial traffic in a quiet urban precinct. Thank you again for the opportunity to present these views for your consideration, Sincerely,	
SE-97719709	Public	28/10/2025	Object	Gerringong	New South Wales	2534	Cleary Bros have applied for a 50% increase in the amount of sand being extracted each year from the Gerroa Sand Quarry. Besides serious environmental issues, the immediate concern is the impacts of increased journeys and /or increase in the size of trucks. There has been very little Community consultation, which in fact was brought to our attention by a call from a newspaper. If you consider their only route is north is via Gerroa where the noise levels on its narrow hill is between residences then onto Crooked River Road competing with Tourist caravans along the windy strip by the Golf Club,and onto the residential area roundabouts to the centre of Gerringong. From the top of Belinda Street to the highway it is goes down hill literally.-that road has been rezoned as is 800mtrs from the town ctr to the railway corridor. We now have townhouse developements in two areas plus a 4 stage development at 48 Campbell Street. Stage 1 is 114 lots and there are another 3 in the pipeline which all exit onto Belinda St. The intersection at Rowlins Road floods on a regular basis due to the creek. Down from there we have cars buses and pedestrians trying to enter and exit the Railway station, functions at the South Coast Dairy and the Vets. Next we have the Ampol entrance at the edge of the highway intersection/ on and off ramps. Directly opposite, at 5 Sims Road we have a trucking company pushing to have the land rezoned for industrial use. Finally Kiama Council in their hunt for 'employment land' ! outside of their own township have marked two new sites in fields at the highway intersection underpass opposite the petrol station.	Represented in Sections 6.2.4, 5.9.2, 5.12 and 5.8.2
SE-97750957	Public	29/10/2025	Object	Gerroa	New South Wales	2534	I am very concerned about the impact that this increase in truck activity will have on the community. These trucks already cause a lot of noise disturbances, road safety and wear and tear issues making the road unsafe for residents and visitors. Particularly the sections of Crooked River road alongside the caravan parks and bridge. This section of road is narrow and there is poor visibility entering Crooked River road from Riverleigh Ave and there are numerous near misses daily involving both pedestrians and vehicles. A comprehensive road study needs to be conducted before any increase in traffic from the mine can be considered.	Represented in Section 5.12
SE-97786215	Public	29/10/2025	Object	Gerroa	New South Wales	2534	This proposal, whilst it was previously accepted, as an adverse effect on the neighbouring national park lands and its wildlife. I am not satisfied, that once quarrying works when completed, will see this company regenerate the land to sustain natural wildlife and fauna. I do acknowledge the need to win more material such as sand for production of concrete/cement and other products for the civil industry, however; to do this on the door step of a national park (which the population cannot remove fauna etc) and the close proxmity to the natural water way of Seven Mile Beach and rural farm lands. will see implications to the area in the long term. I object to this increase of quarrying and would rather see the operation shut down and relocated to an area where this is less long term efects on the area then to continue in its current program.	5.3.2

Table A2 (Cont'd)
Public Submissions Summary

Submission ID	Submitter type	Date Created	Classification	Suburb	State	Postcode	Submission	Section Addressed
SE-97846211	Public	29/10/2025	Object	Gerringong	New South Wales	2534	Submission as related to: Gerroa Quarry - Gerroa Sand Production Increase (MOD2) The following submission relates to the Traffic and Transportation from the Gerroa Quarry and specifically that transported on the Northern Route after the proposed Production Increase. Listed below are areas of concern, apparent ambiguities inherent in the Modification Documents and significant contextual information lacking in the Modification Documents. 1. Initial concern relates to the reliance on historical agreements dating back to 2001 and more recently updated. Any application to substantially change the original consent/agreements should reflect current development requirements and the significant demographic and Tourism changes in Gerringong over the past decade. 2. The proposed Modification overlooks or ignores the impact of heavy vehicles through the town centre. More detail will be provided in item 5. The applicant has alluded to the positive benefits of the proposed modification and have identified their endeavours as good corporate citizens within the community. As such, it is therefore equally appropriate in the context of this application to identify the substantial negative impact of the heavy vehicle movements and consider these in determining the outcome of the application. 3. The Modification Proposal indicates that there will be no change in daily traffic levels Average of 19 laden trucks per day (38 truck movements per day). Whilst this may in affect apply over a period of 12 months, anecdotal evidence suggests that truck movements vary significantly daily, weekly and monthly. Effectively truck movements on any day excepting Sunday could far exceed the Average of 38 movements. Suggestion: Daily Truck movements be capped at 40 or 42 (5-10% above the current limit) on any given day. 4. The Modification Proposal indicates a substantial increase in 32t and 42t vehicle movements. It is not apparent in the proposal of any reference to the potential increase in damage to roads and infrastructure on the designated routes. Nor is there any reference to a loading (monetary amount per ton) paid to Council to assist in repair costs which has been noted in previous development applications. Additionally, if this cost offsets still exist have the amounts been increased to reflect the effective rate of road repairs presently and into the future. 5. The proposed Modification Mod 2 states â€˜No significant change to environmental impacts and no change to impact criteria sought.â€™ This statement is inherently untrue except in applying a pure mathematical analysis of truck loads and movements. The transport and distribution of an increased volume regardless of the size of the trucks will have a significant environment impact. The existing Northern route through Gerringong for transport and distribution follows Beach Rd, Crooked River Road and Belinda Street. The route takes trucks through at times, a heavy populated and busy tourist town. Identified below are some of the specific issues with heavy vehicle movements. (i) Inconsistent speed zones and topography can create additional noise (e.g. excessive engine braking (a frequent issue at present), engine noise from when powering up hills) and adherence to speed zones. (ii) A section of Crooked River Road (80kph) encompasses a walk/bike path which in several sections is 120cm from the road edge. This path is frequently used by adults, children and bike riders. There is no curb or barrier. Additionally, the camber of the road and curves can steer vehicles which drift off the road in the direction of the path. Current road design would not allow this design, and similar situations are rare across the state. (iii) Vehicles pass through two roundabouts designed only for suburban or passenger vehicles. This necessitates the vehicles to cross over the centre section of each roundabout blocking all lanes. This is even more prevalent with dog and trailers. Road safety is a significant issue particularly as both approaches are problematic being sited on a hill and a hollow or valley. (iv) The route also encompasses passing an aged care section and School Zone. 6. Contained in the application documents is the statement that no complaints have been received since 2008. Whilst it is relatively easy to navigate to the Gerroa Sand Resource Feedback and Complaints Line only a phone number is available. Additionally, an email option is necessary. However, it is widely accepted that the number of complaints/issues raised is often not reflective of the actual situation. Fear of retribution, well-being considerations often provide an overwhelming block to reporting. Recent research suggests up to 75% of an organisationâ€™s employees would not report for reasons listed above and associated reasons. This appears to be consistent throughout business and communities. Suggestions: 1. The Modification Report be rejected as it is lacking objectivity and excluded significant impacts. 2. Alternative routes and options be explored such as: (i) Transporting the material via Beach Road and Toolijooa Road. (ii) Pumping extracted material to a rail siding for transport via rail. 3. Extensive community consultation regarding the environmental impact of vehicle transportation through the centre of Gerroa and Gerringong prior to resubmitting a Modification request.	5.9.2, 5.11.2 and 5.12.5
SE-97979457	Public	30/10/2025	Object	Gerroa	New South Wales	2534	The project will increase noise, industrial activity and traffic. More trucks of a larger size pose a traffic safety risk and increased wear and tear on roads, with concommitant costs being passed onto rate payers. The increased industrial activity is proposed at a site that is directly adjacent to a National Park with an isolated remnant population of greater gliders, an endangered species in rapid decline. It is unreasonable to expect increased industrial activity will have no impact on this important threatned population.	5.3.1 and 5.3.2

Table A2 (Cont'd)
Public Submissions Summary

Submission ID	Submitter type	Date Created	Classification	Suburb	State	Postcode	Submission	Section Addressed
SE-98159458	Public	1/11/2025	Object	Gerringong	New South Wales	2534	Submission To NSW Department Of Planning Housing And Infrastructure Re: DPIE Reference Gerroa Quarry Modification (MP_050099-Mod-2 From : Gerringong NSW 2534 1 November 2025 * We are long term residents of Belinda Street Gerringong and while this street is the main entrance to Gerringong and Gerroa it is not designed as a major industrial haulage route. * Just because the amount of truck movements have been approved previously it does not automatically make it correct or appropriate. * It appears that all traffic reports for development in and around Gerringong were taken during Covid and are not accurate. * It is not only the truck traffic that Belinda Street has to cope with but also most of the small vehicle traffic since the signage in Fern Street has been altered to direct northbound traffic down Belinda Street and not use the multi million dollar bridge and interchange at Omega. The none use of the Fern Street entrance to Gerringong and Gerroa has also been exacerbated by the inappropriate speed limit placed on this road, causing traffic to use Belinda Street as a rat run to access or leave the highway more quickly. * With the change of ownership of Cleary Bros there has been an increase in large trucks with less obvious signage on vehicles relating them to Cleary Bros, so the drivers think they are not accountable for driving like cowboys. This behaviour was highlighted on Monday 27 October 2025 when a mobile speed camera was situated at the western end of Belinda Street and every truck and most cars behaved like little angels, no high revving engines, exhaust braking or speeding. 15 minutes after the mobile speed camera departed their inconsiderate behaviour was back (revving engines, exhaust braking and speeding was back). * Heavy trucks in our suburban narrow streets create more potential for danger to our children, elderly residents who frequent bus stops and road crossings, cyclists as well as people accessing the railway station. Our residential streets are not designed or constructed to accommodate existing let alone increased heavy truck movements. * Heavy truck movements cause damage to road surfaces and also produce excess dust and noise. Who pays for this road damage and loss of amenity (local rate payers)? * This increase in tonnage moved on our local streets is all for their profit and nothing to improve or maintain the livability of the coastal, rural towns of Gerroa, Gerringong and their visiting tourists. * Cleary Bros were able to move sand when Gerroa bridge was replaced without accessing the suburban streets of Gerringong and Gerroa. * Please do not let PROFIT to a few spoil the lifestyle of many Gerringong and Gerroa residents and their tourists/visitors. Thanks for your consideration [name withheld]	5.2.1, 5.12.1, 5.12.2 and 5.12.4,
SE-98259457	Public	3/11/2025	Object	Gerroa	New South Wales	2534	As a resident of Gerroa, I can attest that the current number of truck movements already cause excess noise, road wear and tear and the hazard of obstructed view from small vehicles or whilst riding bicycles. Beach Road, Crooked River Road, Fern Street and Belinda Street are residential streets which small vehicles, cyclists and pedestrians use to access the beaches and other amenities in the area. Any increase to the traffic movements of large vehicles will cause potentially-dangerous circumstances. A particular danger spot is the north-bound section of Crooked River Road as drivers cross the bridge in Gerroa and head up the steep hill. There is no shoulder on this section of the road and trucks need to take extra space from the other lane. I have witnessed extremely close calls on this section, where vehicles coming down the hill have been confronted with a large truck and have needed to take evasive action. The proposal to significantly increase truck movements is one that should cause pause to planners that care about the amenity of Gerroa and the safety of its residents, above the monetary value of digging more sand and trucking it out.	5.12.1
SE-98387709	Public	4/11/2025	Comment	Berry	New South Wales	2535	I support the need for progress and development however the extent of this one is definitely a cause for over development and has potential to create concerning elements for the surrounding area and people. Increased wear and tear on roads either through increased numbers of trucks or greater damage from larger trucks Increased noise either from increased number of trucks or louder noises from bigger trucks Traffic issues in built up areas such as along Belinda Street from Fern Street to the highway intersection near Gerringong Station, at major intersections and roundabouts and at critical places along the Crooked River Road and Fern Street Higher costs for affected Councils with repairs to roads â€“ who pays? Potential road safety issues	Represented in Sections 5.5.1, 5.8.2, 5.11.1 and 5.12
SE-98404210	Public	4/11/2025	Object	Gerroa	New South Wales	2534	I object based on road use through a small community namely Gerroa. The noise from an increase in trucks as well as the risk of accidents increases. The proximity to a national park also does not make this a good use of valuable land	Represented in Sections 5.8.2, 5.12.1 and 5.3.2
SE-98432216	Public	4/11/2025	Object	Gerringong	New South Wales	2534	Iâ€™m writing this letter as Iâ€™m a resident of Belinda street, Gerringong and I really feel this increase of trucks brings unnecessary traffic to my street, I have a small dog that continues to bark every time the trucks already come up our street and that isnâ€™t ideal for anyone. Secondly the increased wear and tear on roads through increased number of trucks or greater damage from larger trucks. Thirdly we have a wide range of ages through our community that all use this road from school children right up to those from the age care facility on Belinda street. It seems unnecessary for such a large scale of trucks to be coming through our beautiful community.	Represented in Sections 5.9.1 and 5.12

Table A2 (Cont'd)
Public Submissions Summary

Submission ID	Submitter type	Date Created	Classification	Suburb	State	Postcode	Submission	Section Addressed
SE-98434458	Public	4/11/2025	Support	Jeremadra	New South Wales	2536	We need local quarries to continue to build road, homes, etc. itâ€™s perfectly sensible to continue this venture.	Section 5.10.1
SE-98458957	Public	5/11/2025	Object	Gerringong	New South Wales	2534	The following submission relates to the Traffic and Transportation from the Gerroa Quarry and specifically that transported on the Northern Route after the proposed Production Increase. The proposed Modification does not appear to address the impact of heavy vehicles through the town centre. Increasing the proportion of 32t and 42t vehicles will exacerbate the situation that currently exists. That is, large articulated heavy vehicles driven through a built up residential and commercial area of a booming tourist town creating significant, if not potentially catastrophic road safety issues and overwhelming negative environmental impact. The current movement of the heavy vehicles through the Northern route impacts the town as described below: â€¢ Heavy vehicle noise including engine noise and engine braking which can reach in excess of 90 decibels. â€¢ Significant danger to pedestrians and bike uses particularly for young children and older adults. â€¢ Decreased road safety due the longer stopping distance of the heavy vehicles. â€¢ Turbulence or forced air movement which can be disturbing and extremely dangerous as the articulated vehicles pass within 1.2 metres of pedestrians and bike riders at a speed of 80kph without a barrier or curbing. â€¢ Difficulty crossing Fern Street and Belinda Street as there is no pedestrian crossing. â€¢ Lack of preparedness of tourists not expecting heavy vehicles consistently passing through residential streets. I strongly suggest the proposed Production Increase be rejected and a traffic management plan be developed for the existing vehicle movements until alternatives can be arranged. Any further applications should also include a comprehensive Traffic Management Plan. The development of an appropriate traffic plan should involve wide community consultation and consideration of the following: â€¢ Speed monitoring of the heavy vehicles where appropriate such as at speed zone transition points. Of particular concern is where the vehicles are travelling downhill. â€¢ Restricting heavy vehicles to 50/60kph through Crooked River Road and Fern Street. â€¢ Video/camera monitoring of the two roundabouts closest to the town centre. â€¢ Scheduled inspection of heavy vehicles exiting and entering the Gerroa Sand Mining site through the Transport for NSW Heavy Vehicle Authorised Inspection Scheme (HVAIS) â€¢ Periodic review of the application of the Traffic Management Strategy.	5.12.1 and 5.12.4
SE-98468748	Public	5/11/2025	Object	Kiama Downs	New South Wales	2533	I think the modification is a little misleading , in 2 ways . 1 if the extracted sand tonnage is increased by 50% per annum and the end date for the projects remains unchanged then it is highly likley that the extracted tonnage from the site will actually increase , Therefore i think that the total extracted tonnage should have an upper bound applied to it , or be made clear to the community 2 If the annual tonnage increases by 50% then if defies logic that the truck movements count will remain the same - heavy tracks will lead to more road destruction and possibly increased road safety issues . Smaller trucks clearly mean more road use I note that there is no mention of who pays for road damage in the modification - if it is the local council then the council is broke and the community will wind up paying via increased rates . So in this scenario the profit goes to Cleary Brothers and the costs go to the community . I also note that the proposal only provides one extra job .	5.5.1, 5.5.2 and 5.11.1
SE-98478708	Public	5/11/2025	Object	OLD EROWAL BAY	New South Wales	2540	My name is [name withheld] and I spend a lot of time in Gerringong as my mother lives there and I take my children up there to visit their grandmother. I am very concerned with this project due to the amount of trucks that will be passing through and the safety concern of having these big vehicles near where my children spend a lot of time and play. We regularly walk from my motherâ€™s house on Belinda street to the park on the Main Street. The traffic itself is already a concern, especially during tourist heavy periods, however with the addition of big trucks carrying very heavy loads coming though much more frequently there is much more of a safety concern. Gerringong streets are already hard to get through with a medium sized car due to all he street parking and it is hard to see pedestrians. Now imagine that but with semi trailer trucks carrying a heavy load. There are already many near misses Iâ€™ve witnessed due to traffic and I donâ€™t believe that community consultation has been done adequately surrounding this project, because if it was these issues would have been raised. Please think of the safety impact this will have.	5.9.2, 5.12.2 and 5.12.3

Table A2 (Cont'd)
Public Submissions Summary

Submission ID	Submitter type	Date Created	Classification	Suburb	State	Postcode	Submission	Section Addressed
SE-98493465	Public	5/11/2025	Object	Gerroa	New South Wales	2534	I object to the project because it will increase impacts on roads and residents living along the haulage route. I challenge the claim that more material can be moved without greater impact simply by 'optimising' existing vehicle types, when community impact is about more than just vehicle count. 1. Increased truck size still increases impact: Even if the number of trucks per day does not increase, replacing smaller loads with consistently larger truck and dog configurations raises the average size and weight of vehicles on the road. This can result in greater noise, wear and tear on roads, longer periods for acceleration/deceleration (particularly significant on the steep section of Crooked River Road) and more disruptive presence, especially in residential areas. The experience of traffic for residents is dictated not just by number but by type, size, and operational patterns of vehicles. 2. Assumptions on truck capacity may be flawed: The proposal assumes that all or nearly all movements will use the largest possible truck-and-dog combinations at or near the maximum legal payload. In reality, operational variability means some trucks may still run only partially loaded or use smaller vehicles, which could result in more trips than predicted, especially during peak periods or supply chain disruptions. How would this be monitored and enforced post-approval? 3.Frequency and Time-of-Day Risks: If annual throughput rises, there is potential â€" particularly during periods of high demand â€" for more trips to be compressed into shorter timeframes. This can mean higher truck frequency at certain hours, increasing risks to residents and road users and amplifying the lived impact, even if daily averages remain similar. 4.Cumulative and Amenity Impacts: The report dismisses social or amenity impacts on the basis of modelling averages. However, from a resident perspective, the shift to consistently larger, heavier trucks and potential for clustering of movements can degrade safety, increase noise impacts and worsen local traffic interactions, particularly on local roads not designed for heavy vehicle dominance. There is already a precedent from a busy Christmas period on Crooked River Road, when sight lines were compromised by an increase in parked vehicles near the Gerroa Fishermenâ€™s Club. During that time, a vehicle turning out of its driveway was struck by another car, causing the second vehicle to crash into a house. Any increase in large truck and dog-trailer traffic would further aggravate this safety risk.	5.12.4
SE-98501711	Public	5/11/2025	Object	Gerringong	New South Wales	2534	I am a resident of Belinda St, Gerringong and have a few concerns about the Cleary Bros Gerroa Sand Quarry modification application to increase the rate of road transportation of sand by 50% from 80,000tpa to 120,000tpa. This could mean truck movements every 13 - 20 minutes per day through Gerroa and Gerringong, two small coastal villages. Road safety in our villages - Our narrow roads traverse sweeping bends, steep gradients and busy town traffic that are not suitable for the large trucks Cleary Bros (CB) use to transport sand. Local car drivers using these roads need to be on high alert when entering the roads from side streets, when passing these trucks that cross the middle of the road to turn their load round corners and when they press shrieking brakes to slow down coming down hills. The amount of car traffic triples on weekends and throughout summer as tourists flock to our beautiful part of the world. Iâ€™m concerned car accidents will happen if there is an increase in the frequency of these truck transports. The route used is from Beach Rd to Gerroa Rd, through to Crooked River Rd and then Fern St to the centre of Gerringong where the trucks turn at Belinda St roundabout (a very busy intersection) to get to Princes HWY. These large trucks are passing by residential housing, caravan parks, a retirement village, a road crossing children use to get to the local primary school (in a 40Km/h school zone), bus stops along the entire route, a Club, a pub and a special events venue. Additionally, all pedestrians coming to town by train have to walk this part of Belinda St. Iâ€™m concerned pedestrian accidents may occur with an increase in the number of these truck transports. Road wear and tear - Heavy trucks on coastal roads cause a great deal of damage. I have attached some photos of the state of Gerroa Rd that show asphalt damage to the sides of the road and substantial protrusions in the middle of the road, caused by heavy vehicles. The load sizes CB use range from 22 to 42 tons, these weights leaving a huge impact on our roads and making driving these damaged roads quite precarious, again a safety issue. Who is responsible for monitoring the damage done to our coastal roads by heavy vehicles? Who ensures those responsible pay for the road repair? Iâ€™m concerned the cost of repair will fall to local rate payers. Sound issues - Large trucks carrying heavy loads make lots of noise as they drive by, especially revving up a hill or braking coming down a hill (and we have lots of hills here). Empty large trucks also make quite a clamour. While this is a consequence of much road travel, the kind of increase in heavy truck movements CB have applied for will exacerbate this noise factor and is out of step with our coastal village ambience. Iâ€™m concerned lots of noisy trucks on our roads will turn visitors away and affect the local economy. Visitors have left the city to spend some time in a quiet seaside village. Does 120,000tpa go way beyond what the local area needs are for sand (housing and other construction)? Itâ€™s been estimated that CB have been extracting sand at an average rate of 52,000tpa over the last 15 years, even though they have been permitted to extract as much as 80,000tpa. A 50% increase to 120,000tpa seems to suggest that CB will be providing sand to other regions in NSW as local requirements for sand are already met. But the impact of this increase and the cost to local amenity will be felt locally. Iâ€™m concerned that Gerroa and Gerringong residents and visitors will bear these costs purely for the sake of one business making lots more money. Money, probably not spent in our region. Are there other routes the trucks could take? If Toolijoola Rd was able to be used the problem of driving through Gerroa and Gerringong villages would be solved. I am writing this submission on behalf of the Gerringong and Gerroa Amenities and Safety Group, as their President. Thank you for taking our concerns on board.	6.2.1

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SE-98501988	Public	5/11/2025	Object	Gerroa	New South Wales	2534	The principal concern this raises is the impact of the modified transport requirements. To move the increased sand will require either: (1) a greater number of truck movements using the same sized trucks (22 tonnes) or (2) the same number of movements using larger trucks (32 tonnes to 42 tonnes) or (3) a mixture of both Possible implications: (1) Increased wear and tear on roads either through increased numbers of trucks or greater damage from larger trucks (2) Increased noise from either more truck movements or louder noises from bigger trucks (3) Traffic issues in built up areas such as along Belinda Street from Fern Street to the highway intersection near Gerringong Station, at major intersections and roundabouts and at critical places along the Crooked River Road and Fern Street (4) Higher costs for affected Councils with repairs to roads (5) Potential road safety issues	5.12.3
SE-98512474	Public	5/11/2025	Object	Bowral	New South Wales	2576	Daer Sirs, My key points of objection: 1. Releasing over 105 Mt of additional Greenhouse Gas emissions, poor monitoring and reporting of methane emissions. 2. Outside existing mine boundary with additional infrastructure disturbance - should be assessed as a new project 3. Constructing a large new tailings dam area of 132 ha within a revegetated, rehabilitated old open cut pit next to Goulburn River risking leakage of toxic contaminants 4. Wholly west of Great Dividing Range within the Murray Darling Basin - loss of flows to Talbragar River, tributary of Macquarie River feeding into significant Macquarie Marshes 5. Extended water releases into Goulburn River increasing salt load downstream to Hunter 6. Loss of Aboriginal cultural heritage and spiritual landscape for Wiradjuri Nation â€“ impacting 71 known sites, including rock art 7. Disturbing an additional 1743 ha with sandstone escarpment, caves and overhangs: Destroying additional important habitat for the nationally threatened Large-eared Pied Bat, Eastern Cave Bat, Regent Honeyeater and Koala, critically endangered Box Gum Woodland. Cumulative impact on these species across 3 mines in region. 8. Final layout of surface infrastructure not yet determined â€“ mine plan not finalised 9. Undermining 17 private properties directly impacting 4 houses and 6 private bores 10. Increasing social impacts, loss of farm water and ongoing disturbance of rural way of life 11. This project is not needed to provide regional jobs â€“ there is a huge workforce shortage for renewable energy projects and other industries in the Central West Yours sincerely, [name withheld]	Omitted – see section 2.1
SE-98548505	Public	5/11/2025	Object	Manyana	New South Wales	2539	I am writing to you to voice my concerns about the proposed increase in transportation at the Gerroa sand mine. My concern is that the increase in road transportation will have a detrimental affect on the surrounding environment. These affects are safety issues around the increase in large truck movements through suburban areas. Traffic congestion issues, Increase in diesel pollution in surrounding urban areas. A general disturbance of natural amenity for local residents and holiday makers. Damage to roads which is ultimately paid through increases to cost of living via Council rates. These issues were previously covered by the decision made by the Land and Environment Court to limit the transportation at 80,000tpa. Since that decision there has been increases in residential population and tourism, the amenity of both should be protected. This beautiful natural area is important for generating jobs in the region and should not be compromised. I therefore ask that the transportation tonnage be limited as per the previous L&E court decision. I support the submission made by the Gerroa Environmental Protection Society.	5.2.2, 5.9.3 and 5.11.2
SE-98585970	Public	6/11/2025	Object	Gerringong	New South Wales	2534	I object to the submission because: Increased wear and tear on roads either through increased numbers of trucks or greater damage from larger trucks Increased noise either from increased number of trucks or louder noises from bigger trucks Traffic issues in built up areas such as along Belinda Street from Fern Street to the highway intersection near Gerringong Station, at major intersections and roundabouts and at critical places along the Crooked River Road and Fern Street Higher costs for affected Councils with repairs to roads â€“ who pays? Potential road safety issues	Represented in Section 5.5.1, 5.8.2, 5.12,

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Submission ID	Submitter type	Date Created	Classification	Suburb	State	Postcode	Submission	Section Addressed
SE-98610973	Public	6/11/2025	Object	Foxground	New South Wales	2534	See attached submission opposing the Modification	5.2.2, 5.4 and 5.7.1
SE-98615956	Public	6/11/2025	Object	Gerringong	New South Wales	2534	The following submission relates to the Traffic and Transportation from the Gerroa Quarry and specifically that transported on the Northern Route after the proposed Production Increase. Listed below are areas of concern: 1. Initial concern relates to the reliance on historical agreements dating back to 2001 and more recently updated. Any application to substantially change the original consent/agreements should reflect current development requirements and the significant demographic and Tourism changes in Gerringong over the past decade. 2. Impact of heavy vehicles through the town centre. More detail will be provided in item 5 The substantial negative impact of the heavy vehicle movements should be considered in determining the outcome of the application. 3. The Modification Proposal indicates that there will be no change in daily traffic levels Average of 19 laden trucks per day (38 truck movements per day). Whilst this may in affect apply over a period of 12 months, anecdotal evidence suggests that truck movements vary significantly daily, weekly and monthly. Effectively truck movements on any day excepting Sunday could far exceed the Average of 38 movements. Suggestion: Daily Truck movements be capped at 40 or 42 (5-10% above the current limit) on any given day. 4. The Modification Proposal indicates a substantial increase in 32t and 42t vehicle movements. Is there a cost offset (monetary amount per ton) paid to Council to assist in repair costs which has been noted in previous development applications. Additionally, if this cost offsets still exist have the amounts been increased to reflect the effective rate of road repairs presently and into the future. 5. The proposed Modification Mod 2 states â€˜No change, although a greater proportion of larger capacity vehicles.â€™ The transport and distribution of material using larger vehicles will have a significant environmental impact in terms of visual and noise pollution. Additionally, the general amenity of the roads, residences, persons using the footpaths and cycle way are likely to be negatively impacted. The existing Northern route through Gerringong for transport and distribution follows Beach Rd, Crooked River Road, Fern Street and Belinda Street. The route takes trucks through at times, a heavy populated and busy tourist town. Identified below are some of the specific issues with heavy vehicle movements. (i) Inconsistent speed zones and topography can create additional noise (e.g. excessive engine braking (a frequent issue at present), engine noise from when powering up hills) and adherence to speed zones. (ii) A section of Crooked River Road (80kph) encompasses a walk/bike path which in several sections is 120cm from the road edge. This path is frequently used by adults, children and bike riders. There is no curb or barrier. Additionally, the camber of the road and curves can steer vehicles which drift off the road in the direction of the path. Current road design would incorporate a minimum of safety barriers, and similar situations are rare across the state. (iii) Vehicles pass through three roundabouts designed only for suburban or passenger vehicles. This necessitates the heavy/larger vehicles to cross over the centre section of each roundabout blocking all lanes. This is even more prevalent with dog and trailers. Road safety is a significant issue particularly as each approach to the roundabouts are problematic being sited on a hill and/or a hollow/valley. (iv) The route also encompasses passing an aged care facility and School Zone. Suggestions: 1. The Modification Report be rejected as issues raised would suggest a significant negative Environmental Impact in relation to Transportation and Distribution. 2. Alternative routes and options be explored such as: (i) Transporting the material via Beach Road and Toolijooa Road. (ii) Pumping extracted material to a rail siding for transport via rail. 3. Extensive community consultation regarding the environmental impact of vehicle transportation through the centre of Gerroa and Gerringong prior to resubmitting a Modification request.	Represented in Sections 5.11.2 and 5.12
SE-98657208	Public	6/11/2025	Object	Gerroa	New South Wales	2534	Concern for the increase in traffic by large trucks in the local built up area. This increase along Crooked River Rd will make entry out of Gerroa more problematic than it already is. Concern for increased damage to the local roads. How will this all be managed ensure safety, maintain amenity and the quality of roads in the local area. Thanks	5.9.3
SE-98678207	Public	6/11/2025	Object	Berry	New South Wales	2535	My main objection is on environmental grounds as increased mining would affect the rare coastal environment where the mine is situated. Plus more trucks and possibly bigger trucks would affect the amenity of many residents of Gerringong and Gerroa. More dust, more noise, more difficult traffic through built up areas. And who is to pay for increased road maintenance costs ?	5.6.1

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Submission ID	Submitter type	Date Created	Classification	Suburb	State	Postcode	Submission	Section Addressed
SE-98684463	Public	6/11/2025	Object	Gerroa	New South Wales	2534	GERROA NSW 2534 6 November 2025 Carl Dumpleton Department of Planning, Housing and Infrastructure Dear Mr Dumpleton Having been a resident of Gerroa for the last 32 years, I am extremely upset and concerned about the proposal to permit an increase rate of road transportation by 50% from 80,000tpa to 120,000tpa in relation to the sand mining business in Gerroa.I was involved in the last battle to stop major sand mining at Gerroa and the outcome from The Land and Environment Court then was an agreement that no more than 88,000 t pa was to be taken. Why is it possible that this decision should be changed just because a new owner wants it to happen? The exact same reasons as before still apply but this time the result will impact the local community even more. Information from the company has been at times conflicting and it is a real problem if the trucks being used increase in tonnage. Will the trucks still remain at 22 tonnes? If so, then to allow an additional 40,000 t of sand to be removed would mean more trucks on our narrow roads. There are 2 bends on Crooked River Road (between Gerroa and Gerringong) that are extremely dangerous. In addition, the roundabout on Belinda Street is downright scary to approach if a fully laden truck with a massive trailer, is turning the corner. If the tonnage changes to 32 or 44 tonnes then the issues relating to road damage increases dramatically. Highways are designed to cater for truck usage. Fern Street and Crooked River Road is not. There is at present a very damaged section of road just south of the Gerroa caravan park. Noise pollution will greatly increase with more trucks. There is the safety aspect of trying to leave Gerroa and turn right from Riverleigh Avenue. Trucks need to increase their speed to be able to drive up the hill from the river. As a tourist area we have a dramatic increase in population with people being unaware of heavy trucks using the roads. Where does the sand being mined here go to? Is it for local usage in the area or does it get taken further away? If the answer is to transport the sand to other locations, why does the sand mined need to be increased at Gerroa? There are so many other locations where sand is more readily available and does not affect local communities as much. The main street of Gerringong, the nursing home access and school zone are all affected by truck usage. I would like consideration to be given to the above factors and sincerely hope that the current proposal is not approved. Yours sincerely [name withheld]	5.10.2 and 5.11.2
SE-98684466	Public	6/11/2025	Object	Wollongong	New South Wales	2500	To the NSW Department of Planning, Housing and Infrastructure, I wish to submit my objection to the proposed Modification MP05_0099 (Mod 1) for the Gerroa Sand Quarry, which would increase annual transported sand from 80,000 tonnes to 120,000 tonnes. This modification would result in a major increase in heavy vehicle movements through our local area and I believe it poses unacceptable community impacts. My primary concerns are focused on road safety and pedestrian risk. More or larger trucks travelling along Belinda Street, Fern Street and Crooked River Road will significantly increase danger near homes, businesses and areas where both children and tourists move frequently. These roads are not designed for such high-volume industrial truck traffic. Congestion issues will also worsen. Key intersections and roundabouts already experience bottlenecks, and additional heavy haulage will slow traffic flow during school pick-up and drop-off times, weekend tourism periods and commuter peaks. This will negatively affect local residents, emergency services and visitors. There is also a substantial concern around road damage. Heavier loads and increased truck volume will accelerate wear and tear on Council-managed roads. The proposal does not make clear who will be financially responsible for necessary upgrades and maintenance â€" the community must not be left to cover these costs. Increased truck noise and disruption will reduce the current coastal lifestyle that Gerroa and Gerringong communities value. Added industrial activity conflicts with the needs of a growing residential and tourism-based area and may impact our local economy and town character. Before any approval is considered, there must be an independent assessment of traffic and road safety impacts, clear accountability for repair and maintenance costs related to quarry haulage, and thorough consultation with affected residents and businesses. Without these essential protections, the modification should not proceed. This modification places commercial benefit above the safety, wellbeing and liveability of the surrounding community, and therefore I strongly request that Modification MP05_0099 (Mod 1) be refused. Thank you for your consideration of this objection. [name withheld]	5.5.1 and 5.9.1

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Submission ID	Submitter type	Date Created	Classification	Suburb	State	Postcode	Submission	Section Addressed
SE-98684468	Public	6/11/2025	Object	Kiama Downs	New South Wales	2533	To the NSW Department of Planning, Housing and Infrastructure, I am writing to object to the proposed modification to Project Approval MP05_0099 (Mod 1) for the Gerroa Sand Quarry, which seeks to increase the maximum rate of road transportation by 50% from 80,000 tonnes per annum to 120,000 tonnes per annum. While the proposal may support increased commercial output, the broader impact on the surrounding community and environment has not been adequately justified. The modification would significantly increase heavy vehicle movement through already pressured local road networks and residential areas. Below are my key concerns: 1. Road Safety Risks â€¢ A 50% increase in transported material would translate to either more truck movements or heavier vehicles (32â€“42 tonne trucks), or both. â€¢ These trucks travel close to schools, pedestrian areas, tourist sites, and residential streets - particularly along Belinda Street, Fern Street, and Crooked River Road. â€¢ Increased heavy vehicle traffic raises the risk of collisions and endangers pedestrians, cyclists, and local families. 2. Damage to Local Roads and Public Cost â€¢ Larger and more frequent trucks cause accelerated road wear. â€¢ The proposal does not address who will fund the necessary repairs - potentially placing an unfair financial burden on Kiama Municipal Council and local ratepayers. â€¢ The current road infrastructure is not designed for this scale of heavy vehicle operation. 3. Traffic Congestion in Built-Up Areas â€¢ 70% of truck movements will head north through Gerringong, joining the Princes Highway via key residential and commercial roads. â€¢ Increased congestion will significantly impact everyday road users, emergency services, and tourism-based businesses. â€¢ Intersections and roundabouts along these routes already experience bottlenecks. 4. Noise Pollution â€¢ More and/or larger trucks will result in elevated noise, especially during early mornings and late afternoons. â€¢ This will adversely affect local residentsâ€™ wellbeing and reduce liveability in what is primarily a quiet coastal community. 5. Insufficient Consideration of Broader Community Impact â€¢ Gerroa and Gerringong are growing towns with increasing family populations and tourism reliance. â€¢ The modification appears to prioritise private commercial gain over the protection of community amenity and the character of the area. I ask that the Department: - Require a comprehensive independent traffic and road safety assessment - Examine noise and residential impact data beyond the quarry boundary - Ensure that the costs and burden of road maintenance are not shifted to local communities - Consider alternative transport methods or capped movement schedules - Reject the modification unless clear evidence demonstrates no net increase in harm or cost to the local community The proposed 50% increase in transportation is not in the best interests of the community, nor is it aligned with safe and sustainable transport planning. I strongly urge the Department to refuse this modification. Thank you for considering my submission. Sincerely, [name withheld]	5.7.2 and 5.8.2
SE-98686458	Public	6/11/2025	Object	Wollongong	New South Wales	2500	To the NSW Department of Planning, Housing and Infrastructure, I am formally objecting to Modification MP05_0099 (Mod 1) for the Gerroa Sand Quarry, which proposes a significant increase in transported sand from 80,000 tonnes to 120,000 tonnes per year. The consequences of this change for the surrounding community are severe, and the proposal fails to demonstrate that these impacts can be safely or responsibly managed. This modification would substantially increase the number and size of quarry trucks travelling through Gerringong and Gerroa. These heavy vehicles would continue to use residential, and tourist focused roads that were never designed for this level of industrial haulage. The increased risk to road users is unacceptable, especially considering the high pedestrian activity around homes, businesses and public transport access points. The safety of residents, school students and visitors must come before increased quarry output. The documentation does not clearly assess the full traffic implications. Key intersections already experience delays, and adding more slow-moving trucks will further restrict access for emergency services and essential daily travel. This proposal knowingly increases the likelihood of accidents and congestion in an area experiencing population growth and strong tourism demand. There is also a major concern that the community will carry the financial burden of this modification. More frequent and heavier trucks will dramatically escalate road deterioration. The proposal does not guarantee that Cleary Bros will cover these increased maintenance costs, meaning local ratepayers may be forced to fund repairs required because of quarry expansion. Furthermore, the additional industrial noise will significantly reduce residential amenity and threaten the coastal village character that is vital to both community wellbeing and the local tourism economy. The proponent has not demonstrated that these noise impacts can be kept within acceptable limits.	5.8.1, 5.9.1 and 5.12.1

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Cont'd							Summary of Key Concerns â€¢ Increased truck movements place the safety of road users and pedestrians at higher risk â€¢ Traffic delays and congestion will worsen at already strained intersections and pinch points â€¢ Local ratepayers may unfairly shoulder the cost of road repairs and increased maintenance â€¢ Industrial noise will negatively affect residential amenity and community wellbeing â€¢ The modification threatens the coastal character and tourism driven economy of the area This modification offers no meaningful benefit to the residents of Gerroa and Gerringong. It prioritises commercial gain while shifting environmental, health and financial risks onto the public. Until comprehensive and independently reviewed evidence can prove no increased harm to community safety, amenity and infrastructure, this proposal must not be approved. Thank you for considering this submission. [name withheld]	
SE-98687472	Public	6/11/2025	Object	Kiama Downs	New South Wales	2533	To the NSW Department of Planning, Housing and Infrastructure I am objecting to Modification MP05_0099 (Mod 1) for the Gerroa Sand Quarry. Before providing further detail, the key reasons for my objection are listed below. Key Issues â€¢ Road safety risks increase with additional and heavier trucks â€¢ Traffic congestion will become worse for local residents and visitors â€¢ Greater road damage without guaranteed funding from the operator â€¢ Increased noise will affect coastal liveability and tourism appeal â€¢ Environmental impacts including dust, pollution and harm to local habitats â€¢ No real community benefit from this modification The proposal seeks to increase transported sand from 80,000 tonnes to 120,000 tonnes each year. This will push more heavy vehicles through residential and pedestrian areas that are already under pressure. Children, older residents and tourists regularly move through these streets, which creates a serious safety concern with higher heavy vehicle activity. Traffic delays are already experienced at important intersections and turning points. More trucks will reduce the efficiency of daily travel and could restrict the movement of emergency services when every second matters. The community may also be left with the financial burden of road repairs. Extra weight and more vehicle movements will accelerate road damage. Without clear responsibility placed on Cleary Bros to cover those costs, local ratepayers are put at risk of having to fund expensive maintenance work. Noise is another concern. The increased industrial activity will disturb the peaceful environment that people who live here and those who visit come to enjoy. This affects quality of life and threatens the local economy which relies heavily on tourism. There are also environmental impacts to consider. Extra truck activity means more emissions, more fuel burn and more dust escaping during transportation. All of this harms air quality and can disrupt wildlife in the surrounding coastal landscape. This modification delivers clear commercial benefits to the operator, yet places the negative impacts directly on the community and the environment. It does not represent responsible planning or sustainable development. I strongly urge the Department to refuse Modification MP05_0099 (Mod 1) in order to protect community safety, environmental values and the character of this region. Thank you for the opportunity to comment. [name withheld]	5.5.2, 5.9.1 and 5.12.3
SE-98688961	Public	6/11/2025	Object	Gerringong	New South Wales	2534	As a resident of Fern St, which will be used as part of the main route taken by the sand transport trucks, I am concerned with some aspects of this project. These are the impact this project will have on the road itself with wear and tear, the safety of our young boy and local residents in general, the increased noise level and finally the impact to traffic overall to our small town. Please consider our concerns when reviewing the Cleary Bros application.	Represented in Sections 5.8 and 5.12
SE-98696710	Public	6/11/2025	Object	Gerroa	New South Wales	2534	Gerroa 6/11/25 Dear Mr Dumpleton Re: Objection to Proposed Increase in Annual Transport Limit at the Gerroa Quarry from 80,000 tpa to 120,000 tpa (MP05_0099-Mod2) I am writing to express my strong objection to the proposal to increase the annual sand mining and transport at the Gerroa Quarry from 80,000 tonnes per annum to 120,000 tonnes per annum as part of modification MP05_0099-Mod2 through the townships of Gerroa and Gerringong. My objections are made on the basis of several inter-related concerns regarding road infrastructure damage, noise and traffic impacts, safety issues for our local community, and the cumulative adverse effect on the amenity and liveability of Gerroa and Gerringong. I will detail these below. 1. Road damage and infrastructure deterioration With the proposed increase in annual transport by 40,000 tonnes which is representing a 50 percentage increase, the number of heavy truck movements along roads serving the sand quarry will inevitably increase. It is clear that such an increase could come via either a greater number of standard trucks weighing 25t with a caring capacity of 22t or significantly larger truck of 32t and 42t carrying capacity.	5.7.2 and 5.9.1

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Cont'd							Itâ€™s very important to know as truck weight increases does the damage to roads exponentially. Specifically: â— Roads such as Belinda Street from Fern Street to the highway at Gerringong Station, Crooked River Road and Fern Street are already under pressure. â— More heavy-vehicle axle loads accelerate pavement fatigue, increase maintenance costs borne by rate-payers, worsen potholes and degraded surface conditions. â— If trucks are heavier than a maximum of 22t up to 32-42t as identified greatly the impact on roads. In short the existing infrastructure is likely to become significantly more damaged, which will lead to significant increased cost, disruption and hazard for everyday road users. 2. Noise pollution and traffic impacts The increased transport tonnage inevitably means more truck movements and/or heavier trucks. This has direct implications for noise and traffic congestion: â— I acknowledges that both an increased number of trucks or larger trucks will cause â€œincreased wear and tear, increased noise either from increased number of trucks or louder noises from bigger trucks.â€ The roads noted pass through built-up areas in Gerroa and Gerringong. The introduction of more frequent heavy-vehicle traffic in these areas will reduce the quality of life for residents who currently enjoy a quieter residential environment. Most of which came to this very location to avoid traffic congestion and noise. â— Increased noise. A significant number of people in this area are retired and being woken by trucks noise at 7am could easily disturb sleep, reduce amenity, and contribute to stress and health issues within these two communities. 3. Safety and liveability concerns for the town of Gerringong Gerringong is a relatively small town located about ten minutes south of Kiama. Gerroa is actually a small village some 4km south of Gerringong both within the Municipality of Kiama. The townâ€™s road network and community infrastructure are not designed to absorb substantial increases in heavy vehicle traffic without consequences: â— Heavy trucks mixed with passenger vehicles in residential areas, pedestrian zones and near schools which donâ€™t have ANY pedestrian crossings along the route raises safety risks for example: increased collision risk, poor visibility in a significant number of areas, hilly roads in a notoriously very windy area all add up to residents concerns. â— Road damage from heavy trucks must surely lead to unexpected hazards such as potholes and uneven surfaces which increase the likelihood of accidents for both vehicles and cyclists of all types. â— Increased traffic in residential streets may discourage walking, cycling and community use of public space, reducing the liveability of Gerringong and Gerroa for residents and visitors alike. 4. Broader amenity and cumulative impact Beyond the immediate concerns of roads, noise and safety, the cumulative effect of the transport trucks increase threatens the amenity of the region which many of us value: The coastal and semi-rural character of the Gerringong-Gerroa area is one of the major attractions for residents, visitors and local businesses. The increase in heavy transport flows undermines this character and may impact tourism, property values and local community well-being. Previous commentary on sand-mining expansion at Gerroa highlights significant environmental and community concerns in the region. The Planning Portal notes this is a â€œState Significant Development â€“ Modificationâ€ which suggests a higher threshold of impact and community interest. 5. Request for conditions or refusal Given the substantial size of the proposed increase and the scale of its potential impacts, I respectfully request that the NSW Department or Planning consider the following: â— Refusal of the increase in sand production and thus truck movements to what was considered long ago to be fair and reasonable by the 2007 LEC case which was 9 days long with a significant time before all things were considered returning amongst other things a maximum of 80,000tpa. â— Use of smaller trucks i.e limiting truck size/axle load to reduce wear and noise. A road-maintenance contribution arrangement, financially supporting upgrades and ongoing maintenance of impacted roads. In conclusion, I submit that the proposed increase from 80,000 tpa to 120,000 tpa represents a step-change in transport impact for the Gerringong-Gerroa region and that the risks to road infrastructure, residential amenity, noise/traffic/safety and community well-being are significant and thus should not occur. Thank you for your attention to my concerns. I trust that the assessment body will give full weight to community voices in the assessment of this modification and act in the best interests of local residents. Please note I respectfully request that since my submission is still at this stage incomplete that I will be allowed to add more information over the coming week. Yours Sincerely [name withheld]	

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Public Submissions Summary

Submission ID	Submitter type	Date Created	Classification	Suburb	State	Postcode	Submission	Section Addressed
SE-98698214	Organisation	6/11/2025	Object	Gerroa	New South Wales	2534	Dear Mr Dumpleton, Please accept a small part of GEPS Submission at this stage as due to very tight time constraints including the usual person [name withheld] who plays a major role in GEPS submissions is currently overseas and returns home on 10/11/25. Within a short period of time [name withheld] will complete our submission and send it out to our small membership for approval and once given we will submit it. I suggest will take around 1 week to complete our submission to this portal. See below what GEPS has submitted so far to start the process Best Regards [name withheld] President of GEPS Submission so far Using 22t load carrying trucks which CB have been used for a significant time to achieve up to 80,000t per annum seems to be a reasonable compromise on truck weight vs number of truck. It has served the previous owners and in fact the community well. This is GEPS preference as roads it seems have coped with this load over a reasonable period of time. Bear in mind the road base is different in some locations of only fine grain sand in the very south to a rich high quality basalt soil with a significant clay content north of the bridge over the Crooked River. Add to that we must expect way more extreme weather events like flooded roads due to climate change we feel the need state we believe 32t and 42t truck are way too big and heavy on our current roads. That being the case GEPS wished to do some modelling to compare the effect on the traffic with the local area. Modelling 1 Note using 22t trucks to achieve 120,000 tonnes per annum. In this case I agree with CB modelling that it would take 19 loaded trips out or the quarry (also 19 return trips) For 22t trucks only, 19 trips out, 6 days/week, 48 weeks/ year to achieve 120,000tpa The Maths: 22t trucks x 19 loads x 6 days x 48 weeks = 120,384tpa Next to truck movements through Gerringong every minute Here we use movement of loaded trucks said by CB 19 out and 19 empty truck to quarry @ 19 x 2 = 38. On a 11 hour day (7am- 6pm) 11hrs x 60 = 660 minutes The Maths: 660 minutes/ 38 movements = every 17.37 minutes. As itâ€™s not likely CB might wish to use a 6 days/ week over 48 weeks of the year. For the purpose of another scenario letâ€™s look a 9 day fortnight = 4.5 times a week. The Maths: 4.5/ 6 equals 0.75 therefore 17.37 minutes x 0.75 = truck movements through Gerringong are on average every 13.02 minutes It must be noted that in the past and even currently some days truck movements are higher and lower than others so we believe 13 minutes is a reasonable calculation. Modelling 2 Using CB suggested larger trucks ie 32t and 42t CB average it to be 35t. As in modelling 1 : To reach 120,000t there needs to be 12 loads out plus 12 returns = 24 trips on average per day The maths: for 35t truck x 12 loads out x 6 days x 48 weeks equal 120,960t Next to truck movements through Gerringong every minute 12 loaded trucks out and 12 empty truck to quarry @ 12 x 2 = 24 On a 11 hour day (7am- 6pm) 11hrs x 60 = 660 minutes The Maths: 660 minutes/ 24 movements = every 27.5 minutes. If CB wished to use 6days/ week. As in Modelling 1 on a 9 day fortnight therefore 4.5 times a week. The Maths: 4.5/ 6 equals 0.75 therefore 27.5 minutes x 0.75 = truck movements through Gerringong are on average every 20.63 minutes	5.12.2, 6.1.1
SE-98699457	Public	6/11/2025	Object	Gerroa	New South Wales	2534	On considering all factors (environment, traffic,safety, amenity,employment,demand,etc) a court has restricted extraction to 80,000 tonnes of sand. What has changed to make this situation so different? It seems to me that a number of factors have changed to suggest a decrease in the extraction rate would be more appropriate. Increased environmental damage to forest, habitat and atmosphere. Increased traffic through more densely populated area and school zone increasing road damage decreasing safety and amenity.	5.11.2
SE-98699962	Public	6/11/2025	Object	Gerringong	New South Wales	2534	As a resident of Gerringong who lives in Fern Street I am concerned about the increase in large trucks coming through Fern Street and Belinda Street. I believe this is a safety issue due to the high level of pedestrian traffic along Fern Street and Belinda Street including young children (many on bikes and scooters), elderly people, dogs walkers and tourists. These large trucks have to pass through a 40klm pedestrian island, then the busiest round about in town, down pass an Aged Care Facility/Retirement Village and a school zone before having to negotiate a low level railway bridge. I think there is potential for a serious incident. These large trucks also travel through a high pedestrian area along Gerroa Road with the holiday park on both sides of the road and people accessing Seven Mile Beach. This is a very busy area especially in holiday time. Trucks also have to go over a narrow bridge at Crooked River which carries a lot of local and tourist traffic - it can become quite congested at holiday time. I also have concerns about the increase noise levels and damage to local roads and infrastructure which as a rate payer we cover the cost.	5.11.2

Table A2 (Cont'd)
Public Submissions Summary

Submission ID	Submitter type	Date Created	Classification	Suburb	State	Postcode	Submission	Section Addressed
SE-98700457	Public	6/11/2025	Object	GERRINGONG	New South Wales	2534	Im writing this with my concerns for the upcoming issues with the trucks coming through Belinda street to the sand quarry in gerroa. Im a resident of belinda st, and its a beautiful quiet street and the fact that the trucks will be running through here possibly every13 minutes is actually a huge concern! We have an amazing small community and to run that amount of trucks through our village would be nothing short of a disaster. Small children, along with elderly all use this road to get about there daily living. The way this would impact the infrastructure of these roads is diabolical. We understand things can be done safely and with residents well being in mind. Thank you for your time.	Represented in Section 5.12.5
SE-98700480	Public	6/11/2025	Object	concord west	New South Wales	2138	I oppose the expansion of the CB sand mining. Cleary Brotherâ€™s new owner is not bringing anything good to our community. On the contrary: noise; damage; and danger are what Geroa and Gerringong are getting. A fifty percent increase in sand extraction means fifty percent more huge trucks going up and down our streets. I do not support the expansion	5.1.2.5
SE-98700482	Public	6/11/2025	Object	Kiama Downs	New South Wales	2533	I object to the Gerroa Quarry - Gerroa Sand Production Increase (MOD2) application because I believe that it will have an undesirable impact on road safety, road dilapidation, the amenity of local residents and have long-term environmental consequences. The documentation that I have seen regarding the proposed modification states that a 50% increase to the maximum rate of road transportation of sand from the site is desired. They state the desired increase to be from 80,000 tpa to 120,000 tpa. However, based upon the information known by the project's Community Consultative Committee, there has never been 80,000 tpa transported from the site, but instead only an average of 56,000 tpa. So in reality it is more like a 100% increase being sought, which will have a far greater impact on the adjacent residents who have never experienced such intensity of trucking. Even if the same frequency of trucks is achieved as suggested in the application, those trucks will have to be double the length. Their transit will be noisier and more disturbing for everyone who lives along their route, and they will pose a greater risk to other road users, which is of great significance in the busier times of year when large numbers of motorists and pedestrians frequent the Beach Road, Crooked River Road, Fern Street and Belinda Street route. It is unclear whether any arrangements have been made to rectify road dilapidation should the modification be improved, but this will certainly increase with increased load size and frequency of trucking movements, and the quarry must take its share of responsibility in damage rectification. My other concern is that the quarry has requested it keep the original end date for its operations, even if it exhausts the sand supply earlier. This should not be granted but instead the end date should be closely tied with the exhaustion of sand deposits in the currently approved mining area. There are multiple influences on the surrounding ecology that have been managed carefully to date, with the effect that adjacent areas have not been approved for sand mining. These adjacent places are highly environmentally sensitive with several endangered species dependent upon the maintained integrity of these lands. Any further changes to groundwater or habitat outside of the currently approved boundaries will contribute towards continued downturn of the seaward Seven Mile Beach National Park's ecosystem and should not be allowed. The probable reason that the original end date is sought for retention, is the likelihood that there are already plans to expand the quarry footprint once the increased rate of trucking from the site has exhausted the sand before that date. Further expansion should not be tolerated. There is a multiplicity of environmental arguments against further expansion that have been lodged throughout the quarry's recent history and they should not be ignored. Thank you for your consideration of these comments. Yours sincerely,	5.3.2, 5.10.1, 5.11.1
SE-98703223	Public	6/11/2025	Object	BERRY	New South Wales	2535	Please refer attached letter	5.6.1
SE-98703707	Public	6/11/2025	Object	Berry	New South Wales	2535	Gerroa Quarry - Gerroa Sand Production Increase (MOD2) I would like to make a submission relating to the proposed Gerroa Sand Mine expansion. I have a number of concerns relating to the proposal to expand the sand mine. My husband and I live opposite the sand mine property and have direct experience of the noise from the sand mine, and major traffic issues due to continuous big trucks going in and out of the mine. We are also very aware of the extremely sensitive ecological issues of this very special natural area of biodiversity. First Iâ€™d like to highlight some of the environmental issues that are likely to be impacted by the sand mine. This sand mine is adjacent to the Seven Mile Beach National Park which is home to one of the few remaining populations of the endangered Greater Glider in NSW. This population feeds at different time of year on each side of Crooked River Road, depending on which trees are in flower. For example, even though most of the population resides principally on the eastern side of Crooked River Road in the national Park, there are tie of year when there is insufficient food in flower for them within the national park and the gliders must come across the road to feed on the Swamp Mahogony trees. Several years ago the Shoalhaven Council removed around 150 trees and widened the road along the Shoalhaven LGA section of Crooked River Road and Gerroa Road which has meant that the Greater Gliders need to traverse Crooked River Road via the remaining large trees in Kiama LGA into the Cleary Brothers land that contains the sand mine, in order to reach the Swamp Mahogany forest and the western part of the Seven Mile Beach national Park.	5.3.1, 5.6.1, 5.8.1, 5.10.2, 5.12.6

Table A2 (Cont'd)
Public Submissions Summary

Submission ID	Submitter type	Date Created	Classification	Suburb	State	Postcode	Submission	Section Addressed
(Cont'd)							Hence, the land on which the sand mine is located is a crucial route for the endangered greater gliders to reach the feeding habitat that they require to survive. It is critical that the remaining large trees can be retained so that the endangered Greater Gliders have a chance of survival. Yet we can see that the new owners of the sand mine seem to be thinning the trees and shrubs between their boundary and the sand mining operations. I am greatly concerned that the new owners of the sand mine do not realise (or perhaps are unconcerned about) the need for the large trees and habitat to be retained in order to retain the viability of the endangered Greater Gliders. Using the NSW Government â€˜Trees Near Meâ€™ app, it is possible to see that the Sand Mine is located in a place of considerable varied biodiversity. The mine is located in an area with the following Plant Community Types: â€¢ South Coast Sands Bangalay Forest â€¢ Esturine Swamp Oak Twig-rush Forest â€¢ Shoalhaven Lowland Flats West Swamp Forest â€¢ South Coast Floodplain Grassy Swamp Forest â€¢ Illawarra Lowland red gum Grassy Forest â€¢ Coastal Sands Swamp Mahogany Rush Forest â€¢ South Coast Lowland Wollybutt Grassy Forest â€¢ South Coast Sands Bangalay Littoral Forest This is an extraordinary list of different Plant Community Types that currently exist on or immediately adjacent to this sand mine. To extend the sand mine and increase its operations could threaten the viability of some of these small yet diverse plant communities, yet there does not seem to be any study undertaken or consideration of the impacts of extending the operations of the sand mine on these sensitive plant communities. Noise from the Sand mine Since the new owners took over the sand mine operations we have noticed a great deal more noise from the sand mine. The proposal states that the sand mine operator has measured the noise from another of their sand mines and determined that the mining operations at their other location are not a big enough issue for them to need to check the noise of the Gerroa Sand Mine. I neg to differ. The sand mine is now very noisy on a more regular basis. I feel that the new sand mine owners should at least have the decency to consider the people to live close by the mine, can hear it and are disturbed by it. Additional truck traffic and road damage There is already a noticeable increase in truck traffic coming to and from the sand mine since the new owners took over operations. The trucks are dangerous and cause a great deal of damage to the roads that are not adequately built for the wear and tear of large traffic. Large B-double trucks are a regular feature coming to and from of the sand mine. Some trucks turn east out of the mine onto Beach Road (within the Shoalhaven LGA) and then turn north on Crooked River Road and Fern St to go though the villages of Gerroa and Gerringong then along Belinda St past the school zone and the Mayflower aged care facility to reach the Princes Highway. This is a journey of 10 kilometres along narrow streets. Through the villages of Gerroa and Gerringong there are many parked cars and plenty of pedestrian traffic. In warm weather Crooked River Road through Gerroa is abuzz with beach traffic, with pedestrians crossing the road between the beach and the kiosk/cafÃ© and camping ground. In Gerringong the trucks need to turn across the middle of the roundabout to get themselves from Fern St into Belinda St and vica-versa. Other large trucks and B-double trucks turn right out of the sand mine and proceed along Beach Road to Berry (ie: remaining in Shoalhaven Council for the 8 km drive to the Princes Hwy.) Beach Road is a narrow country road with many potholes and rough sections that are constantly being damaged and made worse by these heavy trucks. Beach Road is also a recognised cycle route, with cyclists regularly using this road to go to the beach or simply to exercise. Itâ€™s a road with wildlife regularly on the road, with overhanging trees used by wildlife. Itâ€™s also a road with several crests and blind spots, so that truck drivers should remain vigilant and ready to brake in case another vehicle comes out of a blind side street, or wildlife wanders onto the road. I am particularly concerned that an increase in large trucks using Beach Road is going to increase the number of wildlife killed on the road (sadly itâ€™s an almost daily occurrence already). An increase in large trucks is also going to increase the damage already being made to the road surface. Surely the sand mine must be held accountable for repairing the many potholes that occur from the large number of heavy vehicles from the mine. I am also very concerned for the safety of the people who use beach road to walk or cycle to the beach or into Berry.	

Table A2 (Cont'd)
Public Submissions Summary

Submission ID	Submitter type	Date Created	Classification	Suburb	State	Postcode	Submission	Section Addressed
(Cont'd)							I do hope that you seriously examine the likely impacts of the proposed increase the mining operations at the Gerroa Sand mine, and consider limiting the amount of sand mining that can occur. â€¢ I firmly believe it is unnecessary to increase the amount of sand mining at this location. â€¢ I believe that the impacts on the local wildlife and natural environment have not been adequately considered or addressed â€¢ I believe that the increase in large trucks will have a detrimental impact on the state of our local roads, increasing the cost to the two LGAs through which the sand mining trucks travel before they reach the major highway. â€¢ I believe the increase in large trucks will be detrimental to the safety of other road users, especially the vulnerable users such as cyclists and pedestrians. â€¢ I believe the increase in sand mining noise will have a detrimental impact on the peace and wellbeing of the neighbouring residents. Yours sincerely, [Name withheld] Neighbour to the sand mine Berry	
SE-98704207	Public	6/11/2025	Object	Berry	New South Wales	2535	I believe that this proposal lacks fundamental information about impacts, including those affecting the health and safety of neighbours and the adjacent communities. There has also been a complete lack of engagement with those closest to the site and those along the routes. It is my understanding that until I became aware of the application a few days ago and wrote to our local community group, even the Shoalhaven Council were unaware of the entire submission and its implications. The application is also fundamentally flawed, the claims lack validation and are incoherent. In the short time I was provided, I have detailed my concerns in the attached document and have shared this with The Berry Forum, my local MP, a concerned upper house MP and the responsible minister.	5.2.1, 5.2.2, 5.8.1, 5.9.2, 5.10.1
SE-98705958	Public	6/11/2025	Object	Willow Vale	New South Wales	2534	Re: Gerroa Quarry - Gerroa Sand Production Increase (MOD2) Kiama Municipality The Applicant, Maas Group Holdings (MGH) of Regional Quarries & Concrete Pty Limited are seeking a modification to Project Approval MP05_0099 (Mod 1) for the Gerroa Sand Quarry (the â€˜Quarryâ€™ or the â€˜Project Siteâ€™), at 7 Mile beach, formerly owned by Cleary Bros. with approval to remove 80,000 tonnes of sand per annum from the Gerroa Sand Quarry. They have lodged a proposal to increase the amount of sand extracted per annum from 80,000pta to 120,000 tonnes. This proposal will increase the maximum rate of road transportation by 50% through the small towns of Gerroa and Gerringong. I wish to object to the above application to increase the sand mining at Gerroa Sand Quarry. Please find an attachment outlining my objections. Yours Sincerely [name withheld]	5.6.2,.5.8.2, 5.11.1, 5.12.3 and 5.12.5
SE-98706457	Public	6/11/2025	Object	Gerringong	New South Wales	2534	I am concerned about the increased traffic of heavy trucks on Gerroa Road, Crooked River Bridge, Fern Street and Belinda Street. I understand the proposal is to increase the amount of sand transported by 50% which could result in more truck movements and /or larger capacity trucks. My concerns are these trucks travel through areas at Gerroa were holidayers, campers, fishers and beach goers gather and use this area in large numbers especially in holiday periods. Pedestrians crossing the road including young children, parents and eldery people. The potential for serious accidents is obvious. The trucks then move on through several roundabouts in Gerringong again with multiple movements of people walking to/from shops, walking dogs, children crossing the roads going to/from preschool and school. Elderly people around residential and aged care services, walking, using mobility devices, drop offs and pickups. I am concerned for the potential for serious accidents. Is it possible to upgrade or develop an alternative route to transport the product out through Berry and onto the Princess Highway? This would be a better option for all concerned. Kind regards,	5.12.1
SE-99104457	Public	11/11/2025	Object	Gerringong	New South Wales	2534	Attached.	5.10.1, 5.10.2
SE-99118209	Public	11/11/2025	Object	Toolijooa	New South Wales	2534	Attached.	5.9.1, 5.9.2, 5.10.1, 5.1.2.4
SE-99133709	Public Authority	11/11/2025	Comment	Kiama	New South Wales	2533	Attached.	Addressed as Government Agency submission

KIAMA MUNICIPAL COUNCIL
your council, your community

Phone enquiries:
(02) 4232 0444

Reference:
2025/105302

07 November 2025

The Planning Secretary
NSW Department of Planning, Housing and Infrastructure
Via Major Projects NSW Planning Portal

Dear Sir/Madam

Comment Submission –
State Significant Development Modification Application MP05_0099-Mod-2 - Beach Road, Gerroa - Regional Quarries & Concrete Pty Limited

Reference is made to modification application reference MP05_0099-Mod-2 lodged by Regional Quarries & Concrete Pty Ltd (Cleary Bros), seeking approval under Section 4.56(1a) of the Environmental Planning and Assessment Act 1979.

Thank you for the opportunity to provide comment, an endorsed submission will be submitted on behalf of the Council following report in Ordinary Council Meeting scheduled on 18 November 2025.

Kiama Municipal Council understands that the application proposed change involves a 50% increase in annual product transport (from 80,000 tonnes per annum to 120,000 tonnes) while maintaining all other operational conditions.

The report provides that the proposed modification would not alter the approved maximum or average heavy vehicle movement limits for the Quarry or the proportional distribution of Quarry-related traffic using the approved transport routes to/from the north or south of the Project Site.

However, as a result of the modification requiring an increase of larger vehicles from small trucks (1ft to 9ft capacity) to tri-axie, eight wheeler truck and dog configurations (32t to 42t capacity), Council staff are not satisfied that the proportional distribution of the approved transport routes have not changed and impacts properly assessed.

Traffic route from Beach Road to Princes Hwy via Berry includes a height restriction of 3.3m located on Tannery Rd (Shoalhaven LGA) due to the rail overpass. Heavy vehicles will unable to use this route, diverting majority of heavy vehicles north on local roads through the Gerroa and Gerringong township.

Feedback from community members have provided observations that truck movements have predominantly been on the route of Crooked River Rd to Princes Hwy via Belinda Street Gerringong. Concerns have been raised regarding the additional heavy vehicle interaction with pedestrians and potential road safety issues.

The modification report has not adequately addressed the impacts of transport routes and heavy vehicles, where changes conflict detail provided in the traffic impact statement by Cardno in 2018 through Mod 1.

Council requests DPHI ensures that an updated traffic impact assessment is provided to support the application prior to making a determination.

In addition, as a result of these changes to transport routes, a modification will be required for Condition (9) in relation to contributions for the maintenance/repair of public roads.

Council requests that the updated details of the traffic impact assessment inform DPHI to provide clear conditions as to how the contributions are calculated, indexation method, timing of payment; including review of cost/tonne of material haul and fair distribution to the Local Government Road Authorities should it be found that Kiama Municipal Council bears majority of the haulage traffic.

A draft condition is suggested below pending further information of a traffic impact assessment:

9 Local infrastructure contributions

In accordance with Section 7.11 of the *Environmental Planning and Assessment Act 1979*, a contribution as shown in the table below must be paid to the relevant Council in July each year:

(a) Shoalhaven City Council	$0.04 per tonne of material hauled from the site
(b) Kiama Municipal Council	$0.46 per tonne of material hauled from the site

The contribution amount is the base amount as at September 2008 and will be indexed until the date of payment in accordance with the Producer Price Index Roads and Bridge Construction (Series ID A2333685A). Evidence of payment must be provided to Council.

Condition Reason: To ensure contributions are levied toward the maintenance and repair of public roads.

Should you have any questions or wish to discuss further, please do not hesitate to contact Brayden Stratford, Acting Manager of Environmental and Compliance on 4232 0444 or by email council@kiama.nsw.gov.au.

Yours faithfully

Ed Paterson
Director Strategies and Communities

SUBMISSION – GERROA QUARRY MODIFICATION (MP05_0099-Mod-2).

Summary.

The MOD2 application should be rejected on the basis that:

- The need to increase the limit on approval to "not transport more than 80,000 tonnes of product from the site in a year" has not been established

- The application is not in the public interest

- No benefit would accrue to the community in increasing the limit on approval

- Whilst the application may result in an improved return on investment to the applicant, it would result in significant and unacceptable impacts that would be borne by the community.

This submission will deal with the following issues:

1. Description of the Proposal
2. Need and Public Interest
3. Unacceptable Impacts on the Community

1. Description of the Proposal. (Ref: S3. Pp25- 27).

The Proposed Modification would increase the maximum transportation rate by 50% from 80,000tpa to 120,000tpa. (Ref. Modification Report P25).

To transport the increased sand will require either:

- a greater number of truck movements using the same sized trucks, or,
- the same number of movements using larger trucks (32 tonnes to 42 tonnes), or,
- a mixture of both.

Given actual extraction rates have averaged 52,000 tonnes per annum, (see Appendix 1), an increase to 120,000 tonnes per annum would actually represent a 2.3 times increase in the real impacts of truck movements experienced by the community.

2. Need and Public Interest. (Ref: S7.1-11. Pp67 – 75. S7.4; S7.5; S7.9; S7.10).

The Proposed Modification does not serve the public interest and is not justified.

A. There is no demonstrated improved local economic benefit as:

- there is no indication that jobs will be lost or created
- the required amount of sand for the local LGA's will continue to be provided at a market price by current suppliers in the local market as has been done for the last 50 + years.
- competition and price setting have and are determined by an already adequately supplied market.

B. The Proposed Modification is not consistent with community feedback or views as none have been expressed through the CCC (Ref S7.5). According to the Minutes:

- no documentation or material has been presented to the CCC or community prior to that available during public exhibition.
- the only agenda item was to advise of the upcoming modification application which would be placed on exhibition for comment.

C. The need for the significant increase in production for the existing local/regional market has not been demonstrated.

- the application for the increase in the limit of production coincides with both the acquisition of the operation by the vertically integrated Regional Quarries, and a sudden increase in production reported for the 25FY (as provided in Appendix 1).
- therefore, it could be assumed that the application could result in a greater return on investment if able to access a wider and more distant but cost-effective market. However, an accelerated depletion of the resource would serve to divert a future supply from the local/regional market.

D. The road despatch system is not suitable to safely cater for the proposed increase in traffic movements and/or a significant increase in truck size that is proposed.

3. Unacceptable Impacts on the Community

In simple terms, to increase the limit to 120,000 tonnes has to result in a 50% increase in truck frequency, or, the trucks would have to drastically increase in size, or both. Each of these would have unacceptable impacts on the community.

It is important to note that there has been no traffic assessment in the application of the impacts on the capacity, condition, safety and efficiency of the local and town roads along the transport routes that would result from the proposed increase in frequency and/or truck size.

Impacts of the proposal on the community are outlined under the following;

A. Increased truck frequency
B. Increased truck size
C. Combined impacts on the community

A. Impacts of an increase in truck frequency.

S3.2 Overview and S3.4 Transportation (Ref Pp.25-27), contain conflicting information regarding the transportation route and vehicle distribution to/from the north or south.

Based on the different information this could result in;

a) Based on the transportation route presented in the Modification Report (Ref P27), and in accordance with the Conditions of Consent, the Proposed Modification would result in a truck **movement every 24 minutes through Gerringong and Gerroa to the north,** plus a truck **movement every hour through Berry township to the south** (see i. below).

b) Alternatively, based on the transportation route stipulated by management procedures (Ref: QEMP. 27/6/23; Pp6-18; P6-19), and Fig 3 (Mod Report P12), the vast majority of truck movements north and south are directed through Gerringong and Gerroa as the approved route. Consequently, the Proposed Modification would result in **a truck movement in the order of every 17 minutes through Gerringong and Gerroa to the north**. (see ii. below)

Compared to the average annual transportation movement over the last fifteen years, this would represent **a tripling in frequency to the north** (if b. above), and close **to a doubling of frequency of any movement to the south** (if a. above). See the calculation for 52K t/pa (15-year average) below.

The frequency would present a dominant and intrusive presence and would increase safety, maintenance and noise concerns within the coastal villages and associated roads.

The following four scenarios (i.– iv.) illustrates the increase in truck frequency that would result from the Proposed Modification under various potential transportation operations.

i) Using allowed operating hours at 6 days per week, (Mon -Sat), and 48 weeks of work per year, with ~70% travelling north through Gerringong and Gerroa, and ~30% travelling south through Berry township in accordance and compliance with the route approved in Conditions of Consent (Ref: Mod. Report P27), the following comparisons are valid **using 22t average truckloads** for consistency with the Mod. Report (Ref: P27):

52K t/pa (15-year average), results in:
(9 trucks/18 movements per day/6days/48weeks)
12 movements **north** per day or every **55 minutes**.
and 6 movements per day in the **south** or every **1hr 50mins.**

80K t/pa (current limit), results in:
(12 trucks/24 movements per day/6 days/48 weeks)
17 movements **north** per day or every **40 minutes.**
and 7 movements per day in the **south** or every **90 mins.**

At **120K t/pa** (Mod2 application), you would need:
19 trucks/38 movements per day/6 days/48 weeks
with 27 movements **north** per day or every **24 minutes.**
and 11 movements per day in the **south** or every **hour.**

ii) Alternatively, at 120K t/pa (Mod2 application) and all movements directed north/6 days/48 weeks/22 t average truckload would result in:
38 movements **north** per day or **every 17 minutes.**

iii) Using operating hours based on a **9-day fortnight**, 48 weeks per year, **22t average truckloads,** and all traffic travelling north through Gerringong and Gerroa:

At **120k t/pa,** you would need:
50 movements **north** per day or **every 13 minutes.**

Iv) Using operating hours based on **a 9-day fortnight**, 48 weeks per year, **35t average truckloads,** and all traffic travelling north through Gerringong and Gerroa:

At **120K t/pa,** you would need:
32 movements **north** per day or **every 20 minutes.**

B. Impacts of an increase in truck size.

The Proposed Modification would result in the use of "a greater proportion of larger capacity vehicles" that are more than double the previously modelled average vehicle in size and capacity.

They are unsuited to the transportation route encompassing residential and village centres, would increase the safety risk to the community and would significantly degrade the road structure.

- previous modelling (Cardno 2018) assumed an average truck load of only 15 tonnes operating at maximum traffic levels was required to transport 80, 000 t of product per annum.

- prior to the sudden increase in production reported for the 25FY, and a corresponding increase in the use of larger vehicles up to 42 t, the 22t truck was in general the largest vehicle observed in transportation.

- this application would result in the routine use of larger trucks (32t to 42t).

- a 42 t truck and dog vehicle is twice the size and length (~20m), compared to a 25 t vehicle.

- a 42 t truck will cause significantly more damage compared to lighter capacity trucks as evidenced by recent road damage along the northern route.

C. Combined impacts on the Community

There are unacceptable impacts of an increase in truck frequency and/or size on the community, including;

- exponential damage to road pavements and structure in excess of contributions and maintenance schedules leading to permanently damaged roads. Roads in proximity to the quarry are generally in poor condition and in decline.

- additional pressure on road capacity and safety in the context of recent increases in density and population, increasing visiting numbers and conversion of rural to residential land along the transportation route.

- increased frequency and level of truck noise at sensitive locations (vertical climbs and Mayflower Retirement Village)

- a series of unsafe roundabouts, both north and south, too small for large trucks to routinely negotiate with safety amongst traffic, bicycle riders and pedestrians.

- pedestrian islands and parked cars resulting in trucks having to veer into oncoming lanes of traffic. (e.g. at the Fern St Post Office)

- domination of narrow town and country roads by a convoy of trucks that travel in series.

- The frequency and size of the trucks would act to adversely impact the image and identity of the highly visited and attractive tourist towns

- heightened danger at intersections with limited sight distance (e.g. exit from Gerroa via Riverleigh Ave; intersection of Toolijooa Rd and Berry Beach Rd).

- heightened risk from having to navigate narrow road passages and parked vehicles in built up areas

- heightened risk posed by bends with limited visibility that have contributed to head-on collisions and a fatality

Appendix 1: Extraction Volumes

Over the last 15 years, the extraction volume per annum has averaged 52,000 tonnes, and as low as 31,000 tonnes for the 21 – 22 year.

- some manufactured sand and additional sand from the Southern Highlands have in the past been used to blend with the fine local sand to achieve specifications.
- annual extraction/sales volumes reported in Annual Reviews and Audits show:

AR(Aug25) for FY25:	79,968.21 t
AR(Aug24) for 22 - 23:	45,986 t
AR(Aug23) for 21 - 22:	31,291 t
AR(July22) for 20 - 21:	43,155 t
AR(July21) for 19 - 20:	54,178 t
Env. Audit (20/10/19) for 18 - 19;	55,790 t
AR(July19) for 17 - 18;	49,128 t
AR(July18) for 16 - 17:	80, 005 t
AR(July17) for 15 - 16:	79,832 t
AR(July16) for 14 - 15:	79,646 t
AR for 13 - 14:	74,153 t
AR for 12 - 13:	31,996 t
AR for 11 - 12:	26,911 t
Env. Audit (Jan 14) for 10 - 11:	53,591 t

Note that the AR(Aug25) shows sand sales volumes for the Financial Year 25, and the previous AR(Aug24) shows sales for the 22 - 23 period, which means that the July23 - June24 period is missing.

6 November 2025

Carl Dumpleton
Planner
Department of Planning, Housing and Infrastructure
carl.dumpleton@planning.nsw.gov.au BY EMAIL

Dear Mr Dumpleton

Re: Submission of Objection to Gerroa Quarry Modification (MP05_0099-Mod-2) – Gerroa Sand Production Increase (MOD 2), Beach Road, GERROA, NSW 2534

I refer to my telephone conversation with you on 23 October 2025 and note your advice in response to the questions I raised:

- That the proposal seeks to increase the current operating days from 5 – 6 days per fortnight to 8 days per fortnight;
- There will be more trucks frequenting the roads but the trucks will not be larger/heavier;
- Cleary Bros was not operating to the full capacity of what they were permitted to do whereas the Modification Application (MA2) seeks to do that;
- No bushland will be removed; and
- The proposal seeks to operate in the same footprint.

My submission of objection is based on the following:

1. TRAFFIC AND ROAD CONCERNS

It is my understanding that the former owners of Cleary Bros were operating under the 80,000 tonnes per annum (t.p.a.) limit, averaging 52,000 t.p.a.

I note the Minutes of the Gerroa Sand Resource Community Consultative Committee Meeting, held on 28 August 2025, state that the "Total sand transported from the Gerroa resource in FY25 was 79,968 tonnes" (as shown in excerpt below).

Item 4 – Gerroa Sand Resource CCC Meeting 28th August 2025

Cleary Bros reports and overview of activities

Progress of the Project

Total sand transported from the Gerroa resource in FY25 was 79,968 tonnes. Cleary Bros continues to supplement the Gerroa sand supply with manufactured sand produced at our Albion Park Quarry. Additional fine sand was sourced from 3rd parties in May and June 2025 to ensure production did not exceed production limit. Production rate is expected to continue at the upper production limit of 80,000t/year. Sand is currently being produced from the modification area.

If the previous owners "Cleary Bros" were averaging 52,000 t.p.a. - and if MA2 is approved, in reality the frequency of trucks used by the new owner would be substantially increased to what people have been used to seeing/noticing when "Cleary Bros" were the owners. And, the statement in MA2 that "Number of truck movements will not change from that originally modelled" (as shown in excerpt below) would appear to be rather meaningless in this context, would it not?

How is the modification substantially the same as the original development?

The proposal is considered substantially the same development for the following reasons.

* No changes to the Project Site disturbance footprint or infrastructure would be required.
* No changes to the approved hours of operation.
* Existing processing plant and extraction and processing methods will be used.
* Number of truck movements will not change from that originally modelled.
* No significant increases in adverse environmental impacts associated with the Quarry.

Also, if it is accurate that Cleary Bros was averaging 52,000 t.p.a., and MA2 is approved which seeks an increase from the "allowable" 80,000 t.p.a. to 120,000 t.p.a., in reality would that not be an increase of **over** 100% in 'real terms'?

As shown in the 28 August 2025 Minutes of the Gerroa Sand Resource Community Consultative Committee Meeting, in the "FY25" the new owner has transported "79,968 tonnes" of sand, which is 27,968 tonnes more than the average transported by the former Cleary Bros at approximately 52,000 t.p.a.

It is my understanding that all year the new owner has been using contractor trucks which are approx. **45 tonne trucks** and that those trucks are a lot heavier than the approx. **25 tonne trucks** previously used by the former owners of Cleary Bros. Is that accurate?

The approx. 25 tonne trucks used by the previous owners of Cleary Bros are the type of trucks that people are used to seeing/noticing, however not many people would realise that larger trucks which do not necessarily contain a "Cleary Bros" sign would be traffic associated with the sand mine operation.

If the information I have received about heavier trucks being used is accurate, how does that align with the Department's advice that no heavier trucks will be used? Is the Department aware that the new owner is using heavier trucks than those traditionally used by Cleary Bros?

Crooked River Road, Fern Street, and Belinda Street, are not designed to cater for these heavier trucks and what appears to be the start of a more ambitious sand mine operation at Gerroa by a new owner.

I disagree with the use of heavier trucks but if the Department is unfortunately inclined to support the proposal, what measures would be put in place to address the damage caused to the roads by additional and heavier trucks?

I draw your attention to the state of Crooked River Road which is located north of the Beach Road intersection with Gerroa Road and Crooked River Road. A portion of Crooked River Road north of the Beach Road intersection falls under the control of Shoalhaven City Council, whereas the remainder of Crooked River Road is within the Kiama Municipality. I have marked with a red line in the photo below to show the approximate location of substantial damage that has been occasioned to Crooked River Road within the Kiama Municipality:

It would appear that the damage to Crooked River Road is likely to have been caused by these heavier trucks now being used by a new owner of Cleary Bros (photos below). This damage is obviously not being caused by motor vehicles, and I point out that less motor vehicles travel along Crooked River Road now than they did prior to the Upgrade of the Princes Highway at Gerringong, Foxground, and Berry.

Crooked River Road, Gerroa – north of Beach Road intersection
(Kiama Municipality)

The worst section of road – photos taken at different angles to try and show the height of the "shoving" in the middle of the road – this section is dangerous and would be especially so to smaller vehicles

It is impossible for me to pinpoint precisely on **Google Earth Pro** where the most damaged part of the road is shown in the photos above, however on Google Earth Pro – when I navigate at "ground level view" the length of Crooked River Road (marked in red in photo on page 3 herein), it shows there is some damage to the road in some places (as shown in example photo next page), however it does not appear to be anywhere near as damaged as shown in the photos above.

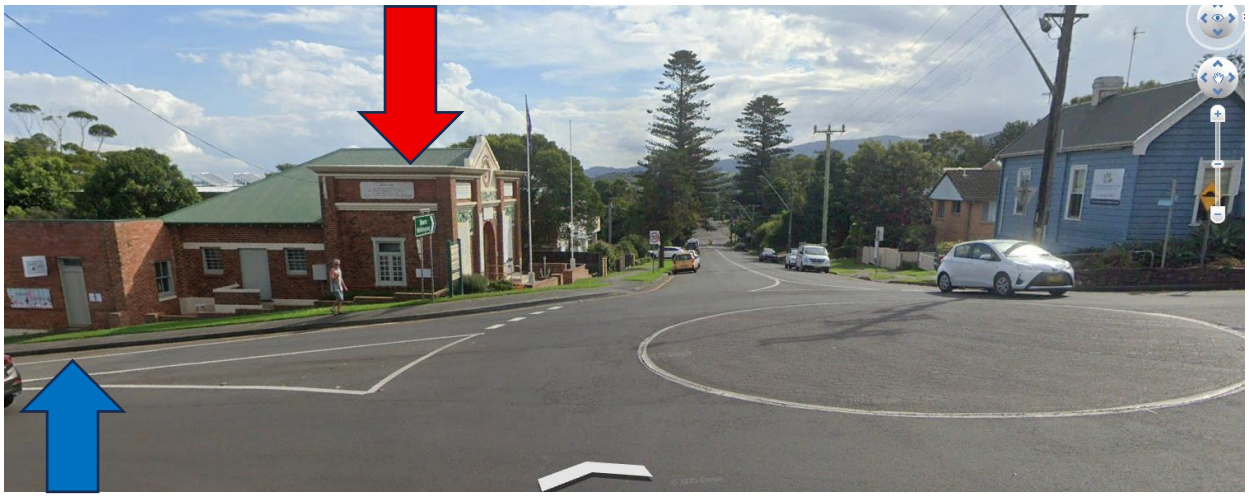
I believe the significance of this is that the Google Earth Pro Imagery is dated "April 2024", so the imagery was taken **before** "Total sand transported from the Gerroa resource in FY25 was 79,968 tonnes" (as shown in Minutes of Gerroa Sand Resource Community Consultative Committee Meeting, held on 28 August 2025).

Considering the damage to Crooked River Road in April 2024 does not appear to be anywhere near as severe as it is now, it raises a question as to when the larger and heavier 45 tonne trucks started being used on Crooked River Road? For example, how many tonne was transported in the financial year preceding "FY25", i.e., FY24?

Google Earth Pro Imagery Date: April 2024

I have also been told by people who use the RSL Hall in Gerringong (see red arrow in photo below), adjacent to the roundabout at the intersection of Fern and Belinda Streets, that you cannot hear a person speaking in the RSL Hall when the sand mine trucks turn left at the roundabout from Fern Street into Belinda Street to access the Princes Highway. It is therefore not difficult to imagine ongoing adverse impact from an increase in frequency and heavier trucks travelling to the Princes Highway via the CBD of the coastal town of Gerringong if MA2 is approved.

Google Earth – roundabout Fern & Belinda Streets – facing west in Belinda St
Fern Street – blue arrow



2. ENVIRONMENTAL CONCERNS

Although I doubt whether anything to do with the "natural environment" will be considered relevant in relation to MA2, I point out:

MA2 states there will be **"No significant increases in adverse environmental impacts associated with the Quarry"** (see excerpt below).

How is the modification substantially the same as the original development?
The proposal is considered substantially the same development for the following reasons.
* No changes to the Project Site disturbance footprint or infrastructure would be required.
* No changes to the approved hours of operation.
* Existing processing plant and extraction and processing methods will be used.
* Number of truck movements will not change from that originally modelled.
* No significant increases in adverse environmental impacts associated with the Quarry.

However, every time development increases there is some form of adverse environmental impact, and incremental increases in development ultimately result in a 'significant' adverse environmental impact overall. This has **already** occurred at Gerroa - hence the NSW Scientific Committee listing the **Greater Glider** in the Seven Mile Beach National Park area as an **ENDANGERED POPULATION** (Gazetted 16 December 2016), with **"sand mining**" and the **"extension of the sand mine"** at Gerroa being one of the contributing factors to loss of Greater Glider habitat and fragmentation of the species – excerpt below, taken from Final Determination of the NSW Scientific Committee:

11. The Greater Glider population in the Seven Mile Beach National Park area is facing a number of threats including habitat loss, fragmentation and degradation. The population has undergone loss and fragmentation of habitat over the last decade as a result of clearing associated with agriculture, golf course expansion, sand mining, sewage treatment plant construction and roadside clearing, resulting in loss of hollow-bearing trees (G. Daly *in litt.* March 2014, D Moore *in litt.* August 2016). The Greater Glider has specific requirements for tree hollows for shelter and breeding and particular tree species assemblages to provide foliage for food (Kavanagh and Lambert 1990). In addition, the species has relatively poor dispersal ability, high site fidelity and a low reproductive rate compared to other possums and gliders (Henry 1984). Hence the species is particularly vulnerable to habitat alteration (Tyndale-Biscoe and Smith 1969; Kavanagh and Wheeler 2004). Continued urban development of the Shoalhaven and Berry areas and extension of the sand mine are likely to lead to further habitat loss and fragmentation of the species habitat, reducing the potential habitat patches and the possibility of Greater Gliders dispersing and colonising these patches (G. Daly *in litt.* March 2014). Small isolated populations of Greater Gliders may be significantly suppressed by predation (Kavanagh 1988) and Powerful Owls (*Ninox strenua*) are known to occur in the Seven Mile Beach National Park. 'Clearing of native vegetation' and 'Loss of hollow-bearing trees' are listed as Key Threatening Processes under the Act.

I also refer you to the *Illawarra Shoalhaven Regional Plan 2041* (May 2021) which describes the "**high conservation value**" of the land at Gerroa in the vicinity of the "potential sand resource" – excerpts provided below:

Land at Seven Mile Beach, Gerroa has both a potential sand resource and high conservation value. The land supports an array of flora and fauna, including endangered ecological communities, numerous threatened species and areas mapped as coastal wetlands, littoral rainforests and coastal environment areas under *State Environmental Planning Policy (Coastal Management) 2018.*

The land has also been identified as an important regional corridor between Seven Mile Beach and Barren Grounds Nature Reserve and has been mapped as part of the Berry Corridor – one of 10 priority corridors identified in the region. Extraction would have considerable impact on this sensitive habitat and ecological link.

Strategy 11.1

Protect, maintain or restore important environmental assets.

Strategic planning and local plans should consider opportunities to:

- recognise the validated high environmental value lands in local environmental plans
- minimise potential impacts arising from development on areas of high environmental value and implement the 'avoid, minimise and offset' hierarchy
- consistently manage riparian corridors through strategic conservation planning initiatives that accommodate natural physical processes and integrate water sensitive urban design principles.

The NSW Conservation Status for the Greater Glider is "Endangered".

Following the wildfires of 2019/2020, the Commonwealth Status for the Greater Glider was escalated from "Vulnerable" to "Endangered".

I point out that the **Draft National Recovery Plan for Greater Gliders** (DCCEEW 2025, *National Recovery Plan for Greater Gliders (Petauroides volans* and *Petauroides minor)*, Department of Climate Change, Energy, the Environment and Water, Canberra. CC BY-NC-ND 4.0.) references the Greater Gliders at Seven Mile Beach.

MA2 appears to be "the thin edge of the wedge". I note the new owner/s have also purchased Lot 22 DP 511283 which is currently protected from sand mining. It stands to reason that Lot 22 may have been purchased due to an even more ambitious agenda "waiting in the wings" which of course would be of concern if that is the case. The sand mining operation is adjacent to:

- Farmlands;
- Well-documented environmentally sensitive areas that are home to the "**Endangered**" **Greater Glider** (2022) and in this instance an "**Endangered Population**" since 2016;
- Council managed Crown lands categorised as 'Natural Area – Bushland' (Kiama Municipal Council); and
- One of the smallest National Parks in NSW – Seven Mile Beach National Park.

3. STRATEGIC AND HOLISTIC PLANNING OUT THE WINDOW

There are a number of significant proposals/developments in Gerringong including MA2. I draw your attention to:

- 5 Sims Road, Gerringong – previously subject of PP-2021-4961 (Not proceeding) but now proposed for General Industrial use via Council's 'Draft Employment Lands Strategy';

- 48 Campbell Street, Gerringong – proposed rezone of prime agricultural land to residential – 147 lots – previously subject to PP-2021-3536 (Not proceeding), and PP-2025-61 (Approved - Post-exhibition);

- 86 Campbell Street, Gerringong – "waiting in the wings" to propose rezone of prime agricultural land to residential – 170 lots – PP not yet lodged but recently included in the Kiama Local Housing Strategy and subject of a previous joint PP with owner of 48 Campbell Street which was not realised;

- 104 Belinda Street, Gerringong - Kiama Council DA 10.2025.84.1 – New residential flat building – 26 units; and

- 35 Belinda Street, Gerringong – Kiama Council DA 10.2024.167.1 – 3 storey Residential Flat Building – 18 units (Withdrawn). Little doubt will be re-lodged at some stage – same owner as 86 Campbell Street farmland, Gerringong.

All the above will have an impact on Belinda Street and residents in the vicinity. And, no doubt there will be further proposals for residential flat buildings in Belinda Street, Gerringong, in the future.

There is no overall strategic planning or coordinated strategic approach in regard to development which will result in exacerbated adverse traffic and amenity impacts. The Department needs to look at these proposed developments including MA2 collectively, to appreciate the overall impacts.

4. COMPLAINT ABOUT PUBLIC CONSULTATION PROCESS

On Thursday, 23 October 2025, I received a notification letter in the post from the Department about MA2, which was dated 14 October 2025. That letter stated public exhibition was from "Thursday 16 October 2025 until Thursday 30 October 2025". I therefore received the notification letter from the Department seven (7) days before the close of the public exhibition period.

As indicated in a telephone call to the Department on 23 October, seven (7) days is insufficient notice for a person to be able to read the 188-page document accompanying MA2 and is prohibitive to a person making an informed submission.

I note the Department's advice that 14 days is the legislated timeframe for submissions and that the Department sending letters by post is also mandated.

As indicated on the phone, everybody is now aware that Australia Post do not deliver daily and where letters were once received between 2 – 3 working days after posting, it is not uncommon that letters can take 5 - 7 or more days to be delivered. As the Department is aware of this, the delayed delivery of posted letters should be built-in to the timeframe for the public exhibition period. To do otherwise, as was the case in this instance, instantly reduces the 14 day exhibition period to 7 days. How is that considered reasonable and fair?

Moreover, I note that the *Environmental Planning and Assessment Act 1979 No 203* (the Act) states under Schedule 1 > Part 1 > Division 2 > Section 10:

> "**10 Application for modification of development consent that is required to be publicly exhibited by the regulations**
>
> Minimum public exhibition period of an application for modification of development consent that is required to be publicly exhibited by the regulations –
>
> (a) If the relevant community participation plan specifies a period of public exhibition for the application – the period so specified, or
>
> (b) otherwise – 14 days

As shown above, it would appear the "legislated" timeframe of "14 days" is a **"minimum"** requirement.

Furthermore, I refer to the NSW Government website regarding "Modifications" for State Significant Infrastructure, which states:

> **Exhibit modification application**
>
> Once received, the department will publish the modification application and modification report on the NSW planning portal. The department is required to exhibit modification applications involving greater than minimal environmental impact as well as applications to modify a consent granted by the Court.
>
> If the department exhibits the modification application, the exhibition period will generally be for a minimum of 14 days. This is to give the community an opportunity to read the modification report and make a submission on the merits of the modified project.
>
> The department will notify and advertise the public exhibition in accordance with the requirements in the EP&A Act and Environmental Planning and Assessment Regulation 2021.
>
> During the exhibition period, anyone can make a written submission on the modification application.
>
> People may also subscribe for updates on progress of the modification application.

It therefore appears I was not provided with complete information regarding the "legislated" "14 day" timeframe being a "**minimum**" requirement.

I note the Minutes of the 28 August 2025 Meeting of the Gerroa Sand Resource Community Consultative Committee show the Committee was advised it was **"expected"** that the Department would place MA2 on public exhibition **"for a 4 week period"** (as shown below)**:**

> Further to the report, Mr Hammond advised that a Modification Report has been submitted to the Planning Portal for consideration. It is expected that the Department will review, and then place on public exhibition for a 4 week period. Mr Hammond stated that he would notify all CCC representatives when it is placed on exhibition, so that they would have a chance to review and respond if they chose.

It is also my understanding that certain people from and associated with Gerroa Environment Protection Society (GEPS) who have had the longest standing interest in this topic, did not receive any written notification from the Department.

The notification letter I received from the Department only seven (7) days before the close of the public exhibition period, states:

> "**Have your say**

> If you think you'll need help making a submission using the portal, it's a good idea to contact customer support sooner rather than later. Ensure you give yourself plenty of time to make a submission before the project's exhibition end date."

So, I received a notification letter (seven) 7 days prior to the closing date of the public exhibition period and notwithstanding that there was a 188-page document attached to the application, it is advised that people should look at the portal to see if they need "help" and if so, to "contact customer support sooner rather than later" and then give yourself **"plenty of time to make a submission"**. How is it possible to give yourself "plenty of time" when there was not even the "minimum" amount of time?

The abovementioned "**Have your say**" also states:

> "To have your say on this project, you must lodge a submission online through the NSW Planning Portal before the close of exhibition."
>
> To do this, search for this project at planningportal.nsw.gov.au/major-projects and click on 'Make a submission'. You will need to log in or create a user account."

And, as shown below - when a person clicks on "Make a submission", there is a screen that not only requires an email address, but which also requires that a "Password" be created.

This convoluted way in which people have to navigate to make a submission is counterintuitive to "public consultation". This is because it is common knowledge that most people who take an interest in these sorts of topics are older people who have more time on their hands to read documents which they could not do when they were younger by virtue of raising families and working for example. It is also common knowledge that online technology was not commonly used when a lot of older people were of working age, and therefore many older people are not familiar with how to navigate online processes.

Previously, people were able to make an online submission with the Department by merely uploading the file from the computer without having to sign-in and create a password. That was a far simpler process to lodge a submission for those unfamiliar with online technology. And, as for asking people to create a "Password" – that seems like "overkill" considering the amount of "passwords" people are expected to "create" these days and especially so for older people described above.

It therefore seems that the one demographic who is “more likely” to make a submission is being thwarted by a more complicated process which could very well result in those people deciding not to make a submission due to it being “too much of a hassle”.

I found out on Wednesday evening, 29 October 2025, that there had been a one (1) week extension to the close of the public exhibition period – taking the end date from 30 October 2025 to 6 November 2025. It therefore took one (1) week for a one (1) week extension to be obtained. Considering that I only received notification one (1) week prior to the original closing date of 30 October, the one (1) week “extension” that was granted is basically the week that was lost in the postal system. Therefore, it is still the “minimum” 14-day timeframe.

In addition, at the time of writing this at 4.02 PM on 6 November 2025, the SSD Modifications website is stating **“Submissions closing in 4 days”**. This is appalling and would be adding to the confusion.

The Department really should simplify the public exhibition process for online submissions to be lodged, as presently it is at odds with the concept of “public exhibition” for the reasons outlined above. And, the timeframe that everybody knows it can take for posted notification letters to be delivered, should be built-in to the notification period as a ‘standard’.

As I refer to a telephone conversation herein, it would appear to be more appropriate that I email my submission, and request that it be uploaded to the portal.

ADDENDUM next page.

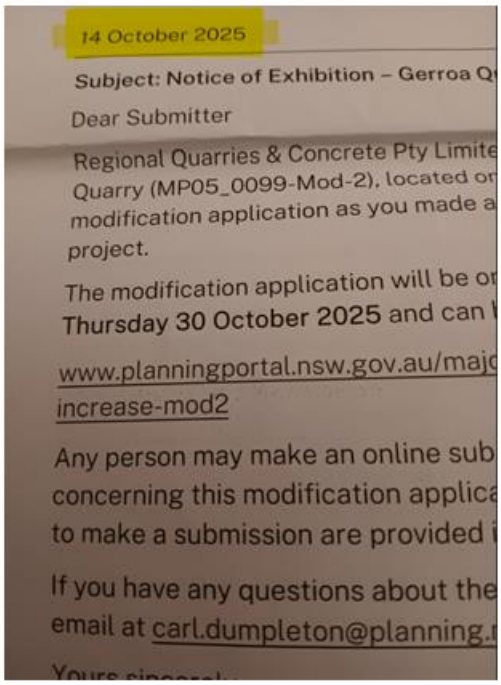
ADDENDUM

11/11/2025

DETAIL OF FURTHER CONCERNS REGARDING PUBLIC EXHIBITION PROCESS

Issues pertaining to Postal delivery timeframes of notification letters

The Department's notification letter was dated Tuesday, 14 October 2025 and was posted by the Department on the same date – shown by the date on the letter and the date stamp on the outside of the envelope I received – see below:


14 October 2025

Subject: Notice of Exhibition – Gerroa Q

Dear Submitter

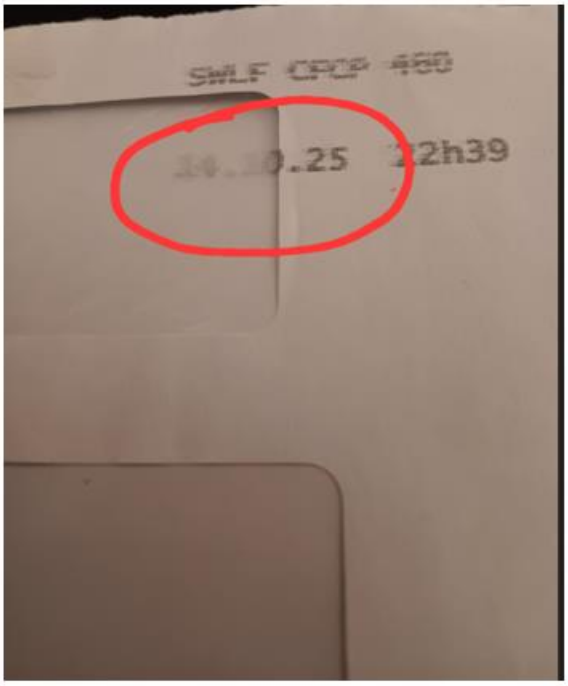
Regional Quarries & Concrete Pty Limite
Quarry (MP05_0099-Mod-2), located or
modification application as you made a
project.

The modification application will be or
Thursday 30 October 2025 and can

www.planningportal.nsw.gov.au/majo
increase-mod2

Any person may make an online sub
concerning this modification applica
to make a submission are provided

If you have any questions about the
email at carl.dumpleton@planning.



As shown in the excerpt from the Exhibition Notice (see below), the commencement date of the exhibition was "Thursday 16 October 2025" which was only two (2) days after the Department had dated and posted the notification letter on "Tuesday, 14 October 2025".

About the exhibition

An exhibition process allows any individual or organisation to have their say about a proposed development.

The Department of Planning, Housing and Infrastructure (Department) has received an application to modify the abovementioned approved State significant development. The application and accompanying documents (including the modification report) are on exhibition from Thursday 16 October 2025 until Thursday 30 October 2025. You can view these documents online at planningportal.nsw.gov.au/major-projects.

At the time of publishing this advertisement, the Minister for Planning and Public Spaces has not directed that a public hearing should be held.

This indicates that the Department believes the normal delivery timeframe for letters by Australia Post is two (2) working days. While two (2) working days used to be considered somewhat "the norm", it has been common knowledge for some time that that is no longer the case, and that anywhere from five (5) days plus has become the "new norm" – as I mentioned in a telephone conversation with the Department on 23 October 2025 and which was acknowledged as being the case. This was also shown by it taking 7 days for the notification letter to be delivered to me.

As it is now common practice for posted letters to take 5 – 7 working days to be delivered, it stands to reason that seven (7) working days should be built-in to the "minimum" 14-day requirement for exhibition - **noting** that Australia Post only delivers letters on "working days" and that the legislation regarding the "minimum" 14 day requirement **does not** differentiate between "working days", "weekends" or "public holidays".

As stated herein, I received the notification letter on 23 October 2025 and Submissions were due one (1) week later, on 30 October 2025. On 29 October 2025, I ascertained that a "one (1) week extension" for Submissions to be lodged had been granted with the new closing date for Submissions being 6 November 2025 – **noting** that 29 October 2025 was only **one (1) day** before the initial closing date of 30 October 2025.

If a "one (1) week extension" had not been granted, I would not have been provided with even the "minimum requirement of 14-days". This raises a question as to how many other people were affected in the same manner?

As an example - using the notification letter that I received from the Department only one (1) week prior to the closing date of the exhibition period on 30 October 2025:

As the Department is aware that it takes longer than two (2) working days for letters to be delivered, it would appear that the Department posted the notification letter in the full knowledge that the letter would unlikely reach the addressee prior to the commencement of the exhibition period which was only two (2) days after the letter had been posted. Does this not indicate that the Department is knowingly or unwittingly breaching the "minimum" 14-day exhibition period for public submissions?

In order to be fair to the "public" exhibition process – in order to provide the "minimum" requirement of "14 days" exhibition period, the Department would need to post notification letters earlier than only two (2) days prior to the commencement date of the public exhibition; OR extend the commencement date of the public exhibition that is shown in the Exhibition Notice. Notwithstanding that, it is simply "unfair" to the "public" consultation process to provide only the "minimum" requirement of "14 days" exhibition period when there is a 188-page document supporting the modification application.

Issues pertaining to the website for SSD Modifications

After the one (1) week "extension" was granted, the "SSD Modifications" website showed on the right-hand side under "Project Details" for MA2, that the "End date" of "Exhibition" was "06/11/2025", but to access that information a person needed to scroll down the page. The **issue** is at the top of the page, where in a prominent location there was information showing how many days were remaining for Submissions to be lodged.

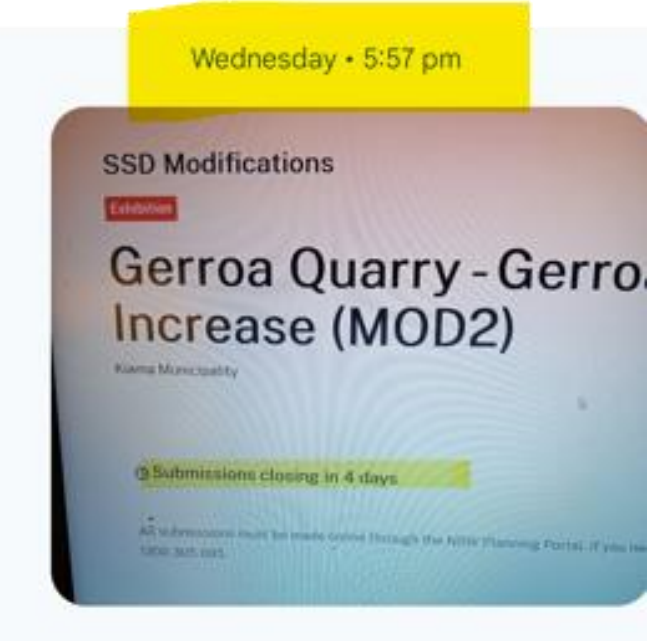
I bring to your attention that there were **issues** relating to the website providing inaccurate and therefore misleading information regarding the number of days remaining for the lodgement of public Submissions. In addition, the number of days remaining for Submissions to be lodged was different/conflicting depending on the search engine used to access the website, and also whether a mobile phone was used as opposed to a computer to access the website. Provided hereunder are a number of screenshots which show how chaotic and misleading the information on the website has been in relation to the time remaining for public submissions in relation to MA2. The screenshots provided on the following pages, can be summarised as follows:

WEBSITE	Wed	**5 November 2025**	5:57 PM	"Submissions closing in **4 days**"
WEBSITE WEBSITE WEBSITE WEBSITE	Thurs Thurs Thurs Thurs	**6 November 2025** 6 November 2025 6 November 2025 6 November 2025	4:02 PM 11:40 PM 11:42 PM 11:49 PM	"Submissions closing in **4 days**" "Submissions closing in **1 day**" "Submissions closing in **4 days**" "Submissions closing in **1 day**"
WEBSITE WEBSITE	Fri Fri	**7 November 2025** 7 November 2025	12:00 AM 5:08 PM	"Submissions closing in **1 day**" "Current Status: **Collate Submissions**"
WEBSITE WEBSITE	Sun Sun	**9 November 2025** 9 November 2025	6:37 AM 9:18 PM	"Submissions closing in **8 days**" "Submissions closing in **1 day**"
WEBSITE WEBSITE WEBSITE	Mon Mon Tue	**10 November 2025** 10 November 2025 **11 November 2025**	1:46 AM 12:00 PM 8:37 PM	"Current Status: **Collate Submissions**" "Current Status: **Prepare Mod Report**" "Current Status: **Collate Submissions**"

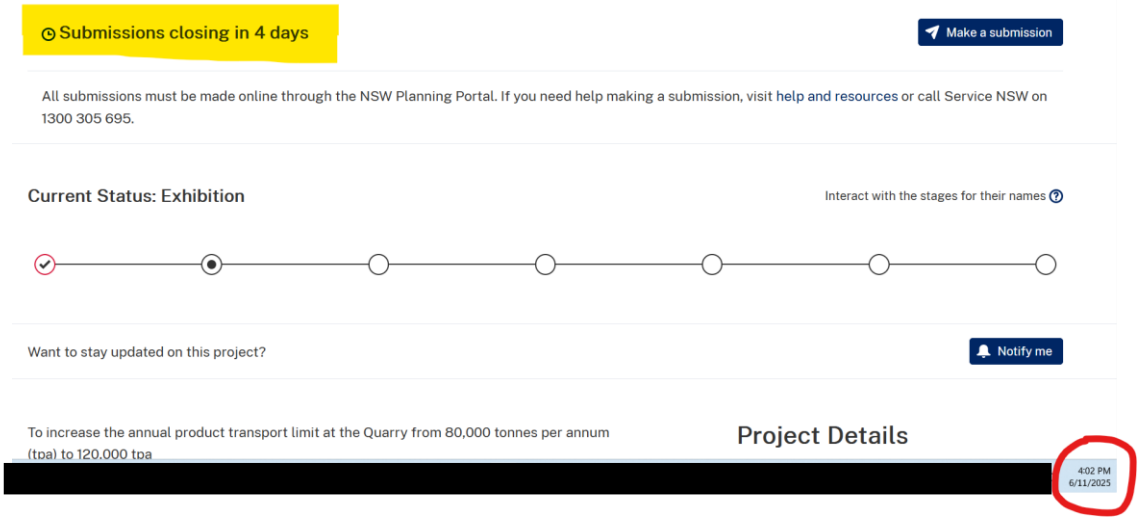
If this is a website issue, surely it should be rectified? The inaccurate, changing, and misleading information displayed in a prominent position on the website for Gerroa Sand Mine – MOD-2 throughout the past week, shows there is a major issue with the website that needs rectifying. It also shows that the public exhibition period for the modification application was unfair to say the least. This raises a question as to whether this sort of thing is occurring with other modification applications and applications generally, or whether the issue only related to the Gerroa Sand Mine – MOD -2 application?

SCREENSHOTS TAKEN OF SSD MODIFICATIONS WEBSITE

- **Wednesday, 5 November 2025 at 5:57 PM – "Submissions closing in 4 days":**



- **Thursday, 6 November 2025 at 4:02 PM – "Submissions closing in 4 days":**



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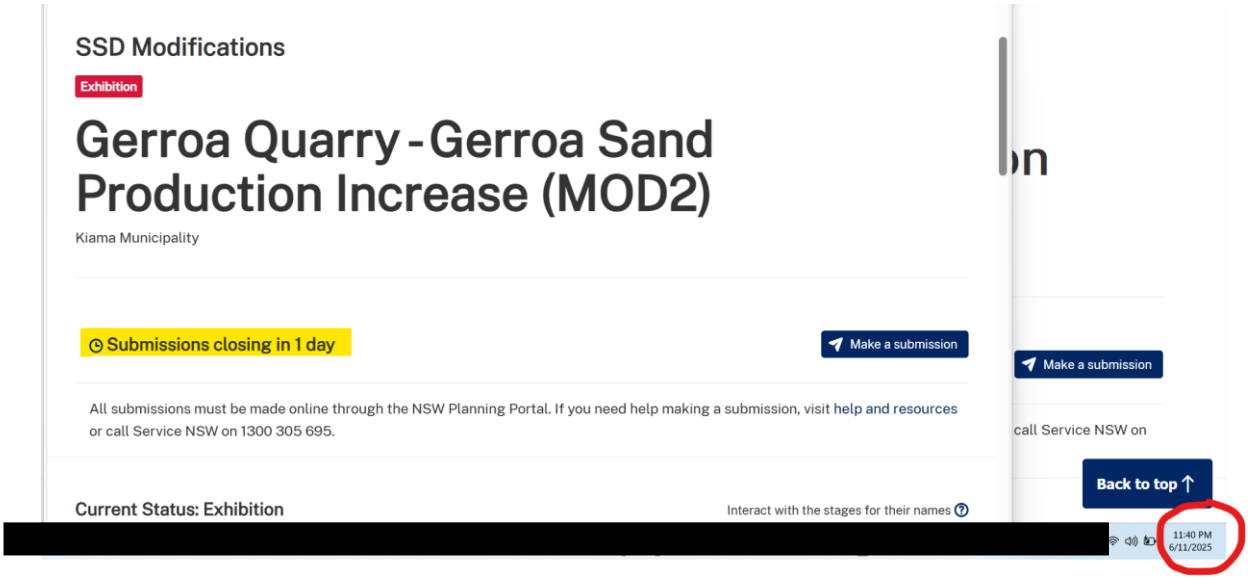

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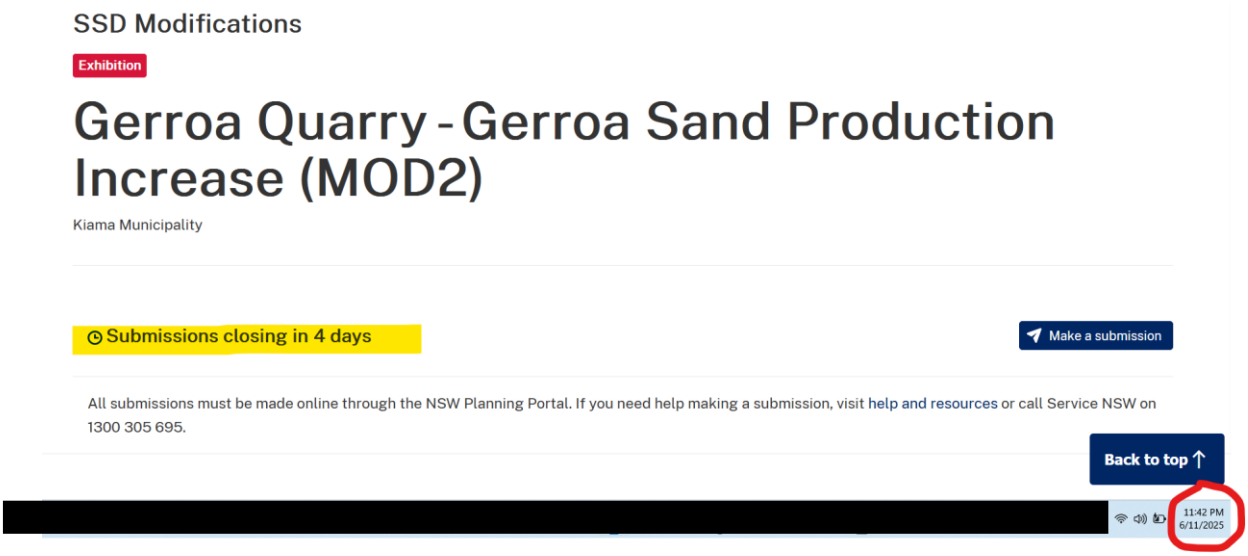

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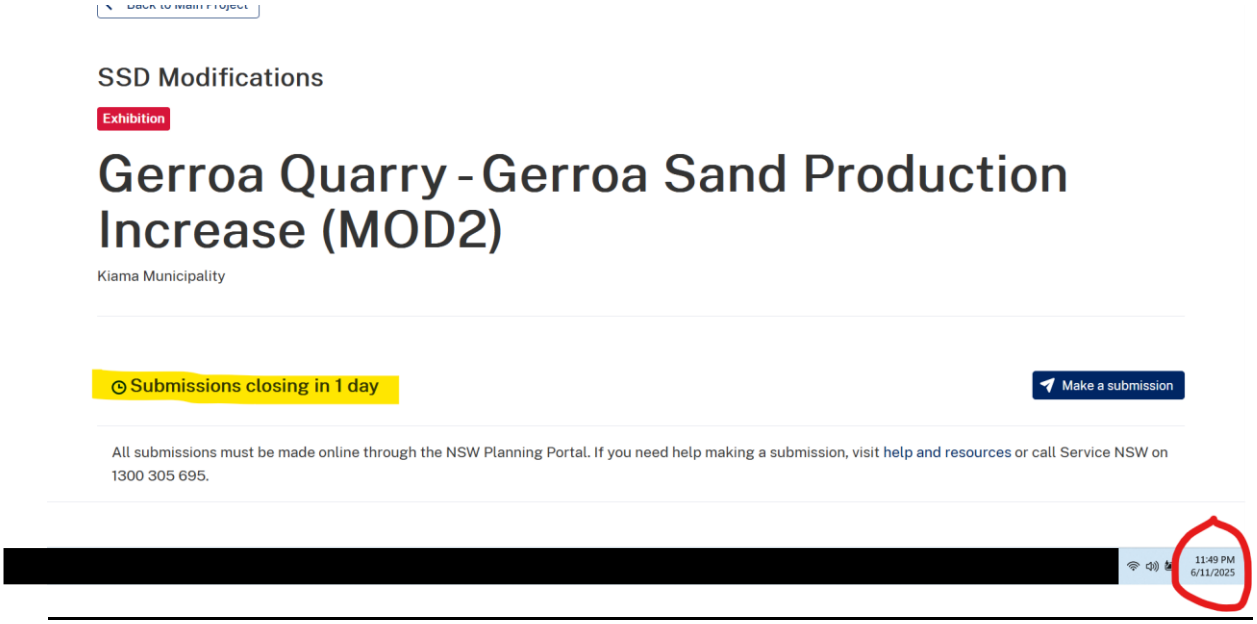
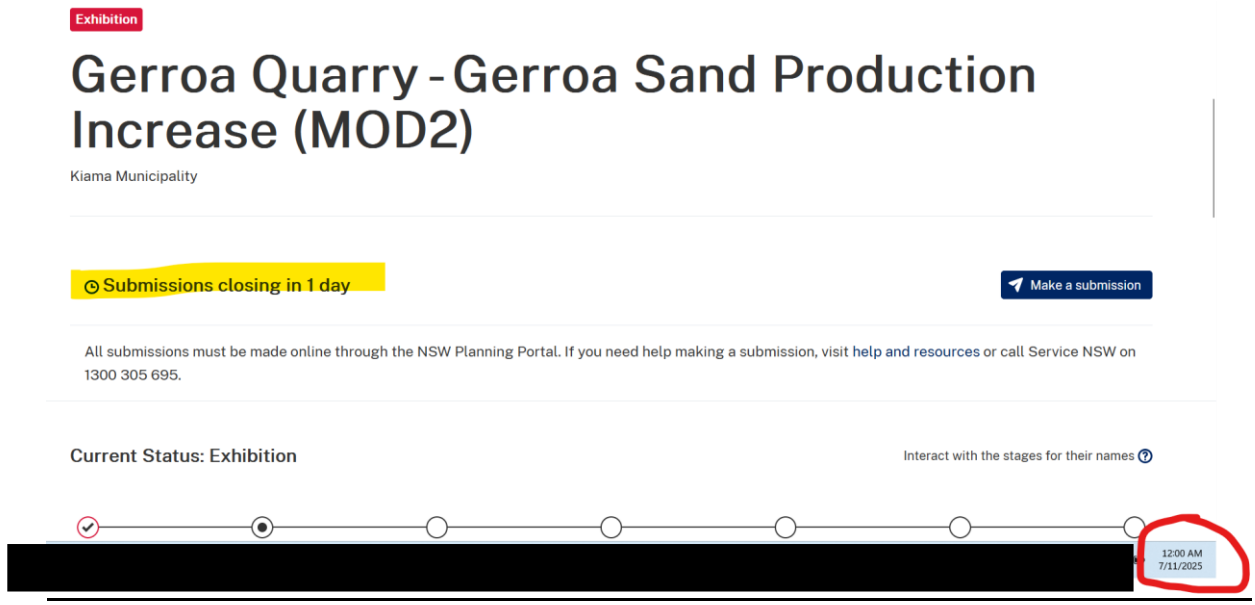
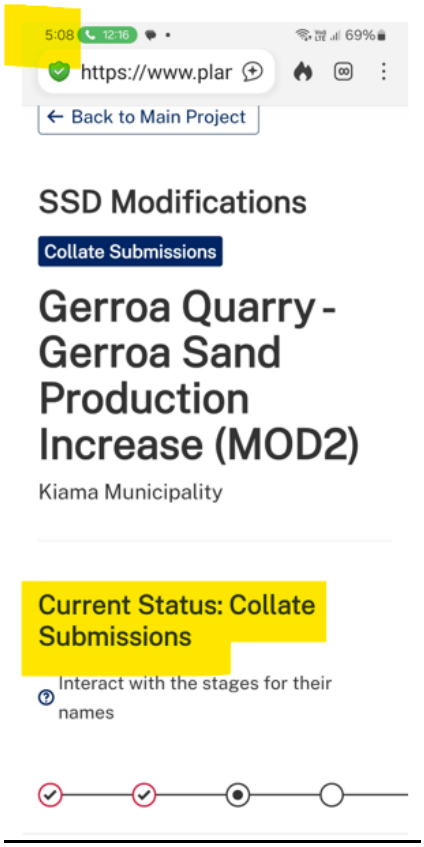


- **Friday, 7 November 2025 at 12:00 AM – "Submissions closing in 1 day":**



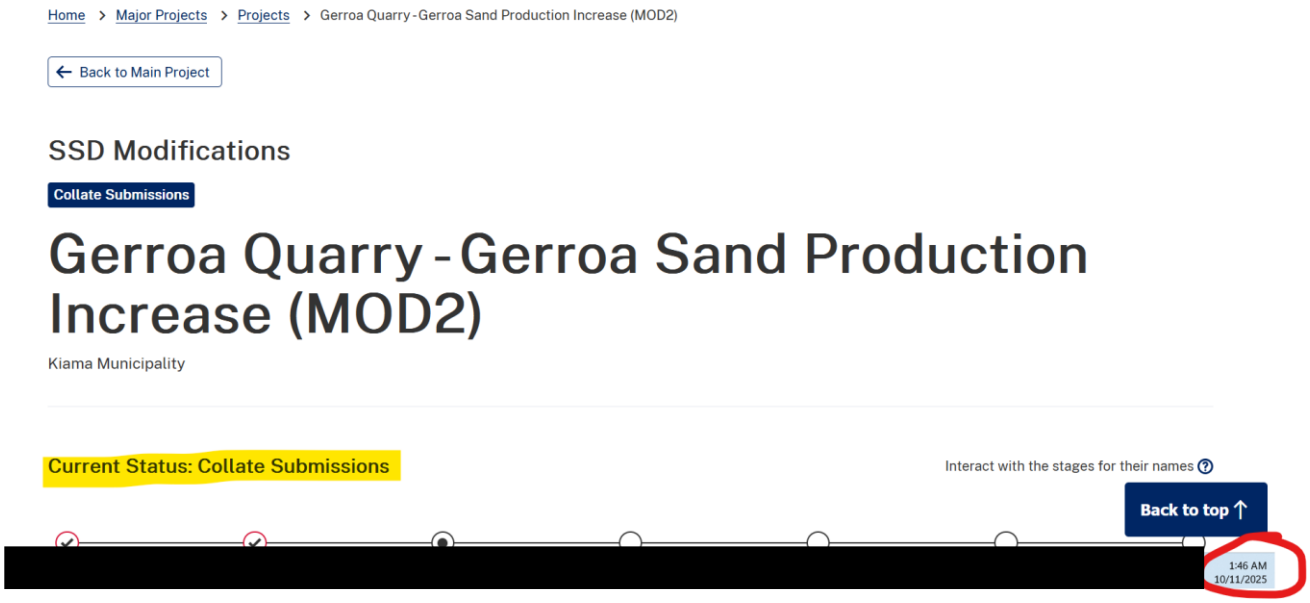
- **<u>Friday, 7 November 2025 at 5:08 PM – "Current Status: Collate Submissions"</u>:**



- **<u>Sunday, 9 November 2025 at 6:37 AM</u> – "Submissions closing in 8 days":**

- **Sunday, 9 November 2025 at 9:18 PM – "Submissions closing in 1 day":**

- **Monday, 10 November 2025 at 1:46 AM – "Collate Submissions":**



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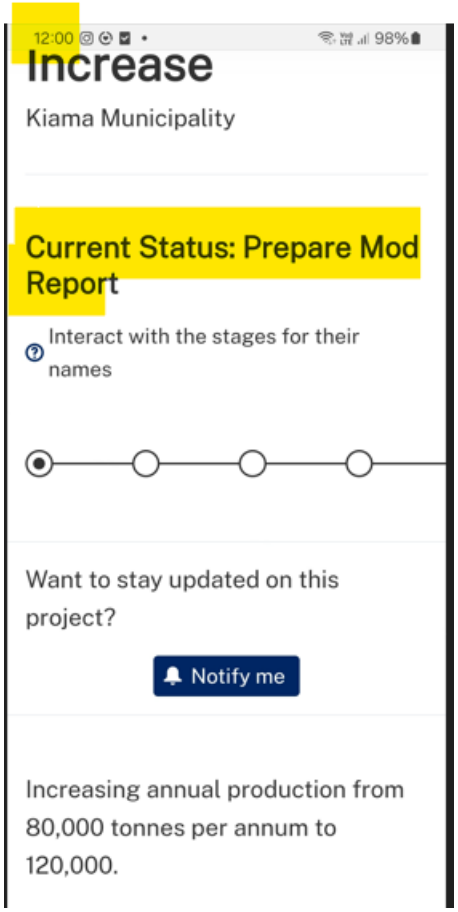

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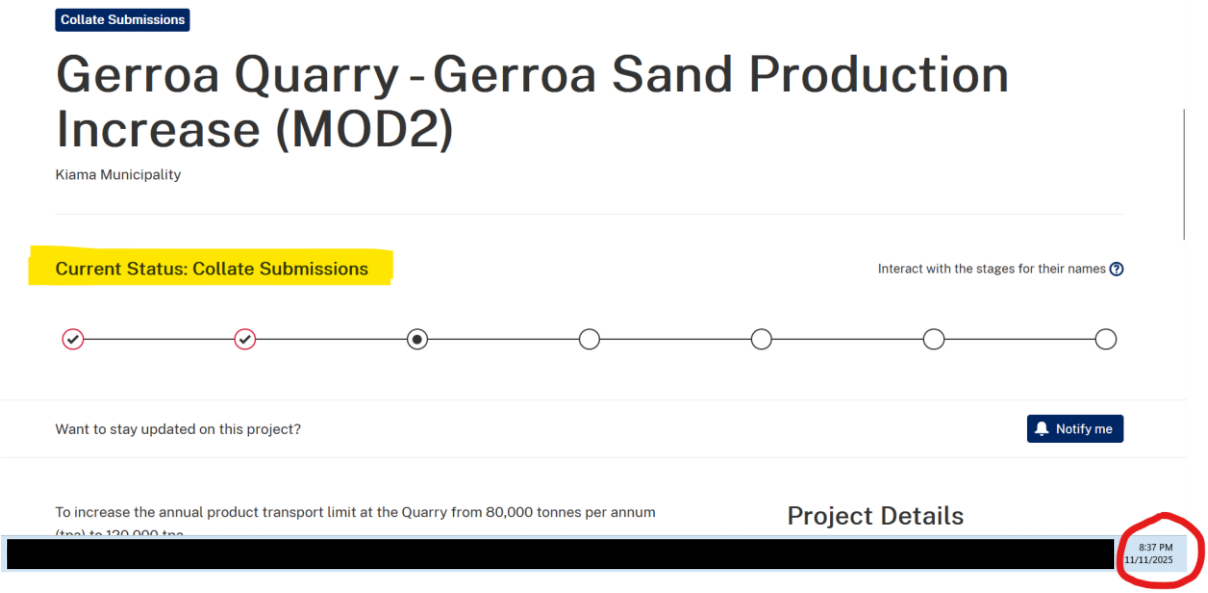


[redacted]

[redacted]

Willowvale, NSW 2534

05 November 2025

Department of Planning, Housing and Infrastructure

4 Parramatta Square, 12 Darcy Street,

Parramatta NSW 2150.

Re: Gerroa Quarry – Gerroa Sand Production Increase (MOD2. Modification Number 20251003002845.

Kiama Municipality

Project Approval Number: MP05_0099 (MOD-2)

I am writing to you regarding the Gerroa Quarry Modification (MP_050099-Mod-2. I wish to object to the lodged proposal to increase the amount of sand extracted per annum from 80,000pta to 120,000 tonnes for the following reasons.

This proposal will increase the maximum rate of road transportation by 50% through the middle of the small, rural and seaside tourist towns of Gerroa and Gerringong.

Cleary Bros, under new owners, Maas Group Holdings (MGH), currently have an approval to remove 80,000 tonnes of sand per annum from the Gerroa Sand Quarry, at Seven Mile Beach. They are seeking a modification to Project Approval MP05_0099 (Mod 1) for the Gerroa Sand Quarry (the 'Quarry' or the 'Project Site') to permit an increase to the maximum rate of road transportation by 50% from 80,000tpa to 120,000tpa.

The concerns this proposal raises are the impact of the modified transport requirements. To move the increased sand will require either:

1. a greater number of truck movements using the same sized trucks (22 tonnes) or
2. the same number of movements using larger trucks (32 tonnes to 42 tonnes) or
3. a mixture of both

The likely outcomes will be:

1. Increased wear and tear on roads either through increased numbers of trucks or greater damage from larger trucks;
2. Increased noise either from increased number of trucks or louder noises from bigger trucks. This will add to the existing noise created by these trucks over many years. I have attended many meetings for various groups in the RSL Hall on the corner of the intersection of Fern and Belinda Streets. Trucks need to slow right down at this intersection to navigate the roundabout there. In doing so they generate a great deal of noise. So much so that we

always needed to close the doors and windows to proceed with the meeting or group gathered for training. This Proposal will add further to that noise, in what is supposed to be a quiet rural, beachside tourist town.

3. Traffic issues in built up areas such as along Belinda Street from Fern Street to the highway intersection near Gerringong Station, at major intersections and roundabouts and at critical places along the Crooked River Road and Fern Street.

   Belinda St itself passes by the Mayflower Retirement Village and Nursing Home, a famous pub and has a school crossing. The street has a second busy roundabout that provides access in one direction to Elambra Housing Estate, the Gerringong Primary School, and in the other direction to the shops and in particular the very busy Gerringong IGA. Further along it also intersects with Virginia St, which is the entrance and exit for a truck depot for McCabe Transport. The proposed increase in heavy traffic from Cleary Bros, added to the existing trucks using Virginia St, will add to the increasingly dangerous traffic issues building up in this area of town.

   In particular the 70% of the truck movements heading north will exacerbate the entrances and exits to Gerringong from the Princes Highway. Because these involve 2 intersections and an underpass under the highway, with several blind spots, there are continually many near misses and we feel only a matter of time before there is a serious accident. These on and off ramps have clearly been designed for light traffic. Adding to the busy intersections of the on and off ramps with Belinda St is a busy garage. The garage sits right before the first intersection on the east side of the highway, adding to the risks of colliding with other traffic.

4. Higher road maintenance costs for affected Councils with repairs to roads – who will pay? It should not be the ratepayers.

5. Overall, Road safety issues generating from this proposed increased mining.

Please note that:

1. 70% of truck movements head north and will use the Princes Highway, via Beach Road, Crooked River Road, Fern Street and Belinda Street.

2. 30% head south of the Project Site and will use the Princes Highway, via Beach Road (except as permitted for Gerroa Road below); and

3. No Project-related trucks will use Gerroa Road, except where the destination lies along or adjacent to that road.

Maas Group Holdings proposal to increase the amount of sand mining stated that;

“The overall extent and duration of the Project are not proposed to change. The maximum severity of impact would not increase as a result of the Proposed Modification, with no increase in the applicable noise and air quality criteria proposed. Based on the above, the Applicant contends that the Proposed Modification would be considered substantially the same development.”

I think for reasons outlined above that the noise level and the additional amount of heavy traffic would be considerable and have significant negative impacts on town life, on traffic safety and on the wear and tear on the area’s roads.

From an environmental perspective, how can the mining company be sure that if the sand is mined at a much higher rate, the area around the mine will remain stable? It provides less time for

mitigation of any issues and natural stabilisation, particularly with sand as the mined substance. The Gerroa Sand Quarry is directly behind the iconic and much loved 7 Mile beach.

When this company have mined the 120, 000 tonnes, will they then put in a proposal to mine more? There is a situation now in NSW, where overdevelopment is happening everywhere at significant cost to people's amenity, their long-term investment in the places they live, and in the damage to our environments both urban and rural. This overdevelopment is a product of our rapidly increasing population through high unsustainable immigration. The cost of the infrastructure required to maintain our standard of living under such pressure of population growth is extraordinary and unsustainable. It results in Australia using up its resources, like the Gerroa Sand Quarry at such a high rate they are exhausted for future generations of Australians and their needs.

Yours Sincerely

[redacted]

[redacted]

Wednesday 5th November 2025

Re: MP05_0099-Mod-2

Regional Quarries & Concrete Pty Ltd trading as Cleary Bros

Gerroa Quarry - Gerroa Sand Production Increase (MOD2)

I write to oppose the modification to the current extraction rates from the Gerroa Sand mine as set out in MP05_0099-Mod-2.

I note under section 3 of the documentation on page 25 there is a short summary of the proposal which says:

***"Table 1** presents an overview of the Proposed Modification. In summary, the Proposed Modification would increase the maximum transportation rate by 50% from 80,000tpa to 20,000tpa. No changes to the extraction or processing methods, the approved disturbance footprint of the Quarry, or the rehabilitation objectives for the Project Site are proposed."*

The description of the impacts of the modification seem to be principally focussed on the operation of the mine with extraction and processing operations remaining unchanged. This attempts to paint a picture that most of the matters considered in regard to environmental impact will be unchanged.

It is however unrealistic to assume, as the calculations on subsequent pages regarding the transportation operations would have us believe, that there will be no or minimal change in impacts from the transportation either.

Table 15 on page 65 continues this theme and says in respect of traffic and transportation:

"The Proposed Modification would not alter the approved maximum or average heavy vehicle movement limits for the Quarry or the proportional distribution of Quarry-related traffic using the approved transport routes to/from the north or south of the Project Site. The Proposed Modification would also not increase the maximum vehicle size or largest heavy vehicle configuration used for product despatch at the Quarry. However, the proportion of larger vehicles used for product despatch may increase as a result of the Proposed Modification."

I note that the current allowance is for the removal of 80,000 tpa and that the modification is for 120,000 tpa. i.e. we are looking at a 50% increase in the amount of material removed.

I further note that currently the amount of material being removed is less that the 80,000 tpa allowed for, suggesting that if the full 120,000 tpa is removed the increase in material could well be as much as a 100% increase or doubling of the transportation operations.

As indicated, the increases could be achieved with an increase in the number of trips using the current sized vehicles or that number reduced via an increase in the size of vehicles.

The modelling done in the supporting documentation simply does not take into account the corresponding increase in wear and tear of roads either from increased number of trips or the extra impact of the heavier trucks.

That becomes a cost to the ratepayers in Kiama and Shoalhaven LGAs.

There will be an equivalent increase in noise pollution again either through an increase in the regularity or trucks passing by, or by an increase in the noise generated by the larger trucks.

There will also be an equivalent increase in pollution from the diesel exhaust, either through more movements or greater pollution from the larger trucks.

Evidence seems to suggest that CB intend to work on 9 day fortnights as opposed to 12 day fortnights. In order to move the same amount of material in a 48 week year the concentration of movements either in the form of smaller truck movements or increased truck size would see “the density” or “intensity” of the impact increased by a further 33%. Once again that would further increase the sound pollution and diesel pollution in any one period of time.

The documentation further glosses over potential route distribution changes that may occur as the increase in extracted sand is moved to its place of use. It is highly likely that the increase in production is going to be transported north rather than south given the pressure for increased housing and other associated infrastructure in the Sydney region.

This would imply that Gerringong is going to be the main recipient of the extra noise and pollution with trucks moving along Crooked River Road turning left at the Fern Street round about and travelling to the highway down Belinda Street. Braking and then accelerating at the roundabout in the CBD of Gerringong is most unsatisfactory.

On page 29 of the report, point 5 says:

“Extent, duration and severity of impacts - The overall extent and duration of the Project are not proposed to change. The maximum severity of impact would not increase as a result of the Proposed Modification, with no increase in the applicable noise and air quality criteria proposed.”

It is not clear whether ”no increase” in the noise and air quality criteria are actually measurements of each individual movement or whether it is arguing that there will be no cumulative impacts.

More regular movements or the movement of heavier trucks will definitely have a cumulative impact for those who are subject to those impacts for extended periods of time.

In a similar manner the cumulative impacts of air quality with either more exhaust from more trucks or more exhaust from larger trucks will increase negative health impacts along the routes used.

Every increase in the number of trips, or the use of heavier vehicles will increase the likelihood of safety incidents along the routes used.

In summary, I disagree with the proponent’s suggestion that there will be “no change” to the impacts of this enterprise and suggest that the modification should be denied due to the increased noise, road wear and tear, indirect costs to ratepayers, pollution and potential safety impacts.

Please note that I have made no reportable political donations in the last two years and I acknowledge the Department’s disclaimer and declaration.

Planning Submission – [redacted]

Project Name: Gerroa Quarry - Gerroa Sand Production Increase (MOD2)

Case ID: MP05_0099-Mod-2

I am making this submission as a concerned resident of Berry in the Shoalhaven and a landholder in proximity to the Cleary Brothers sand mine entry point on Beach Road, Berry.

I believe the proposed changes included in the document have so many omissions, inconsistencies, misrepresentations and errors that a decision to approve the expansion and acceleration of mining is not justified based on this proposed variation.

There has also been a complete lack of engagement with affected members of the community (especially those most impacted), their representatives and even Shoalhaven City Council. This has manifested in a lack of understanding, confusion and even awareness among impacted parties about the proposal. This lack of consultation and transparency goes against the foundation of current government policy.

In fact, my neighbours and I have only come to learn of the proposal through a group that was directly involved in the original consent and was among the few that received notice of the expansion.

Specific Issues I would like to raise against the approval as currently submitted:

1. The residents closest to the sand mine have expressed serious concern about the noise and dust impacts expanding beyond their current levels. It is acknowledged in the report that there has never been any modelling of air quality or noise impacts from the sand mining, even though it identifies many potentially impacted properties. In the variation document, it clearly states (Appendix 3 Consultant Report):
   It is anticipated that the Proposed Modification would require specialist assessments of the following key potential environmental impacts.
   a. *Air Quality preparation of an Air Quality Impact Assessment to address potential impacts associated with the increased production (extraction, processing and truck loading) rate.*
   b. *Noise preparation of a Noise Impact Assessment to address potential impacts associated with the increased production (extraction, processing and truck loading) rate*

   However, **the revised proposal seeks approval without the studies**, by simply extrapolating completely different topography, activity and meteorology from another mine site over 20km away. **An approval without these studies would go against the professional advice sought and provided to the Department of Planning and may result in serious health and property value impacts.**

2. **The very important increase in truck movements on the roads is very poorly modelled, sometimes contradictory and even appears deceptive.**

    a. The new modelling appears to conclude that, because **larger trucks *could be* used, the net traffic impact *would be* nil**. Of course, this would only be true if larger trucks were to replace all smaller trucks currently used. **There is no actual commitment to this change, or whether it is feasible or realistic. Therefore, the *possibility* of no net increase in truck movements cannot be taken as fact** for this proposed variation.

    b. The modelling provided suggests that the truck traffic will use the same corridors in the same numbers as previously proposed – 26% through Berry and the remainder through Gerringong/Gerroa. However, i**f larger trucks are to be used as suggested, the Beach Road to Berry route does not appear appropriate or even viable**, as the overpass en route might not allow the larger trucks to pass. This would mean that either smaller trucks (12T or smaller) in higher numbers going through Berry or that more of the larger trucks (all of the trucks?) would have to go via Gerringong/Gerroa and vastly increase traffic movements there.

    c. Either larger trucks or more than double the number of smaller ones will do even **more damage to the connecting roads that already suffer from overloading**. There appears to be no discussion or effort to address the increased cost and frequency of road repairs or to upgrade the road surfaces to avoid faster deterioration. We believe a plan to do so with the cash-strapped neighbouring councils is warranted.

    d. The **safety impact on Berry and Gerringong/Gerroa residents** from either the significant increase in number and/or size of vehicles negotiating narrow village streets, **including school and retirement village areas** and road sharing with pedestrians and cyclists or school bus pickups and drop-offs along the route is not included or assessed.

    e. The truck movements are not defined by what days they will be taking place. It is implicit in the assumption that the truck movements are spread evenly over the weekdays and half of Saturday. It is my understanding that **there would be little control on demand, and it may be that traffic movements are much higher on some days or even weeks than others unless there is an enforced daily cap put on truck movements.** Is that what Cleary Brothers are suggesting?

    f. There is no discussion as to **whether road speeds and restricted hours of use within the working hours of the sand mine operation are appropriate**. The presence of heavier vehicles, combined with an increase in truck movements, significantly impacts our roads and infrastructure. Addressing these factors is crucial for maintaining safety and efficiency.

g. There is no stated view or assessment as to **how more trucks will safely negotiate the increased local road use due to new housing and the depot developments** along the two major thoroughfares since the initial proposal was approved 16 years ago.

3. **Profitability and income generation by the applicant should not be a pivotal consideration or factor, despite its repeated reference in this document.**

    a. **The extraction is of a public resource**, and the maximisation of its value either in situ or for other use is at the discretion of the people of NSW and their representatives, not the applicant. Speeding up extraction may only encourage even future expansion rather than early site termination.

    b. There is no attempt at actually comparing costs and benefits or more competitive alternatives that may be available. The case is not made, and it could be argued that the preferential treatment of this applicant by way of overlooking significant shortcomings is not appropriate or desirable for the government or customers**. The government should not be facilitating advantages or look to be picking winners.**

    c. It is unclear if accelerating the mining activity is indeed in the public interest or only in the applicant's interest, especially when weighed against the issues raised. It is also clearly stated that there will be no additional employment as a direct result of the speedier use of this resource. The remaining advantages are listed vaguely as an enabler of other employment without substantiation. **One is only left to conclude that the only gain that can be certain will accrue to the applicant and costs to the local community.**

In conclusion, I believe that the variation is completely inadequate at addressing important issues, including health and safety, and this is compounded by the lack of any community engagement. The applicants even failed to properly notify affected councils before submitting

I hope you will agree that this proposal is not sufficiently complete for approval and should be rejected.

Regards,

Appendix

Beach Road – can it safely handle large trucks? Over 25 entry/exit points over 4 kilometres plus blind crests, narrow lanes, cyclists, a hospital/hospice, childcare centre and school bus drop-offs. Plus holiday traffic.

Beach Road is Full of Crests, is without Shoulders and Many Blind Entry Points

David Berry Hospital/Hospice Facility Entry

Broughton Creek - Narrow Bridge

Jumping Jelly Beans Early Childhood Centre on Beach Road

3m-3.3m South Coast Rail Overpass Pedestrian and Cyclist Crossing Near Overpass

New Council Dirt and Gravel Depot with Truck Entries and Exits Directly on Beach Road with 80kmh Speed Limit

Is more of this appropriate?

31 October 2025

The Hon Paul Scully
Minister for Planning and Public Spaces
By Email: office@scully.minister.nsw.gov.au

Dear Minister

Project Name:
Gerroa Quarry - Gerroa Sand Production Increase (MOD2)
Case ID:
MP05_0099-Mod-2

I refer to the Modification Report (Modification 2) for the Gerroa Sand Quarry, prepared by RWCorkery & Co and dated August 2025 (Report 1109/01). This report has been prepared on behalf of Cleary Bros (ABN 95 682 599 882) supporting application to permit an increase to the maximum rate of road transportation by 50%, from 80,000tpa to 120,000tpa.

I live in close proximity to the project site. I am also a current member of the Gerroa Environmental Protection Society. I am concerned that the report seeks approval on the basis that there are no additional significant adverse impacts. I believe there are false assumptions in making this executive summary statement.

1. The existence of an approval to carry out an activity is not evidence that there is no adverse impact from that activity; or, worse, may indicate that there are existing significant adverse impacts and that it is claimed the modification activity does not aggravate them.
2. The statement takes no account of cumulative impacts.
3. It is stated that the proposed modification would not increase the maximum or average heavy vehicle movements for the quarry. This is ambiguous. Is it the same number of movements, each 50% heavier? Or is it the average weight of vehicle, but a 50% increase of movements?

The consequences of not proceeding with the modification appear to be loss of financial income to the applicant. Surely there is no loss of income – this modification simply seeks to exploit the resource more quickly, leading to a more rapid arrival at the situation where the resource is fully exploited. In turn this will increase incentive to expand the quarry into environmentally sensitive areas.

I am also concerned that road damage is a community cost that will be aggravated, should this modification be approved. The approved transportation routes shown in Figure 3 of the report include sections of Crooked River Road and Beach Road that are suffering almost constant damage. The primary contributor to this damage appears to arise from adverse weather events, however increasing the structural impact from heavy vehicles by 50% will only increase this damage and consequent community cost. The report takes the approach that impact is localised to the site, however the cost borne by the community and the environment is far wider.

The magnitude of claimed financial loss, should the modification not proceed, should be considered in the context of these costs to the community, and of the risk of pressure on further environmental damage once this resource begins to decline.

I do not support this application.

Yours faithfully,

[redacted]

Berry NSW 2535

Appendix 3

Additional Comments

(Total No. of pages including blank pages = 9)

Shoalhaven City Council

Address all correspondence to: The Chief Executive Officer,
PO Box 42, Nowra NSW 2541 Australia
shoalhaven.nsw.gov.au/contact | 1300 293 111
shoalhaven.nsw.gov.au

Council Reference: D25/556409 & 15323E
Contact Person: Peter Johnston

26/11/2025

Dear Carl

Shoalhaven City council response to Gerroa Quarry - Gerroa Sand Production Increase (MOD2) MP05_0099-Mod-2
Lot 2 DP1111012 and Lot A DP185785

Reference is made to modification application MP05_0099-Mod-2 lodged by Regional Quarries & Concrete Pty Ltd (Cleary Bros), seeking approval under Section 4.56(1a) of the Environmental Planning and Assessment Act 1979.

Shoalhaven City Council thanks the Department of Planning, Housing and Infrastructure (DPHI) for the opportunity to provide comment.

Asset Planning and Development Engineering Comments

Council's Asset Planning and Development Engineering have reviewed the modification proposal and raise the following concerns:

Transport and Traffic Impacts

- The modification proposes a **50% increase in annual product transport** (from 80,000 tonnes to 120,000 tonnes).
- While the proponent states that maximum and average heavy vehicle movement limits remain unchanged, the **shift to larger truck configurations** (tri-axle, eight-wheeler, truck and dog combinations with 32–42 tonne capacity) materially alters the nature of traffic and road pavement impacts on local roads.
- The approved transport route via Beach Road to Princes Hwy through Berry is constrained by a **3.3m height restriction at Tannery Road rail overpass**. Consequently, larger vehicles will be unable to use this route, forcing diversion northwards through Gerroa and Gerringong. This could potentially also result in an increase in existing truck movements when considering only smaller vehicles could traverse Tannery Road and head south from Berry.
- This diversion increases the likelihood of **heavy vehicle traffic through residential and pedestrian-sensitive areas**, raising concerns about road safety, amenity, and cumulative impacts not adequately addressed in the modification report.

Inconsistency with Previous Assessments

- The modification report conflicts with assumptions made in the **Cardno Traffic Impact Statement (2018, Mod 1)**, which formed the basis of prior approvals.

- The current proposal does not adequately assess the changed distribution of haulage traffic or the implications for local road networks in both Shoalhaven and Kiama LGAs.

Road Maintenance Contributions

- Shoalhaven City Council engineers support Kiama Council's position that **Condition (9) must be revised** to reflect the altered traffic distribution and increased burden on local roads.
- Contributions must be recalculated to ensure **fair distribution between Shoalhaven and Kiama Councils**, based on updated traffic impact assessment findings.
- Indexation, timing of payment, and methodology for calculating contributions should be clearly defined by DPHI to avoid ambiguity and ensure transparency.

Unsafe and Non-compliant Access

- The updated traffic impact assessment is required to include a warrant assessment of the access point on Beach Road against Austroads guidelines, based on the proposed increase in heavy vehicle traffic, trip distribution and vehicle type.
- Sight distances, turning radii, and pavement strength may also not be adequate for the proposed increase in larger truck movements. This has not been considered within the proposed modification and needs to be addressed within the updated traffic impact assessment.
- These deficiencies pose risks to both quarry traffic and general road users, particularly given the mix of local residential traffic, school buses, and tourist vehicles using Beach Road.

Requested Actions
Shoalhaven City Council requests that DPHI:

1. Require the proponent to submit an **updated traffic impact assessment** that accounts for the increased vehicle size, intersection design, vehicle trips, altered transport routes, and cumulative impacts on local roads and communities.
2. Review and amend **Condition (9)** to ensure equitable contributions for road maintenance and repair, reflecting the actual distribution of haulage traffic across Shoalhaven and Kiama LGAs.
3. Provide clear conditions regarding calculation methodology, indexation, and timing of payments to ensure accountability.

Environmental Health Comments

Environmental Health has reviewed the proposed modification to increase the annual product transport and extraction rate by **50%** (from 80,000 tpa to 120,000 tpa). It is noted there are no

changes to the approved disturbance footprint, extraction and processing methods or transport routes.

Noise - Council has not previously received any amenity complaints from the use of the existing sand mine processing. All sites met noise criteria, with quarry activity inaudible at all receivers except for truck movements. Concerns have been raised by the community in regard to the additional noise impacts from the trucks. A study of the Annual Review shows there is exceedances currently at 670 Beach Rd in the SCC LGA. It is anticipated this exceedance will increase with larger trucks. However, with the short duration of the truck leaving this did not increase LAeq or LAmax above background (LA90). It doesn't appear that this property has put in a submission against the proposal on the portal.

Air Quality - Based on historical and current monitoring, dust and air quality impacts are **minimal and well-controlled.** The proposed modification is unlikely to cause exceedances provided existing mitigation measures are maintained and scaled appropriately.
Acid Sulphate Soils - Increased extraction and new dredge pond **expand acid sulphate risk footprint,** but current controls and monitoring are acceptable. The current consent requires an Acid Sulphate Management Plan to be prepared and is included in the Water Management Plan (which forms part of the QEMP), and which requires a range of management and monitoring measures.

Groundwater - The closest Groundwater Dependent Ecosystems is the Coomonderry Swamp in the SCC LGA approximately 2km southwest. Groundwater drawdown may impact Endangered Ecological Communities, including swamp, littoral, and coastal swamp oak forests — all reliant on stable groundwater conditions. It is recommended that a review of the monitoring well siting and sampling frequency occur in the WMP/QEMP and check their responsiveness to the modification groundwater volumes and that this monitoring be included in the annual review provided to SCC.

Yours faithfully

Peter Johnston
Lead Development Nowra
City Development

Comment one

Dear Carl,
CB Mod2 Gerroa Sand Quarry.
Below is GEPS additional information to already sent part Submission. As was requested and was granted GEPS now wishes to finalise its submission with information below:

Application Number: MP05_0099-Mod-2
Main Project: MP05_0099
Continuing on we object to any increase of sand extraction that was allowable in the decision handed down in the original approval of a maximum of 80,000 tonnes/ year. We believe the 2007/08 LEC (Part 3A GEPS vs Minister for Planning and CB - NSWLEC173) decision which generated the original approval was a fair and reasonable compromise between the proponent's desire to generated its own sand vs the impacts that are felt within all of the neighbouring communities. Please note the decision was handed down by Chief Judge Preston after a very long and exhaustive 9 days court case which took into account several factors which include the impacts GEPS members wish to make in our submission.

Pedestrians Road Safety
It should be noted heavily ladden trucks are known to be slow to pull up in emergency circumstances. Hence just one of the reasons GEPS believes a maximum of 22t trucks should be the maximum sized truck used in this section of the road until they reach the Princess Highway.
Once the north bound trucks reach the Council managed caravan park significant pedestrian traffic occurs from there onwards by those wishing to gain access to the beach across the road. Add to that the 3 surf schools that also use this crowded end of the beach. By far the largest school is one where guests staying in the Caravan Park on the other side of the Crooked River. This surf school alone is likely to be the largest in all of Australia where it's common to have guests numbering up to 60 persons at a time, seven days of the week. To make matters even more dangerous the make up of the guests are mostly tourist from countries that drive on the other side of the road. All this is not helped by a Kiosk and toilets located on the others side of the road.
School children of all aged cross roads to walk to school or walk to bus stops along entire route from just south of the Crooked River bridge to the local Public Primary/ Infants school. Add to that the other morning and afternoon bus for students of Kiama High School.
Aside from those listed above it also makes sense to not forget the mature aged people in Mayflower Nursing Home. Especially the slow movers including those using walker's to cross the road to do their shopping.

Inappropriate road for such large trucks
Trucks north bound of the Crooked River bridge are mostly on narrow, curved and nearly always are on an incline until they reach the Princess Hwy.
Just north of bridge is an extremely dangerous intersection for cars which head in a northerly direction from Riverleigh Ave into Crooked River Rd. It's very dangerous due to drivers of heavy trucks desire to build up speed after crossing the bridge then onwards up a very steep hill. Trucks are then quickly onto a very blind corner.
Onwards are two very dangerous bends in Fern St (Note Crooked Rv Rd's name changes to Fern St once leaving Gerroa township). At this point Fern St has a 80km speed limit.

The first dangerous corner is in front of the golf club house. At least one death due to head on accident. Worse still is the tight corner in front of Weir's farm just north of the golf club. The corner is blind on this long direction changing corner for southbound traffic with no escape route for traffic due to the high hill on that side. Clearly plenty of people cross the road here as indicated by unbroken lines constantly needing to be repainted.
Also adding to the danger in this area is very significant high wind area in front of the golf course where cars trailing caravans are at risk of being blown across the road into oncoming coming traffic. While locally well acknowledged as a wind Venturi in westerly winds this Venturi creates very high winds indeed. Strangely there is no signage up to warn drivers of this effect.

Damage to Local Roads and Public Cost

The current road infrastructure is not designed for this scale of heavy vehicle operation.
Way larger and or more frequent trucks cause accelerated road wear. This places a huge financial burden on Kiama Municipal Council and local ratepayers. Another reason why GEPS believes a maximum truck size of 22t should be enforced. Road damage and road safety are not mutually exclusive as you will note photos sent in by Debra Moore clearly show damage recently occurring. It's important to be aware it wasn't long ago that Kiama Council resurfaced the most badly effected stretch of road that occurs south of the Crooked Rv Bridge all the way to Beach Rd. Clearly a road on a sand base doesn't stand up nearly as well as one on a mixture of mostly rock and dirty base further north. Now there are patches every stones throw or less apart. Often patches onto top of patches. Then the most recently related two patches near each other where the road was raised at least 150mm above the level of the road against a significant dip right next both ridges. Less than a week after the top of the ridge had developed it was pulverised to pieces exposing mostly sand alone. Clearly this section of road is not up to withstanding 42 or 32t trucks.
It should be noted that all other nearby roads have significantly lower weight restrictions. So the likelihood of damage being created by other trucks is quite unlikely.
The concept stated in the proponents modelling of a 70/30 split of traffic heading mostly to Belinda St Gerringong and 30% towards Berry via Beach Rd is not happening. It's likely it never will due to the 3.3m height clearance under the rail bridge that large trucks simply can't duck under. A more likely figure of truck directions heading towards Belinda St would be a high 98- 100%. Clearly things need to be updated to what we are seeing on the ground.

Noise Pollution

More and/or larger trucks will result in elevated noise to nearby residents. This will adversely affect local residents wellbeing and reduce liveability in what is primarily a quiet coastal communities. Excessive road noise due to significant hilly road from Bridge over Crooked River to Princess Highway. This issue is most noticeable up the significant sloped road after crossing Crooked River bridge to the top of the hill opposite Gerroa Boat Fishermen's Club. It is important to note there is a cliff face the entire length of the road past the houses in this section of the road. Any noise of which is amplified straight back at these houses due to this cliff face. Clearly more or larger truck traffic from 7am in the morning would be seen by most as being unfair for shift workers or those that may wish to sleep in on a Saturday morning.
Onwards heavy truck noise continues once the trucks reach Gerringong township where the hilly terrain continues along the entire route which includes a Retirement Village.
GEPS strongly urges the Department of Planning to refuse this modification or at very least put a maximum truck size of the once used maximum truck size of 22t.
Thank you for considering our submission.

Yours Sincerely,
[name withheld]
President and on behalf of all GEPS members.

Comment two

Hi Carl,
Thanks for taking my call this afternoon.

I would like to suggest using the Toolijooa rd off Beach Rd. as a route for the Cleary Bros. sand trucks to use instead of travelling through the holiday villages of Gerroa and Gerringong.

The present route through these villages is 9 kms to get to the M1 Expressway at Gerringong and going via Toolijooa Road you get to the M1 Expressway in 9 kms also.

Going north Toolijooa adds 3km of Expressway to get to the Gerringong intersection and inversely if going south Toolijooa removes 3km of Expressway driving.

I believe the railway bridge on Toolijooa is rated for 44 tonnes.

I am not sure what remediation is paid to Kiama Council or the NSW government for road maintenance on the Beach and Crooked River roads presently but this could be extended to Toolijooa Rd as part of approval for doubling the amount of sand being transported.

Thanks for your consideration
[name withheld]
[contact details withheld]

Comment three

Dear Carl,

I recently lodged an objection to the above Variation through the planning portal. One of the bases of my objection is the level of damage to the surrounding roads arising from heavy vehicles, already significant and only likely to increase. I have noted that a very recent and rapid repair was implanted to a portion of Bolong Road – I have no knowledge of who carried out or who paid for the work. However, should you be undertaking any inspection of the area as part of your review of the variation application you should be aware of the attached photograph that I took myself on 4th November at 9am. I do not know who undertook to highlight the most dangerous aspects of the surface with paint, however this section, not a unique example, presented extreme danger to the many motor cyclists, road cyclists and motor cars who make regular use of Bolong Road. This section, developed over a period of months, has been repaired.

I would be pleased to answer any query you may have.

Yours faithfully,

[name withheld]

[contact details withheld]

Comment Four

Maas Group (MGH) - Application To Expand Sand Mining at Gerroa - Objection

I object to this project in the strongest terms. I and my family have [insert relationship to Gerroa / Shoalhaven]

Expanding sand extraction from the Maas Group Holdings (MGH) site - increasing by 50% annual sand extraction to 120,000t will have serious detriment impacts to (i) coastal flora and fauna (ii) degradation of the Princes Highway and (iii) south coast road safety. There currently approval to remove 80,000t of sand pa from the Gerroa site. This should be retained as the current limit.

The principal concerns this application raises are:

1. The impact of the increased transport requirements. To move the increased sand will require either:

i. a greater number of truck movements using the same sized trucks (22 tonnes) or

ii. the same number of movements using larger trucks (32 tonnes to 42 tonnes) or

iii. a mixture of both.

Data from the Cleary Bros Annual Review of the last 14 years shows an average transportation rate of 56,000t per annum. An increase to 120,000t from those figures would be greater than a 100% increase (estimate).

The negative implications include:

- Increased wear and tear on roads either through increased numbers of trucks or greater damage from larger trucks
- Increased noise from either more truck movements or louder noises from bigger trucks
- Traffic issues in built up areas such as along Belinda Street from Fern Street to the highway intersection near Gerringong Station, at major intersections and roundabouts and at critical places along the Crooked River Road and Fern Street
- Higher costs for affected Councils with repairs to roads – who will pay? Ratepayers paying more for road repairs necessitated by increased local heavy industry?
- Increased road safety issues - with far more large haulage vehicles using the same roads as tourists and family vehicles - specifically the Princes Highway.
- In particular, in Gerroa there are 2 large caravan / holiday parks in close proximity to the Maas Extraction site. The increased mingling of heavy haulage of and tourist vehicles will increase probability of accidents.

2. Impact on local Flora and Fauna

Social ecology initiatives in/around Gerroa and the Shoalhaven have resulted in a increase in recent years in native species bird life and fauna returning to the Shoalhaven National Park and Seven Miles Beach foreshore. Increasing sand extraction by 50% from the Maas site will increase industrial noise, use of heavy machinery and trucks - all of which will result in increased noise and therefore disturbance to the surrounding National Park and foreshore.

Thank you for considering these objections.

[Name]

Appendix 4

The Cleary Bros Driver Code of Conduct

(Total No. of pages including blank pages = 5)

CLEARY BROS DRIVER CODE OF CONDUCT

1. General Requirements

Heavy vehicle drivers hauling quarry materials from the Albion Park Quarry and Gerroa Sand Resource must:

- Have undertaken a Site Induction for the site they are hauling from;
- Hold a valid driver's licence for the class of vehicle that you operate;
- Operate the vehicle in a safe manner within the quarries and on public roads;
- Comply with the direction of site personnel when within the quarry sites;
- Correctly use seat belts when driving or a passenger in the vehicle;
- Bad language on the UHF radio is not permitted. Think about how you like people to speak in front of your own family. They could be our customer; and
- Personal hygiene to be maintained. It is not difficult to be clean and tidy, customers take note of this, and if you are of poor appearance they will remember you.

2. Albion Park Quarry Hours of Operation and Site Access

Albion Park Quarry Sales Area is open Monday to Friday 5am - 6pm and Saturdays 6am – 1pm (other times by special arrangement).

All access to the Albion Park Quarry is via the East-West Link Road.

3. Gerroa Sand Quarry Site Access

Gerroa Sand Quarry is open Monday to Friday 7am – 4pm (until 6pm by special arrangement only – no access at all outside of 7am-6pm).

Trucks heading north must access via:

- Crooked River Road -> Fern St -> Belinda St -> Highway

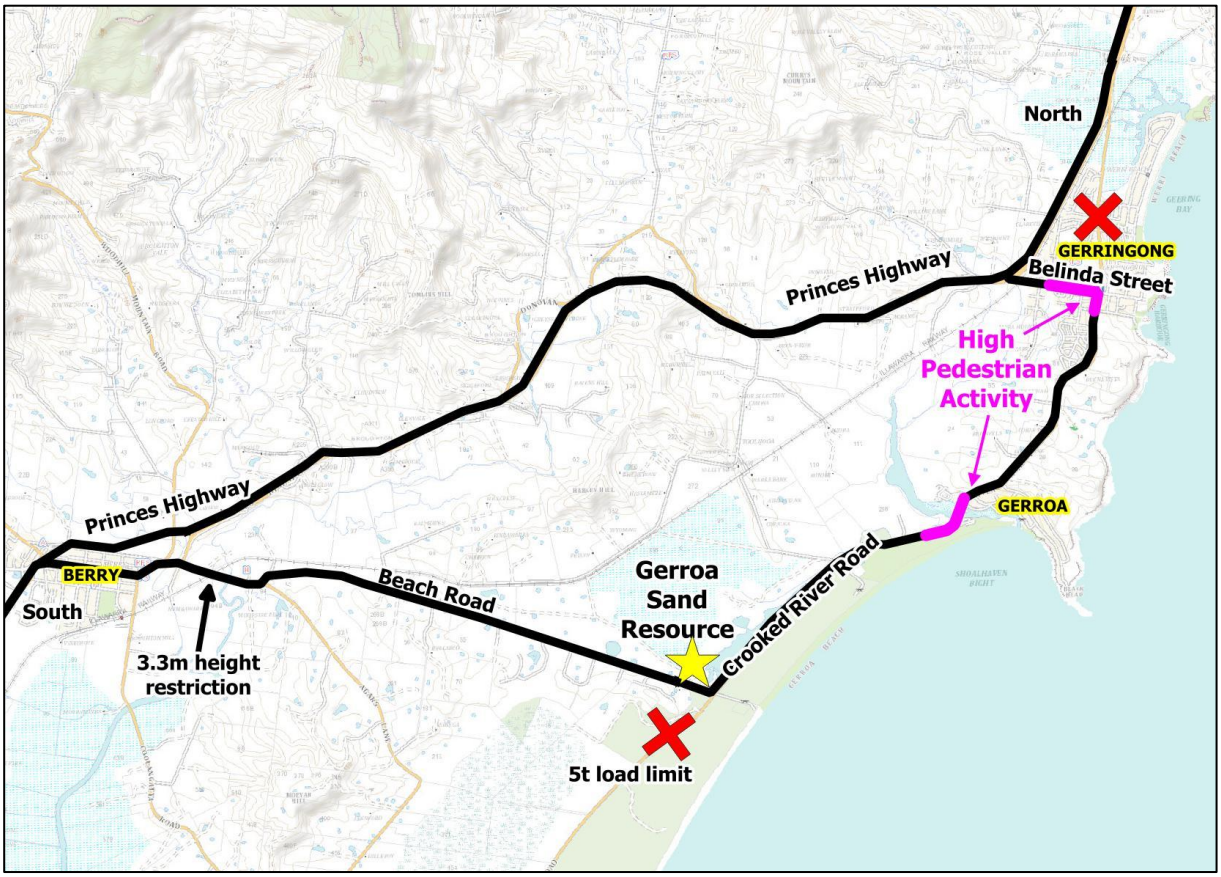
Trucks heading south may use either:

- Berry - Beach Road (3.3m height limit) -> Highway; or
- Gerringong - Crooked River Road -> Fern St -> Belinda St -> Highway

Slow down and take special care in the following high pedestrian areas:

- When passing the caravan parks on either side of the Crooked River bridge
- Gerringong township, particularly near the Fern/Belinda St roundabout and along Belinda St near the retirement village.

Avoid the use of compression brakes when travelling through Gerroa and Gerringong.



4. Heavy Vehicle Speed

The speed limit within the Albion Park Quarry is 20 km/h (unless sign posted otherwise).

The speed limit within the Gerroa Sand Quarry is 20 km/h from the front gate to site office and 40km/h around the haul road.

Drivers are to observe the posted speed limits on public roads, with speed adjusted appropriately to suit the road environment and prevailing weather conditions. The vehicle speed must be appropriate to ensure the safe movements of the vehicle based on the vehicle configuration.

For further information, refer to Cleary Bros *Speed Management Work Instruction*.

5. Heavy Vehicles Driver Fatigue

Fatigue is one of the biggest causes of crashes for heavy vehicle drivers.

Cleary Bros utilises the following schemes to ensure compliance with fatigue management requirements:

- Standard Hours of Operation
- Basic Fatigue Management (BFM)

All heavy vehicle drivers operating out of Cleary Bros quarries are to be aware of these fatigue management schemes and operate within their requirements.

For further information, refer to Cleary Bros *Fatigue Management and Fitness for Duty (Heavy Vehicle) Work Instruction*.

6. Vehicle Standards

Drivers are responsible to ensuring their vehicle is of a standard and in a condition that prevents of minimises safety risks. To this end, drivers must:

- Complete a daily check of their vehicles prior to your first journey;
- Do not operate the heavy vehicle in the event a safety critical or high-risk fault is identified.
- Report all faults to your supervisor.
- Keep vehicles clean and tidy, and ensure no loose debris on wheels and truck body when leaving the quarry or delivery site.

For further information, refer to Cleary Bros *Vehicle Standards Work Instruction*.

7. Heavy Vehicle Compression Braking

Compression braking by heavy vehicles is a source of irritation to the community generating many complaints especially at night when many residents are especially sensitive to noise.

In some instances compression braking is required for safety reasons however when passing through or adjacent to residential areas a reduction in the speed of the vehicle is recommended to reduce the instances and severity of compression braking.

Compression braking should only be used if required for safety reasons. Brakes must be applied so as not to create excessive noise should vehicles be driving through residential areas.

8. Load Covering

Loose material on the road surface has the potential to cause road crashes and vehicle damage.

All loaded trucks departing from the quarries are required to have an effective cover over their load for the duration of the trip. The load cover may be removed upon arrival at the delivery site.

All care is to be taken to ensure that all loose debris from the vehicle body and wheels is removed prior to leaving the site and again after unloading.

Drivers must ensure that the tailgate is locked before leaving the site.

9. Cleary Bros Drug and Alcohol Policy

Bringing alcohol or illicit drugs to work or coming to work under the influence of them is strictly prohibited and could lead to disciplinary action or cancellation of contract. If you are taking prescription medication which can affect your performance you must inform your supervisor. You may also be required to produce medical evidence to prove your medication does not affect your capacity to perform your duties in a safe manner without harm to yourself or others.

Cleary Bros undertake random drug and alcohol testing to ensure both employees and contractors are fit for work.

10. Customer Relations

- Ensure paperwork is correct
- Always wear appropriate PPE and required safety equipment
- Never enter a customer premises without permission walk around a customer's premises unsupervised
- Always be polite
- Learn and practice good communication skills
- Always be on time or let someone know if you cannot be
- Do not use bad language around staff members, clients or any member of the public
- Personal hygiene, it is not difficult to be clean and tidy, customers take note of this and if you are of poor appearance they will remember you
- Ensure weights are correct
- Respect religious beliefs of any customer
- Do not under any circumstances make racial or derogatory comments

Appendix 5

Air Quality and Greenhouse Gas Assessment

prepared by

Northstar Air Quality Pty Ltd

(Total No. of pages including blank pages = 81)

This document has been prepared for **Regional Quarries & Concrete Pty Ltd** by:

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Proposed Modification 2 – Gerroa Sand Quarry

Air Quality and Greenhouse Gas Assessment

Addressee(s):	Regional Quarries & Concrete Pty Ltd
Site Address:	Lot 2 DP1111012, Lot A DP185785
Report Reference:	25.1116.FR2V2
Date:	15 August 2025
Status:	Final

air quality | environment | sustainability

Quality Control

Report	Reference	Status	Prepared by	Checked by	Authorised by
Proposed Modification 2 – Gerroa Sand Quarry - Air Quality and Greenhouse Gas Assessment	25.1116.FR2V2	Final	Northstar	GCG	MD

Report Status

Northstar References		Report Status	Report Reference	Version
Year	Job Number	(Draft: Final)	(R*x*)	(V*x*)
2025	1116	Final	2	2
Based upon the above, the specific reference for this version of the report is:				25.1116.FR2V2

Final Authority

This report must by regarded as draft until the above study components have been each marked as final, and the document has been signed and dated below. A draft report is a working document, is issued without prejudice and is subject to change.

Martin Doyle **15 August 2025**

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NON-TECHNICAL SUMMARY

Regional Quarries & Concrete Pty Ltd, trading as Cleary Bros has engaged Northstar Air Quality Pty Ltd to perform an Air Quality Impact Assessment and Greenhouse Gas Assessment for the continued operation and increased product transport rate of the Gerroa Sand Quarry.

The Air Quality Impact Assessment and Greenhouse Gas Assessment forms part of the Modification Report prepared to accompany the development application for the Project under Part 4 of the *Environmental Planning and Assessment Act* 1979.

The Air Quality Impact Assessment has been performed in accordance with the requirements of the NSW Environment Protection Authority Approved Methods for the Modelling and Assessment of Air Pollutants in NSW document and meets the requirements of the Secretary's Environmental Assessment Requirements. The Air Quality Impact Assessment provides a detailed description of:

- Proposed activities which form the Project which reflect peak activity rates during site operation.
- Legislative requirements which are required to be met, including NSW Environment Protection Authority air quality criteria, Protection of the Environment Operations Act, and Protection of the Environment Operations (Clean Air) Regulations, and any policies and guidelines as they relate to air quality impacts of the Project.
- Existing conditions surrounding the Quarry Site, including the definition of sensitive receptor locations, prevailing meteorology, air quality, and topography.
- The approach to assessment, including justification for the approach adopted.
- Emissions controls proposed to be employed as part of the Project operation.
- Predicted air quality impacts during the scenario modelled.
- Air quality management and mitigation measures which would continue to be employed to ensure that the environmental objectives associated with the Project are achieved.

The results of the Air Quality Impact Assessment indicate that predicted incremental concentrations associated with the operation of the Project at surrounding sensitive receptors are minor, and no exceedances of the annual average particulate matter criteria are predicted. No additional exceedances of the 24-hour particulate matter criteria are predicted, even during the assessment of maximum throughput and off-site transport.

The Greenhouse Gas Assessment concludes that the NSW Environment Protection Authority 'Large Emitter' threshold of 25 000 tonnes per year of carbon dioxide equivalent would not be triggered by this Project. A detailed outline of the assumptions adopted, calculations performed, and a comparison with NSW and Australian direct emissions totals is provided, in addition to further options to reduce greenhouse gas emissions.

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1. INTRODUCTION

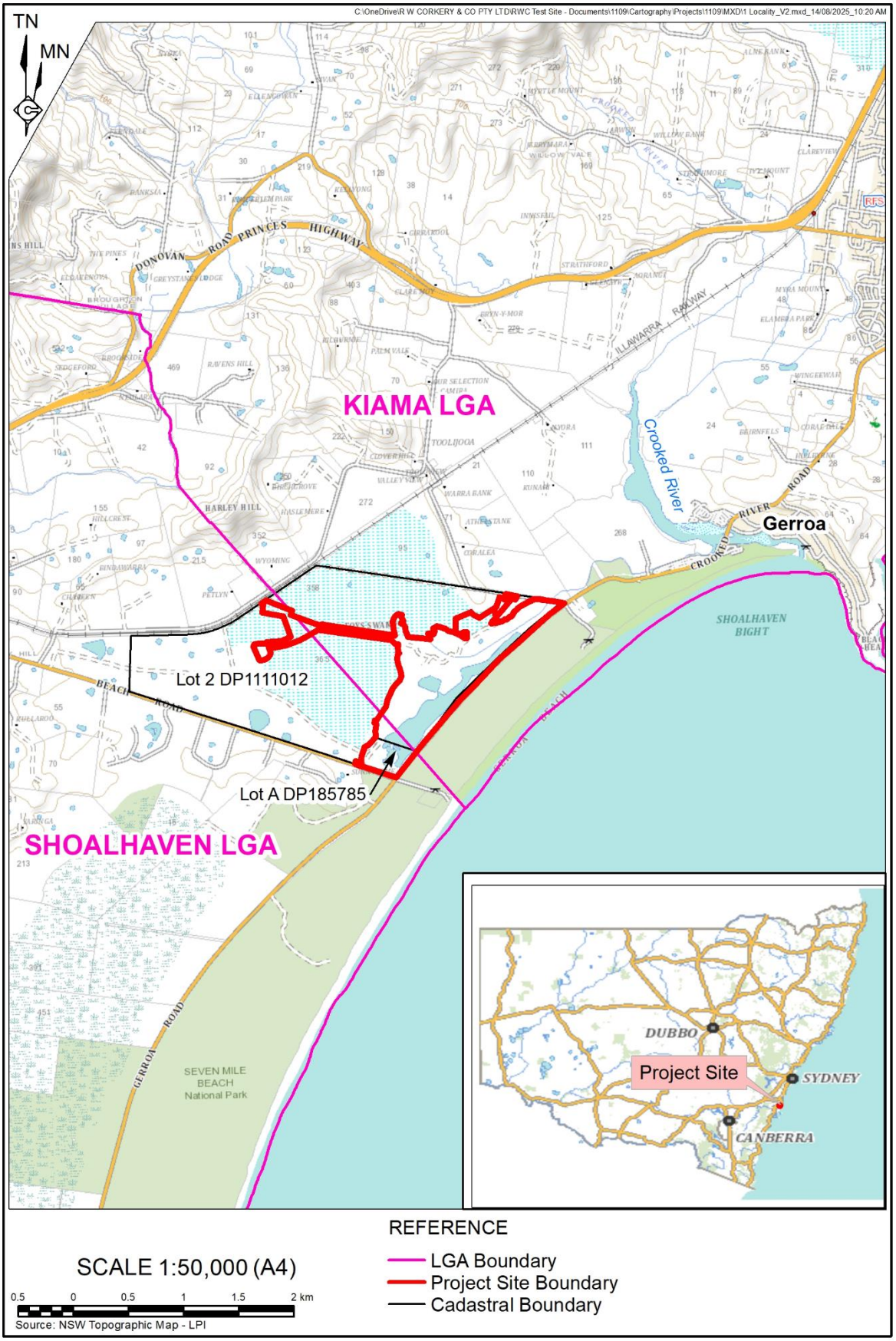
Regional Quarries & Concrete Pty Ltd, trading as Cleary Bros (the Applicant) has commissioned Northstar Air Quality Pty Ltd (Northstar) to perform an air quality impact assessment (AQIA) and Greenhouse Gas Assessment (GHGA) to support a Modification Report for the continued operation and increased product transport rate (the Project) of the Gerroa Sand Quarry (the Quarry) located within Lot 2 Deposited Plan (DP) 1111012 and Lot A DP185785, at Crooked River, Gerroa NSW (the Project Site), as shown in Figure 1.

The AQIA presents an assessment of the impacts of activities associated with the operational phase of the Project. The AQIA has used a quantitative dispersion modelling approach, performed in accordance with the relevant NSW Environment Protection Authority (NSW EPA) guidelines. The results of the assessment are presented as predicted incremental change, and as a cumulative impact accounting for the prevailing background air quality conditions.

The GHGA has been incorporated as part of this over-arching AQIA report. The GHGA presents a quantification of the likely greenhouse gas (GHG) emissions associated with the operation of the Project and presents a comparison of these emissions with National and State GHG emissions totals. Opportunities for GHG reduction are also provided.

This AQIA (including the GHGA) forms part of the Modification Report prepared to accompany the modification application for the Project under Part 4 of the *Environmental Planning and Assessment Act* 1979.

Figure 1 Project Site location



Source: RWC

1.1. Assessment Requirements

Given that the Project is a proposed modification to an existing State Significant Development (SSD) approval, no NSW Planning Secretary's Environmental Assessment Requirements (SEARs) have been provided for the Project by the Department of Planning, Housing, and Infrastructure (NSW DPHI).

However, the AQIA has been prepared in general accordance with the NSW Environment Protection Authority (EPA) 'Approved Methods for the Modelling and Assessment of Air Pollutants in NSW' document (NSW EPA, 2022). The GHGA has been performed with reference to the NSW EPA 'Large Emitters Guideline', although emissions are shown to be well below the 25 000 t CO_2-e·yr^{-1} threshold requiring a detailed assessment to be performed.

Further to the above, the policies, guidelines and plans which have been referenced during the performance of the AQIA include (in no order):

- *Environmental Planning and Assessment Act* 1979 (EP&A Act);
- *Protection of the Environment Operations Act* 1997 (POEO Act);
- Environmental Planning and Assessment Regulation 2021 (EP&A Regulation);
- Protection of the Environment Operations (Clean Air) Regulation 2022 (POEO CAR); and
- Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (NSW EPA, 2022).

The policies, guidelines and plans which have been referenced during the performance of the GHGA include (in no order):

- National Greenhouse and Energy Reporting Scheme, under the *National Greenhouse and Energy Reporting Act* (2007);
- *Climate Change (Net Zero Future) Act* 2023,
- Emissions Reduction Fund, under the Carbon Credits (Carbon Farming Initiative) Act (2011);
- Renewable Energy Target, under the *Renewable Energy (Electricity) Act* (2000);
- NSW Climate Change Policy (2023);
- Australian Government Department of Climate Change, Energy, the Environment and Water, Australian National Greenhouse Accounts, National Greenhouse Accounts Factors, 2024 (DCCEEW, 2024c);
- The World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) GHG Protocol: A Corporate Accounting and Report Standard (WRI, 2004);
- ISO 14064-1:2018 (Greenhouse Gases – Part 1: Specification with guidance at the organisation level for quantification and reporting of GHG emissions and removal);
- ISO 14064-2:2019 (Greenhouse Gases – Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of GHG emission reductions or removal enhancements);
- ISO 14064-3:2019 (Greenhouse Gases – Part 3: Specification with guidance for the validation and verification of GHG assertions) guidelines (internationally accepted best practice); and

- Australian National Registry of Emissions Units, under the *Australian National Registry of Emissions Units Act* (2011).

Appendix A presents a common list of abbreviations, nomenclature and specified units referenced within this AQIA and GHGA.

2. PROJECT DESCRIPTION

A full description of the Project is provided in section 3 of the Modification Report. Details relevant to the AQIA / GHGA are presented in this section.

The following provides a description of the context, location, and scale of the Project, and a description of the processes and development activities on site. It also identifies the potential for emissions to air associated with the Project.

2.1. Project Summary

2.1.1. Historical and Current Operations

The Quarry has been successfully operated by the Applicant for over 55 years as a source of sand for construction and concrete products produced by Cleary Bros at their plants in Albion Park, Bomaderry and Coniston.

Operations at the Project Site have been authorised under a series of development approvals. The current development consent for the Quarry, Major Project Approval MP 05_0099 for the extension and continuation of the Quarry, was originally sought under Part 3A of the *Environmental Planning and Assessment Act* 1979 (EP&A Act) and determined by the Land and Environment Court on 2 September 2008. Following the repeal of Part 3A of the EP&A Act and under transitional arrangements provided by Schedule 6A of the EP&A Act, the consent has subsequently been modified once (Mod 1) under the former Section 75W of the EP&A Act (determined on 10 June 2022) to extend the extraction area and develop a new dredge pond.

MP 05_0099 (Mod 1) permits the extension and continued operation of the Quarry, including:

- extraction and processing operations until 31 July 2038 from the approved extraction areas (Figure 2);
- extraction using a floating suction dredge-based extraction system, including transfer of dredged slurry material to the on-site processing plant via a pipeline;
- material processing using a wet sorter containing multiple screens and a cyclone;
- return of process water and fines to the dredge pond;
- stockpiling of products;
- loading and transportation of up to 80 000 tonnes (t) of product from the Project Site per year using the approved transportation route(s);
- rehabilitation works in areas where extraction has been completed; and
- operation within the following approved hours of operation.
    - 7:00 am to 6:00 pm, Monday to Friday.

- 7:00 am to 1:00 pm, Saturdays.
- At no time on Sundays or Public Holidays.

Environment Protection Licence (EPL) 4146 currently licences activities at the Project Site including extraction (>50,000 to 100 000 t annually) and crushing, grinding or separating (>30 000 to 100 000 t annually).

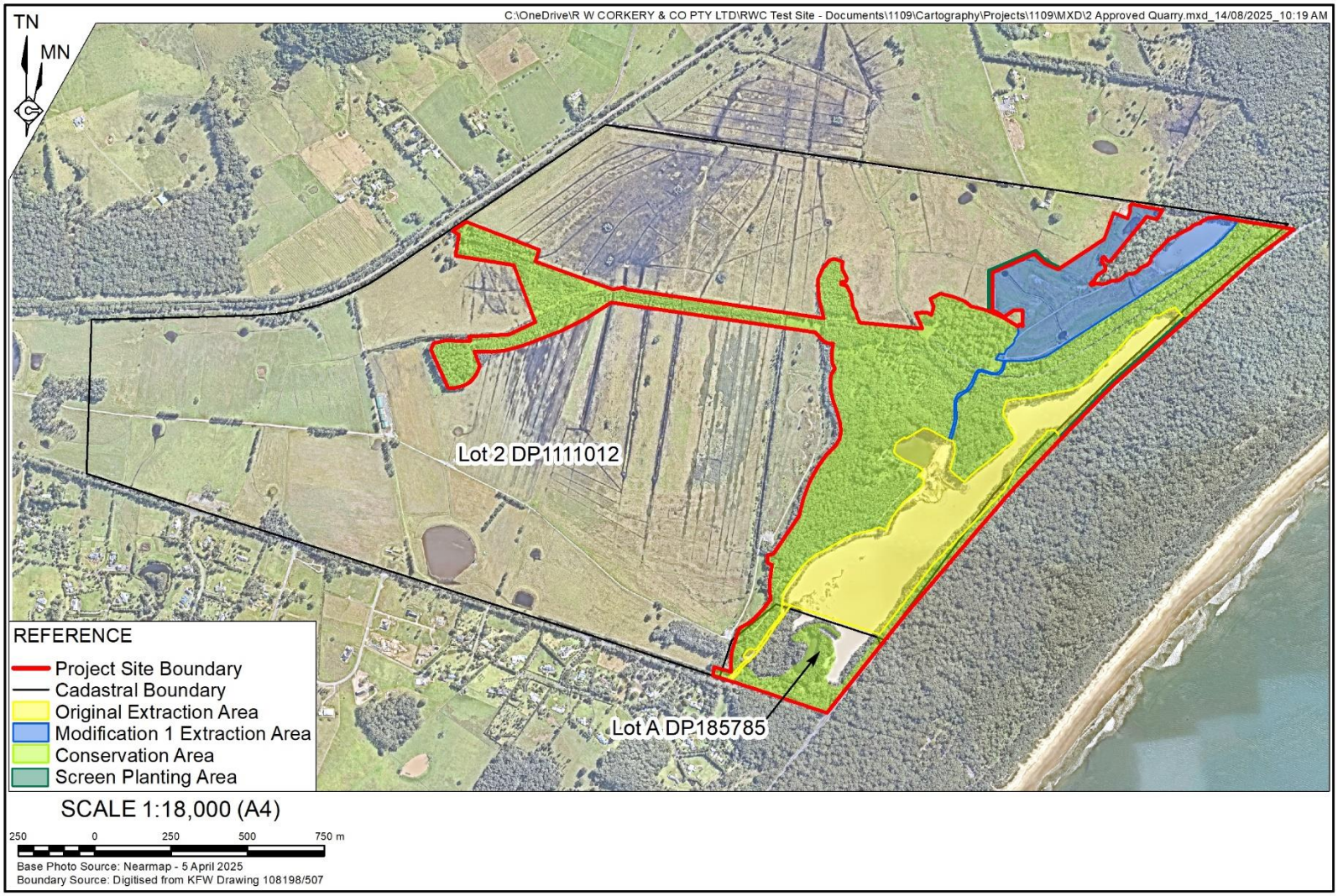
2.1.2. Proposed Modification

The Applicant proposes to modify MP 05_0099 (Mod 1) to increase the annual product transport limit at the Quarry by 50 % from 80 000 tonnes per year ($t \cdot yr^{-1}$) to 120 000 $t \cdot yr^{-1}$ (the 'Proposed Modification'). As the annual product transportation limit would largely determine annual extraction and processing operations at the Project Site, the Proposed Modification would include an intensification of these production activities. The Proposed Modification would represent Modification 2 to MP05_0099.

No further changes to approved operations are proposed as part of the Proposed Modification.

Separate to the Proposed Modification, Cleary Bros has submitted a subdivision application with Kiama Municipal Council and Shoalhaven City Council. If approved, Lot A DP185785 will be subsumed into Lot 2 DP1111012 and Lot 2 will be divided into three lots, with Quarry operations confined to a single lot. A new lot adjacent to Beach Road will include two building envelope which have been assessed as sensitive receptors for the purposes of the AQIA (receptors R12 and R13, refer Section 4.2).

Figure 2 Approved Project Site layout



Source: RWC

2.2. Project Overview

A description of the Quarry activities is provided below. The process would be largely unchanged from that approved under MP 05_0099 (Mod 1), with only increases in the extraction, production, and transport rates proposed.

2.2.1. Dredge Extraction

The methodology used to extract the sand from the dredge pond extension would be the same as that currently in use. The pipeline (250 mm polypipe) that connects the dredge to the separation system travels along the eastern edge of an existing access track that connects the extraction area approved under Mod 1 with the original extraction area. The pipeline is laid directly on the ground or raised on concrete plinths as required. Short sections of the pipe are buried where necessary (for example at track intersections or crossings).

2.2.2. Extraction Area

The dredge pond approved under Mod 1 is located to the north-west and west of the original dredge pond. The area of the dredge pond extension approved under Mod 1 is approximately 15 hectares (ha) and contains an estimated 1.2 million tonnes (Mt) of sand as estimated by exploratory boreholes. Exploratory drilling of the site has shown that immediately below the shallow layer of sandy topsoil lies a beneficial sand resource. The sand resource varies in thickness across the site and includes a clay band of up to 2 metres (m) deep in parts.

2.2.3. Material Processing

The existing cyclone plant would be used to sort the wet sand. There would be no changes to the material processing or handling of fine material nor the location of the process, other than the processing rate increase to support the increased transportation limit from 80 000 $t \cdot yr^{-1}$ to 120 000 $t \cdot yr^{-1}$.

2.2.4. Stockpiles

Sand extracted from the extraction area would be stockpiled in the same location currently in use. There will be no changes to the material stockpiling processes.

2.2.5. Material Transport

The loading and transport of sand would be carried out using the same process and transport routes as that currently in use. There will be no changes to the loading and transport of the sand, other than the rate increase from 80 000 $t \cdot yr^{-1}$ to 120 000 $t \cdot yr^{-1}$.

2.2.6. Equipment List

The typical equipment used on the site includes:

- Sand dredge;
- Cyclones and screens (wash plant);
- A number of water pumps;
- Rubber-tyred loader (CAT 972H or equivalent)
- 30 t excavator (CAT 330B or equivalent);
- Water cart;
- Articulated dump truck (CAT 740A or equivalent);
- Dozer (Cat D6 or equivalent); and
- Road-going trucks (for offsite transport, site deliveries, and maintenance).

2.2.7. Hours of Operation

The proposed hours of operation for the Project would be consistent with those currently permitted under MP 05_0099 (Mod 1). Table 1 lists the hours of operation within which operational activities would be performed throughout the life of the Project.

Table 1 Proposed hours of operation

Activity	Hours
All activities	7:00 am to 6:00 pm Monday to Friday
	7:00 am to 1:00 pm Saturday

2.3. Identification of Potential Emissions to Air

The processes which may result in the emission of pollutants to air during Project operations would include:

- Wet processing of dredged sand;
- Loading of product to stockpiles;
- Loading of road trucks with product;
- Haulage of product from stockpiles offsite via unpaved and paved haulage route;

- Wind erosion of disturbed areas; and
- Emissions from vehicle and equipment exhaust.

Extraction of sand from the dredge pond is a wet process and would not result in emissions of particulate matter to air.

The specific pollutants of interest associated with the activities above are:

- Total suspended particulate (TSP);
- Particulate matter with an aerodynamic diameter of 10 microns (PM_{10});
- Particulate matter with an aerodynamic diameter of 2.5 microns ($PM_{2.5}$); and
- Silica (Si).

Emissions of oxides of nitrogen (NO_X), carbon monoxide (CO) and sulphur dioxide (SO_2) would be anticipated related to diesel combustion from Quarry plant, in addition to particulates considered above from processing and material handling activities.

Given the quantity of equipment operating at any one time at the Quarry, it is not anticipated that emissions associated with diesel combustion (other than particulate matter which have been assessed) would be a significant contributor to total site emissions and have not been addressed further.

Odour is not anticipated to result in any significant quantity from the operations at the Project Site, and this has not been assessed.

2.4. Air Quality Management

2.4.1. Mitigation Measures

The Quarry operates in accordance with the Quarry Environmental Management Plan (QEMP), which includes an Air Quality Management Plan (AQMP) (Cleary Bros, 2022). The AQMP was prepared to meet the requirements of the Consolidated Approval for MP 05_0099 as modified and approved by the Minister for Planning on 10 June 2022.

In addition to a meteorological and dust deposition monitoring program (refer Section 4.3 and Section 4.4), a range of mitigation measures are employed at the Quarry to minimise air emissions (as outlined in section 6 of the AQMP):

- Siting the processing plant and truck loading area in the central part of the site, away from the rural residential receivers.
- The first 200 m of the access road within the site has been sealed to limit dust generation closest to the rural residential area to the south.

- The intersection of the access road with Beach Road has been upgraded with sealed shoulders.
- Equipment utilised at the Quarry has been specifically selected to be fit for purpose.

Other operational controls implemented to minimise air quality impacts include:

- Keep to a minimum the area of land disturbed for operational purposes at any one time. When a disturbed area is no longer to be used, revegetate it as soon as practicable.
- Restrict the speed of vehicles operating within the site to 20 $km \cdot hr^{-1}$ to minimise wheel-generated dust.
- Cover the loads of all loaded vehicles carrying materials to or from the site.
- Keep unsealed internal roads and loading areas moist when in use to minimise vehicle-generated dust.
- Regulate sand production to avoid excessive product stockpiling.
- Monitor weather forecasts on a regular basis (minimum twice weekly) to enable proactive measures to be planned, such as increased haul road watering, altering certain activities, or cease loading and transport on the site.
- Continually watch for any visible air pollution and if necessary, minimise dust generation by modifying operations, such as closing the site for loading and transport in extreme weather conditions.
- Maintain plant and equipment to manufacturers' specifications.
- Ensure all truck drivers leaving the site are familiar with and adhere to the requirements of Cleary Bros Drivers Code of Conduct, which includes driver behaviour training relating to turning off truck engines when parked or waiting for an extended period of time.
- Implement an air quality monitoring program to ensure compliance with the air quality criteria (refer Section 2.4.2).
- Advertise the contact number at the front of the site, to provide community members with a contact point should they wish to raise concerns regarding dust generation.
- Cleary Bros complaints management process ensures all community complaints are investigated and followed up as relevant to each complaint.
- Conduct regular Community Consultative Committee meetings to ensure dissemination of project information and to provide a forum for community members to raise any concerns regarding air quality.

2.4.2. Monitoring Program

As outlined in the AQMP, the current Consent requires the operation of air quality monitoring procedures (schedule 3, condition 8(c)). Dust deposition gauges (DDG) are positioned at 3 locations as outlined in Section 4.4.2):

- DDG 1A adjacent to the site entrance;

- DDG 2A on the site boundary east of the processing plant; and
- DDG 4A to the north of the modification 1 dredge pond.

An Automatic Weather Station (AWS) is also co-located with DDG 4A.

The performance targets for dust deposition are the same as those outlined in Table 3, which have been adopted for the purposes of Project assessment.

3. LEGISLATION, REGULATION AND GUIDANCE

This section outlines the relevant legislative requirements for the Project under applicable State and Commonwealth legislation and planning instruments.

The Quarry's Environment Protection Licence (EPL) under the POEO Act, and respective planning approvals under the EP&A Act, regulate the impact of mining on the environment.

3.1. Protection of the Environment Operations Act 1997

The POEO Act sets the statutory framework for managing air quality in NSW, including establishing the licensing scheme for major industrial premises (scheduled activities) and a range of air pollution offences and penalties.

Should the Project modification gain approval, the operations would continue to be classified as a scheduled activity under the POEO Act and as such the Quarry would require a variation to its EPL.

3.2. Protection of the Environment (Clean Air) Regulation 2022

The Protection of the Environment Operations (POEO) (Clean Air) Regulation 2022 sets standards of concentration for emissions to air from both scheduled and non-scheduled activities. For the activities performed at the Quarry Site, the POEO (Clean Air) Regulation 2022 provides general standards of concentration for scheduled premises which are presented in Table 2 for the pollutants of relevance.

Table 2 POEO (Clean Air) Regulation – General standards of concentration

Air Impurity	Activity	Standard of concentration (Group 6)[(a)]
Solid particles (total)	Any activity or plant (except as listed below)	50 $mg{\cdot}m^{-3}$
	Any crushing, grinding, separating, or materials handling activity	20 $mg{\cdot}m^{-3}$

Note: (a) Group 6 – pursuant to application made on or after 1 September 2005

Further to the requirements in Table 2, Part 4 Clause 20 of the POEO (Clean Air) Regulation 2022 requires that motor vehicles do not emit excessive air impurities which may be visible for a period of more than 10 seconds (s) when determined in accordance with the relevant standard.

All vehicles, plant, and equipment to be used either at the Project Site or to transport materials to and from the Project Site will be maintained regularly and in accordance with manufacturers' requirements, where these vehicles are under the operational control of the Applicant.

3.3. NSW EPA Air Quality Criteria

3.3.1. Criteria Air Pollutants

State air quality guidelines adopted by the NSW EPA are published in the 'Approved Methods for the Modelling and Assessment of Air Pollutants in NSW' (NSW EPA, 2022) (the 'Approved Methods') which has been consulted during the preparation of this report.

The Approved Methods lists the statutory methods that are to be used to model and assess emissions of criteria air pollutants from stationary sources in NSW. Section 7.1 of the Approved Methods outlines the impact assessment criteria to be applied.

The criteria listed in the Approved Methods are derived from a range of sources (including National Health and Medical Research Council [NHMRC], National Environment Protection Council [NEPC], and World Health Organisation [WHO]).

The criteria specified in the Approved Methods are the defining ambient air quality criteria for NSW. The standards adopted to protect members of the community from health impacts in NSW are presented in Table 3.

Table 3 NSW EPA air quality impact assessment criteria

Pollutant	Averaging period	Units[(e)]	Criterion	Notes
Particulates (as PM_{10})	24 hours	$\mu g \cdot m^{-3}$	50	Numerically equivalent to the AAQ NEPM[(b)] standards and goals.
	1 year	$\mu g \cdot m^{-3}$	25	
Particulates (as $PM_{2.5}$)	24 hours	$\mu g \cdot m^{-3}$	25	
	1 year	$\mu g \cdot m^{-3}$	8	
Particulates (as TSP)	1 year	$\mu g \cdot m^{-3}$	90	
Particulates (as dust deposition)	1 year[(c)]	$g \cdot m^{-2} \cdot month^{-1}$	2	Assessed as insoluble solids as defined by AS 3580.10.1
	1 year[(d)]	$g \cdot m^{-2} \cdot month^{-1}$	4	

Notes: (a): micrograms per cubic metre of air
(b): National Environment Protection (Ambient Air Quality) Measure
(c): Maximum increase in deposited dust level
(d): Maximum total deposited dust level

3.3.2. Respirable Crystalline Silica

Given the nature of the material to be extracted and processed at the Project Site, respirable crystalline silica (RCS) may be generated during those activities. NSW EPA do not provide air quality criteria for RCS, although Environment Protection Authority Victoria (EPA VIC) in their State Environmental Planning Policy (SEPP) Protocol for Environmental Management: Mining and Extractive Industries (PEM) (EPA VIC, 2007) do include

an annual average criterion for RCS (assessed as $PM_{2.5}$) as 3 $\mu g \cdot m^{-3}$, which has been adopted from the California EPA Office for Environmental Health Hazard Assessment Reference Exposure Levels.

Furthermore, EPA South Australia (SA EPA) provide an interim criterion for RCS concentrations in ambient air associated with mining and extractive industries (EPA SA, 2022). SA EPA, with input from SA Health, performed a literature review of the modern criteria for RCS in ambient air associated with mining and extractive industries. Based on that review, the SA EPA is adopting an interim respirable crystalline silica (RCS) criterion of 3 $\mu g \cdot m^{-3}$ (annual average) for the PM_{10} size fraction of dust in ambient air.

It is noted that EPA VIC and SA EPA have adopted the same averaging period and concentration (3 $\mu g \cdot m^{-3}$, annual average) although the size fraction of particulate to which the criterion applied differs, with EPA VIC referencing the $PM_{2.5}$ size fraction, and SA EPA referencing the PM_{10} fraction. PM_{10} concentrations are shown to be greater than $PM_{2.5}$ concentrations (refer Section 5.2.5), and therefore this AQIA has adopted the SA EPA criterion which is a conservative assumption.

This criterion is referenced in this assessment and calculates RCS by adjusting annual average PM_{10} modelling results on a *pro-rata* basis to account for the determined maximum free silica content of the extracted material (conservatively taken to be 95 % [w/w]). RCS is generally an occupational health and safety issue (i.e. on-site) rather than an environmental issue (i.e. off-site) when considering mining/extractive activities but has been presented within this AQIA for completeness.

3.4. Greenhouse Gas Legislation and Guidance

The Australian Government Clean Energy Regulator (CER) administers schemes legislated by the Australian Government for measuring, managing, reducing or offsetting Australia's carbon emissions.

Schemes administered by the Clean Energy Regulator include:

- National Greenhouse and Energy Reporting Scheme, under the *National Greenhouse and Energy Reporting Act* (2007).
- Emissions Reduction Fund, under the Carbon Credits (Carbon Farming Initiative) Act (2011).
- Renewable Energy Target, under the *Renewable Energy (Electricity) Act* (2000).
- Australian National Registry of Emissions Units, under the *Australian National Registry of Emissions Units Act* (2011).

3.4.1. National Greenhouse and Energy Reporting Scheme

The National Greenhouse and Energy Reporting (NGER) scheme, established by the *National Greenhouse and Energy Reporting Act* (2007) (NGER Act), is a national framework for reporting and disseminating

company information about greenhouse gas emissions, energy production, energy consumption and other information specified under NGER legislation.

The objectives of the NGER scheme are to:

- Inform government policy;
- Inform the Australian public;
- Help meet Australia's international reporting obligations;
- Assist Commonwealth, state and territory government programmes and activities; and,
- Avoid duplication of similar reporting requirements in the states and territories.

Further information on the NGER scheme, specifically the definitions of various scopes and types of GHG emissions which have also been adopted for the purposes of this assessment, is provided in Section 5.2.

3.4.2. Relevant NSW Legislation

NSW Government has enacted the *Climate Change (Net Zero Future) Act* 2023, which aims to:

- Establish guiding principles for action to address climate change;
- Set targets for the reduction in net GHG emissions in NSW until 2050;
- Set an objective for NSW to be more resilient to a changing climate; and
- Establish the Net Zero Commission to independently monitor, review, and report on progress in NSW towards the targets, the adaptation objective and other matters.

NSW EPA also published their Climate Change Policy in 2023, and in January 2025 released the guide for 'large emitters' (emitting greater than 25 000 t CO_2-e per year), with a further guideline for general projects (emitting less than 25 000 t CO_2-e per year) to be published (currently being developed by the EPA) (NSW EPA, 2025).

The Project is anticipated to result in significantly less than 25 000 t CO_2-e emissions per year (refer Section 7), and given that guidelines for assessment are currently being developed for projects of this nature, the methodology outlined in Section 5.2 has been adopted.

3.4.3. Guidance

The GHG accounting and reporting principles adopted within this GHGA are based on the following financial accounting and reporting standards:

- Australian Government Department of Climate Change, Energy, the Environment and Water, Australian National Greenhouse Accounts, National Greenhouse Accounts Factors, 2024 (DCCEEW, 2024c);

- The World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) GHG Protocol: A Corporate Accounting and Report Standard (WRI, 2004);
- ISO 14064-1:2018 (Greenhouse Gases – Part 1: Specification with guidance at the organisation level for quantification and reporting of GHG emissions and removal);
- ISO 14064-2:2019 (Greenhouse Gases – Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of GHG emission reductions or removal enhancements); and
- ISO 14064-3:2019 (Greenhouse Gases – Part 3: Specification with guidance for the validation and verification of GHG assertions) guidelines (internationally accepted best practice).

4. EXISTING CONDITIONS

The following information provides context around the location of sensitive receptor locations surrounding the Project Site, the prevailing meteorology and air quality of the surrounding area and identifies other sources of air pollutants which have the potential to impact cumulatively with the Project.

4.1. Surrounding Land Sensitivity

The Project Site is situated within land zoned under the Kiama Local Environmental Plan (LEP) 2011 as:

- RU1 - Primary Production;
- RU2 – Rural Landscape;
- C2 – Environmental Conservation; and
- C3 – Environmental Management.

Other land use zones within the surrounding area include those above plus R5 – Large Lot Residential along the western side of Beach Road.

4.2. Sensitive Receptor Locations

Air quality assessments include a desktop mapping exercise to identify 'discrete receptor locations', which are intended to represent a selection of locations that may be susceptible to changes in air quality. In broad terms, the identification of sensitive receptors refers to places at which humans may be present for a period representative of the averaging period for the pollutant being assessed.

The Approved Methods (NSW EPA, 2022) denotes a sensitive receptor location to be:

> *'A location where people are likely to work or reside; this may include a dwelling, school, hospital, office or public recreational area'.*

The focus of the AQIA has been on discrete receptor locations, which are specified in consideration of the Approved Methods and are broadly representative of those areas or sites that may experience the greatest, or most likely levels of exposure on account of the Project operations.

In addition to the identified 'discrete' receptor locations, the entire modelling area is gridded with 'uniform' receptor locations that are used to plot out the predicted impacts, and as such the accidental non-inclusion of a location sensitive to changes in air quality does not render the AQIA invalid, or otherwise incapable of assessing those potential risks.

To ensure that the selection of discrete receptors for the AQIA are reflective of the locations in which the population of the area surrounding the Project Site reside, population density data has been examined.

Population density data based on the 2021 census have been obtained from the Australian Bureau of Statistics (ABS) for a 1 square kilometre (km^2) grid, covering mainland Australia (ABS, 2022). Using a Geographical Information System (GIS), the locations of sensitive receptor locations have been confirmed with reference to their population densities.

For clarity, the ABS use the following categories to analyse population density (persons·km^{-2}):

- No population – Zero (0).
- Very low – Up to 500.
- Low – Between 500 and 2 000.
- Medium – Between 2 000 and 5 000.
- High – Between 5 000 and 8 000.
- Very high – More than 8 000.

The population density of the area surrounding the Project Site are presented in Figure 3. The Project Site is located in an area of very low population density (between zero and less than 500 persons·km^{-2}).

In accordance with the requirements of the NSW EPA, several receptors have been identified and the receptors adopted for use within this AQIA are presented in Table 4 and illustrated in Figure 3.

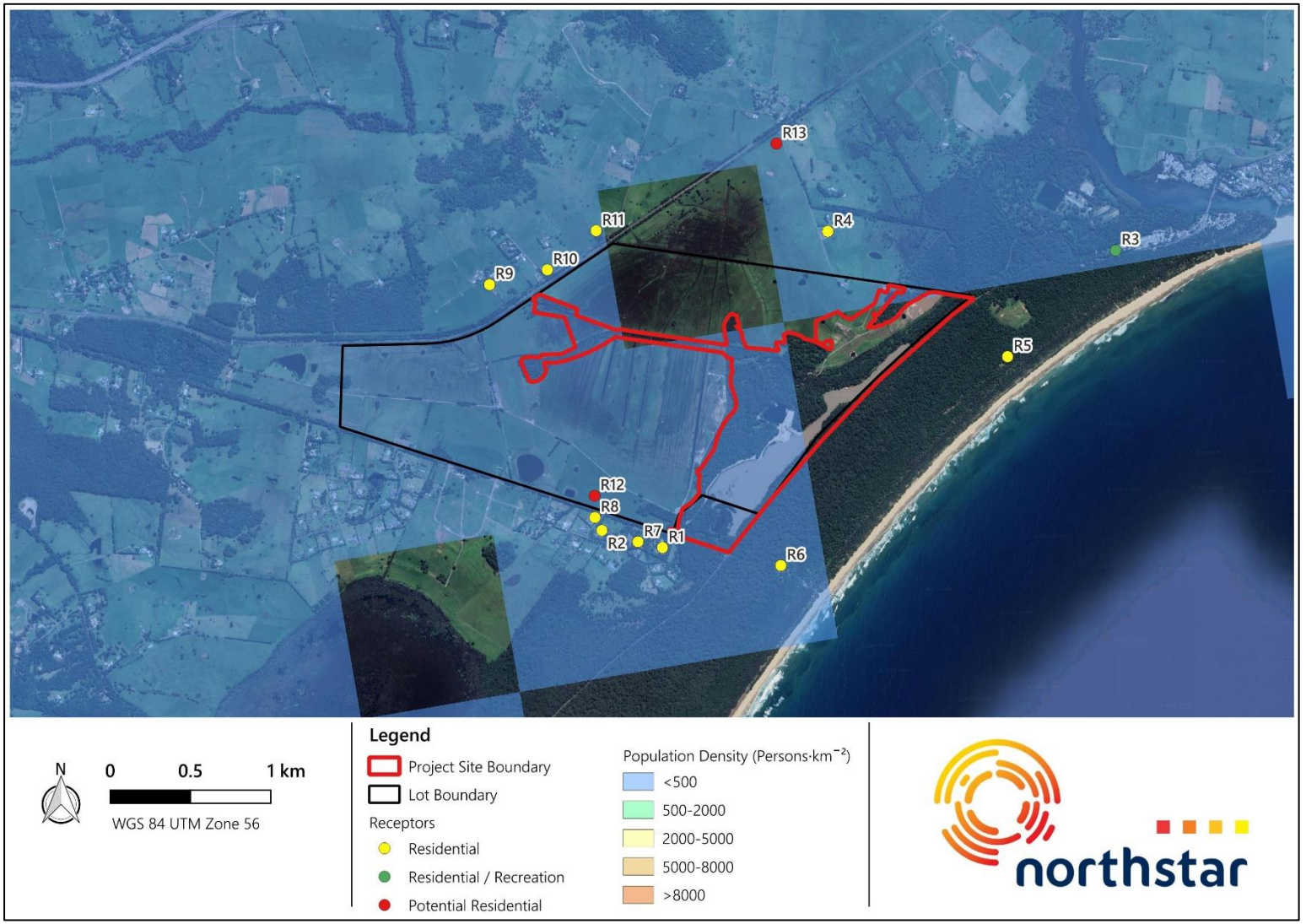
Whilst a quantitative air quality assessment was not performed to support Modification 1, a Noise Impact Assessment (NIA) was performed (Renzo Tonin, 2005). The NIA identified six sensitive receptors surrounding the Project Site, and in the interests of maintaining consistency with previous technical studies, those six receptors and receptor numbering have been adopted within this AQIA. In addition, a further five existing sensitive receptors have been identified for the purposes of this AQIA, and a further two receptors have been identified to be representative of potential residential development, should the separate subdivision application (refer Section 2.1.2) be successful.

Table 4 Identified discrete sensitive receptors

Receptor ID	Location	Land Use	Coordinates (UTM)	
			mE	mS
R1	670 Beach Road	Residential	296 011	6 148 026
R2	11 Bangarrai Street	Residential	295 634	6 148 132
R3	Seven Mile Beach Holiday Park	Residential / Recreation	298 833	6 149 874
R4	Coralea Property	Residential	297 041	6 149 992
R5	Picnic Area 1	Recreation	298 160	6 149 213
R6	Picnic Area 2	Recreation	296 748	6 147 914
R7	640B Beach Road	Residential	295 859	6 148 061
R8	10 Bangarrai Street	Residential	295 591	6 148 213
R9	215 Toolijooa Road	Residential	294 934	6 149 661
R10	364 Toolijooa Road	Residential	295 295	6 149 753
R11	330 Toolijooa Road	Residential	295 598	6 149 997
R12	Potential residential development	Residential	295 588	6 148 347
R13	Potential residential development	Residential	296 721	6 150 538

Note: The requirements of this AQIA may vary from the specific requirements of other studies, and as such the selection and naming of receptor locations, may vary between technical reports. This does not affect or reduce the validity of those assumptions.

Figure 3 Population density and discrete sensitive receptor locations



Source: Northstar

4.3. Meteorology

The meteorology experienced within an area can govern the generation (in the case of wind-dependent emission sources), dispersion, transport, and eventual fate of pollutants in the atmosphere. The meteorological conditions surrounding the Project Site have been characterised using data collected from surrounding Automatic Weather Stations (AWS) operated by the Australian Government Bureau of Meteorology (BoM), or by the Applicant.

Three stations have been identified located proximate to the Project Site. A summary of the identified AWS operated by BoM and the Applicant is provided below in Table 5 (listed by proximity).

Table 5 Details of meteorological monitoring surrounding the Quarry Site

Site name	Source	Approximate location		Approximate distance from Project Site (km)
		mE	mS	
Project Site	Applicant	297 123	6 149 690	On-site
Kiama (Bombo Headland) AWS – Station #068242	BoM	303 967	6 163 333	14.9
Nowra RAN Air Station AWS – Station #068072	BoM	274 923	6 130 071	27.9

4.3.1. Bureau of Meteorology Data

The Kiama (Bombo Headland) Airport AWS is noted to be the most proximate BoM operated AWS, located approximately 14.9 km to the north northeast of the Project Site. As such, it is considered that data collected at Kiama (Bombo Headland) Airport AWS is most likely to represent the conditions in the broader area, based upon its proximity. Whilst the AWS at the Project Site provides a site-specific representation of meteorological conditions (see Section 4.3.2) which are useful in validation of modelled meteorological conditions, the quality of data obtained from an AWS operated by the BoM, and the longer record length of the BoM AWS is considered to be of key importance when identifying representative data for use in the AQIA.

Corresponding, data from Kiama (Bombo Headland) AWS for the 5-year period between 2020 and 2024 have been analysed for use in this AQIA. The wind roses presented in Appendix B indicate that from 2020 to 2024, winds at the Kiama (Bombo Headland) AWS show generally similar wind distribution patterns across the years assessed, with predominant north north-easterly, south south-westerly, and west north-westerly components evident.

The majority of wind speeds experienced at the Kiama (Bombo Headland) AWS between 2020 and 2024 are generally in the range 1.5 meters per second ($m \cdot s^{-1}$) to 8 $m \cdot s^{-1}$ with the highest wind speeds (greater than

8 $m \cdot s^{-1}$) occurring from southerly directions. Winds of this speed occur during 10.2 % of the observed hours during the years while calm winds (less than 0.5 $m \cdot s^{-1}$) occur during 1.2 % of hours on average across the years between 2020 and 2024.

An analysis of the correlation coefficients between each year for wind speed, wind direction and particulate matter data distribution was performed to select a representative year for the meteorological modelling (refer Appendix B). Following this analysis, the calendar year 2021 was selected as the most suitable for further assessment.

To provide a characterisation of the meteorology which would be expected at the Project Site, a meteorological modelling exercise has also been performed. A summary of the inputs and outputs of the meteorological modelling assessment, including validation of those outputs with BoM AWS and Project specific meteorological data is presented in Appendix B.

4.3.2. On-Site Meteorological Data

Meteorological conditions are currently monitored at the Project Site by the Applicant in accordance with the Project's air quality monitoring program (refer Section 4.4.2). The location of the monitoring station is illustrated in Figure 5.

Meteorological data between 1 July 2022 and 25 May 2025 have been provided by the Applicant. An analysis of the data has been performed as part of this study to verify the accuracy of the meteorological data adopted for the purposes of dispersion modelling (refer Appendix B).

As outlined in Appendix B, comparison of the on-site meteorological data and the modelled CALMET data indicate that the modelled data is suitable to be adopted for the purposes of this assessment.

4.4. Air Quality

The air quality experienced at any location will be a result of emissions generated by natural and anthropogenic sources on a variety of scales (local, regional, and global). The relative contributions of sources at each of these scales to the air quality at a location will vary based on a wide number of factors including the type, location, proximity and strength of the emission source(s), prevailing meteorology, land uses, and other factors affecting the emission, dispersion, and fate of those pollutants.

When assessing the impact of any particular source of emissions on the potential air quality at a location, the impact of all other sources of an individual pollutant should also be assessed. These 'background' (sometimes called 'baseline') air quality conditions will vary depending on the pollutants to be assessed and can often be characterised by using representative air quality monitoring data.

4.4.1. DCCEEW Air Quality Data

Data from air quality monitoring stations (AQMS) operated by NSW Department of Climate Change, Energy, Environment and Water (NSW DCCEEW) have been considered within this AQIA. The locations of the nearest AQMS (listed by proximity) are briefly summarised in Table 6 and illustrated in Figure 4.

Table 6 Closest AQMS to the Project Site

AQMS location	Source	Distance to Project Site (km)	2021 data	Measurements		
				PM_{10}	$PM_{2.5}$	TSP
Albion Park South	NSW DCCEEW	21.8	✓	✓	✓	✖
Wollongong	NSW DCCEEW	40.7	✓	✓	✓	✖

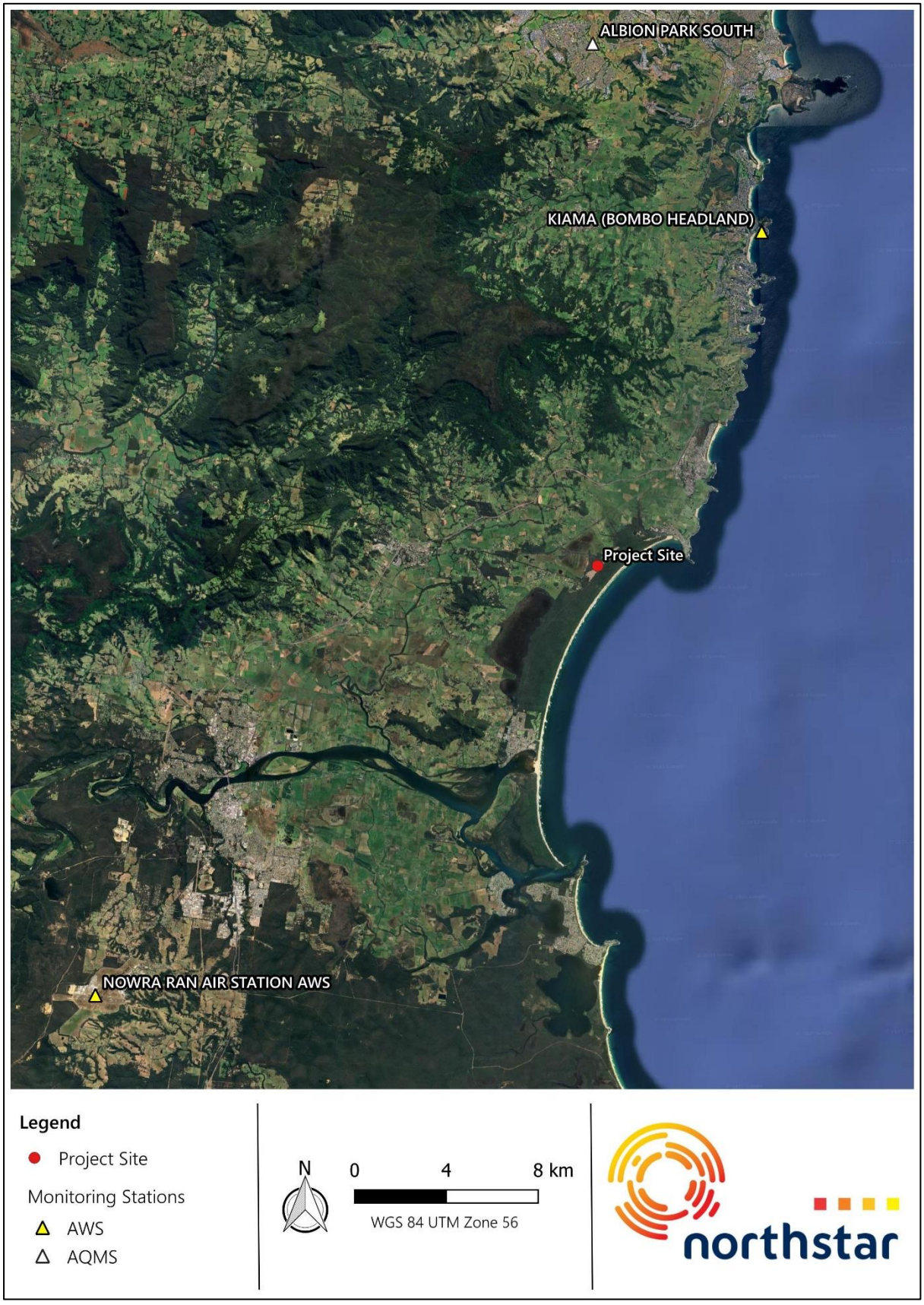
It is noted that there are no AQMS within 20 km of the Project Site. However, adoption of air quality monitoring data, often collected at significant distances from proposed projects, to represent conditions at those locations is a routinely adopted approach in NSW. NSW DCCEEW operate extensive air quality monitoring networks, generally reflective of the most populated areas of the States. Site specific air quality monitoring funded by proponents can sometimes be used, although for the purposes of use within an AQIA, at least a full year of continuous measurement is required.

The closest active AQMS that records particulate matter (PM) data is noted to be located at Albion Park South and is considered to be the most reflective of the conditions at the Project Site.

Given the wind distributions and PM concentrations measured at Kiama (Bombo Headland) AWS and Albion Park South AQMS across the years 2020 to 2024, data for the year 2021 has been selected as being appropriate for further assessment (refer Appendix B).

It is noted that none of the identified AQMS measure Total Suspended Particulate (TSP) which is of relevance to the expected emissions from the Project Site. Other sources of data have been adopted to allow representation of the TSP environment in the area surrounding the Project Site, and a full discussion is provided in Appendix C. The analysis concludes that a TSP:PM_{10} ratio specific to the Illawarra region of 2.222 : 1 (i.e. PM_{10} represents ~45 % of TSP) is appropriate.

Figure 4 Locations of proximate AQMS



Source: Northstar

4.4.2. On-Site Air Quality Data

Dust deposition rates are measured by the Applicant at the Quarry for the purposes of ongoing air quality management. There are currently three dust monitoring sites located within the boundary of the Project Site with their respective locations shown in Figure 5. Historically, an additional dust deposition gauge (3A) was located at the east of the Project Site, which was relocated to site 4A in 2023. Results of the dust deposition monitoring (as total insoluble solids, $g \cdot m^{-2} \cdot month^{-1}$) over the most recent five complete years of monitoring (2021 to 2024), plus the most recent five months of data in 2025 is presented in Table 7.

Table 7 Quarry dust deposition results

Year	Annual average total insoluble solids deposition rate ($g \cdot m^{-2} \cdot month^{-1}$)				
	1A	2A	3A	4A	All sites
2020	2.4 (12)	2.1 (12)	2.4 (12)	N/A	2.3
2021	1.2 (12)	0.7 (12)	0.5 (12)	N/A	0.8
2022	2.3 (12)	1.3 (12)	0.6 (12)	N/A	1.4
2023	1.4 (12)	1.8 (12)	0.3 (8)	0.3 (4)	1.0
2024	1.1 (12)	1.6	N/A	0.6 (12)	1.1
2025	0.9 (5)	0.2 (5)	N/A	0.3 (5)	0.5

Note: Number of measurements shown in brackets.

Given that the site average annual average total insoluble solids deposition rates have been measured to be below 2 $g \cdot m^{-2} \cdot month^{-1}$ over the last 4 complete years of monitoring, with the 2021 (representative year for modelling) rate being 0.8 $g \cdot m^{-2} \cdot month^{-1}$, the adopted annual average total insoluble solids deposition rate of 2 $g \cdot m^{-2} \cdot month^{-1}$ (the difference in NSW EPA maximum allowable and incremental impact criterion) is considered appropriate to allow the presentation of a conservative assessment.

A summary of the air quality data and assumptions used in this assessment are presented in Table 8.

Table 8 Summary of background air quality used in the AQIA

Pollutant	Averaging period	Units	Measured Value	Notes
Particles (as TSP) (derived from PM_{10})	Annual	$\mu g \cdot m^{-3}$	29.1	Estimated on a TSP:PM_{10} ratio of 2.222 : 1 (refer Appendix C)
Particles (as PM_{10})	24-hour	$\mu g \cdot m^{-3}$	Daily Varying	The max. 24-hour PM_{10} concentration was 39.4 $\mu g \cdot m^{-3}$
	Annual	$\mu g \cdot m^{-3}$	13.1	
Particles (as $PM_{2.5}$)	24-hour	$\mu g \cdot m^{-3}$	Daily Varying	The max. 24-hour $PM_{2.5}$ concentration was 23.3 $\mu g \cdot m^{-3}$
	Annual	$\mu g \cdot m^{-3}$	4.8	
Dust deposition	Annual	$g \cdot m^{-2} \cdot month^{-1}$	2.0	Difference in maximum allowable and incremental impact criteria

The AQIA has been performed to assess the contribution of the Project to the air quality of the surrounding area. A full discussion of how the Project impacts upon the air quality of the area is presented in Section 6.

4.5. Topography

The elevation at the Project Site ranges between 0 m to 6 m Australian Height Datum (AHD). The topography between the Project Site and identified sensitive receptor locations is uncomplicated (from an AQIA perspective).

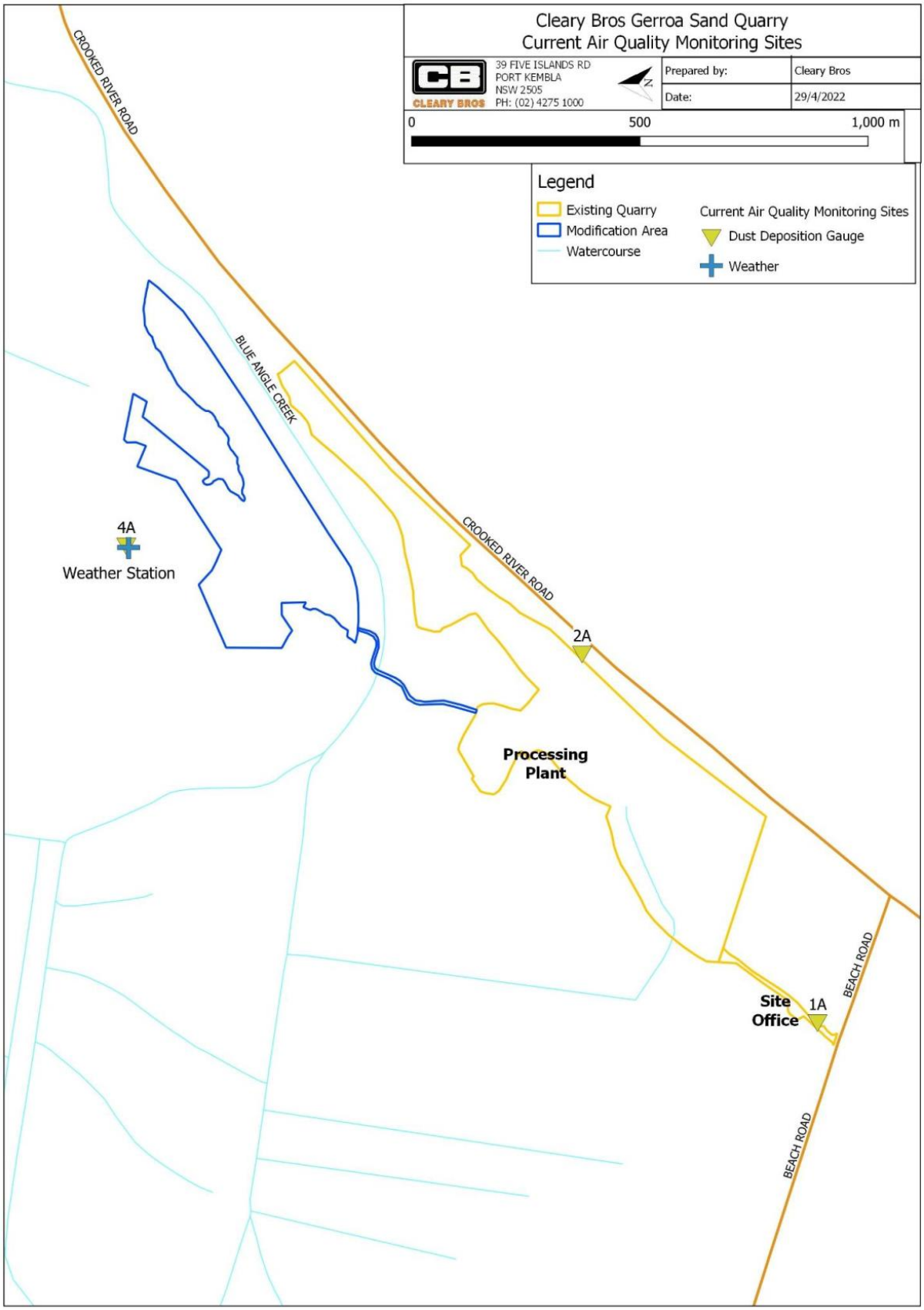
The topography surrounding the Project Site is presented in Figure 6.

4.6. Potential for Cumulative Impacts

The area surrounding the Project Site is generally rural in nature, with no other facilities with the potential to result in cumulative particulate matter impacts identified. The adoption of the background air quality data as discussed in Section 4.3.2 is considered to be appropriate to provide an assessment of cumulative impacts.

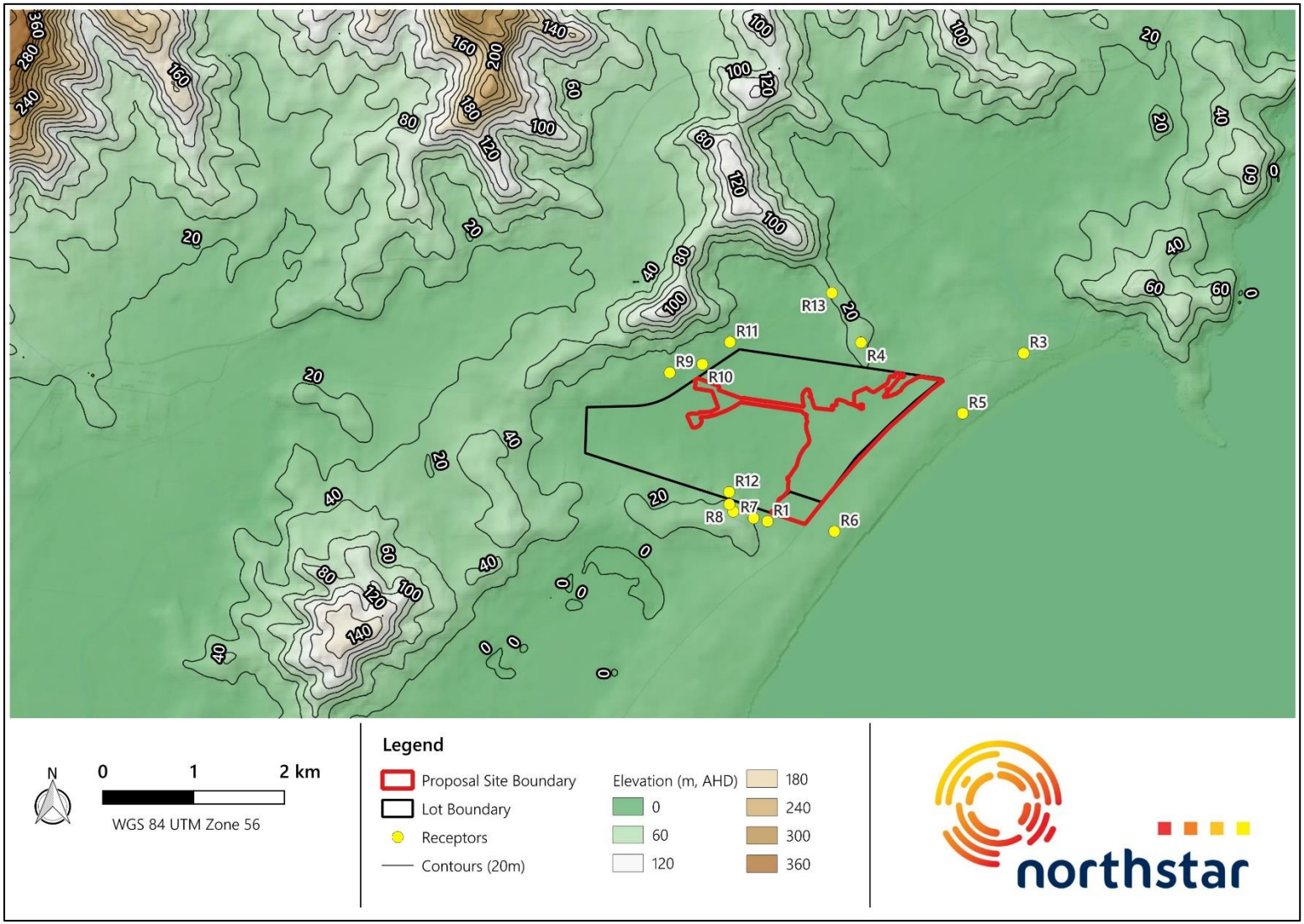
Furthermore, given the difference in environments surrounding the Project Site and the Albion Park South AQMS, with a greater level of urbanisation around the Albion Park South AQMS, the adoption of data from that location to approximate background conditions at the Project Site is likely to be conservative.

Figure 5 Deposited dust monitoring locations at the Quarry



Source: (Cleary Bros, 2022)

Figure 6 Topography of the Project Site and surrounds



Source: Northstar

4.7. Greenhouse Gases

Emissions of greenhouse gases (GHG) are tracked by the Commonwealth of Australia via the Australian National Greenhouse Accounts program. This program, and the reports and data submitted as part of the program, fulfils Australia's international and domestic reporting requirements. Carbon emission totals by State and Territory by year and by sector are reported in the 'State and Territory Greenhouse Gas Inventories' report each year.

These data are used to:

- Meet Australia's reporting commitments under the United Nations Framework Convention on Climate Change (UNFCCC);
- Track progress against Australia's emission reduction commitments; and
- Inform policy makers and the public.

Data from the 2022 report for Australia (DCCEEW, 2024a) and NSW (DCCEEW, 2024b) have been obtained for the purposes of this GHG assessment. These reports are the most recent available at the time of reporting.

Scope 1 emissions of GHG from Australia in 2022 across all economic sectors were 440.62 Mt carbon dioxide equivalent (CO_2-e) (including land use, land use change and forestry [LULCF]). Scope 1 GHG emissions in NSW in 2022 were 107.44 Mt CO_2-e (including LULCF)[1].

[1] https://greenhouseaccounts.climatechange.gov.au

5. APPROACH TO ASSESSMENT

The following outlines the approach taken in the assessment of air quality and greenhouse gas impacts associated with the Project.

5.1. Air Quality Impact Assessment

5.1.1. Dispersion Modelling Approach

A dispersion modelling assessment has been performed using the NSW EPA approved CALPUFF atmospheric dispersion model. The modelling has been performed in CALPUFF 3-dimensional (3-D) mode, adopting a 'No-Obs' meteorological modelling simulation, in accordance with NSW DPHI guidance (Barclay & Scire, 2011) (please refer to Appendix B for further information). This approach allows the inclusion of topographical features which are present in the area surrounding the Project Site as discussed in Section 4.5 and coastal fumigation effects and is therefore considered to be an appropriate approach for the AQIA.

An assessment of the impacts of the operation of activities at the Project Site has been performed which characterises the likely day-to-day operation of the Project, approximating average operational characteristics which are appropriate to assess against longer term (annual average) criteria for particulate matter. The likely peak activities at the Project Site have also been characterised to allow comparison of potential impacts against shorter term (24-hour) criteria for particulate matter.

The modelling scenarios provide an indication of the air quality impacts of the operation of activities at the Project Site. Added to these impacts are background air quality concentrations (where available and discussed in Section 4.4 and Appendix C) which represent the air quality which may be expected within the area surrounding the Project Site, without the impacts of the Project itself.

The following provides a description of the determination of appropriate emissions of air pollutants resulting from the operation of the Project.

5.1.2. Emissions Estimation

The estimation of emissions from a process is typically performed using direct measurement or through the application of factors which appropriately represent the processes under assessment. This assessment has adopted emission factors for materials handling processes, movement of trucks on paved and unpaved site roads, screening, and wind erosion contained within the US EPA AP-42 emission factor compendium (US EPA, 1995 and updates) to represent the emission of particulate matter resulting from the operations occurring at the Project Site as described in Section 2.2. These factors are appropriate for adoption in Australia and are routinely adopted in the assessment of operations of this nature.

Potential emissions of particulate matter during each scenario have been quantified, with an emissions inventory associated with the average operational characteristics, and peak characteristics during each stage calculated.

The estimation of annual emissions associated with the Project has assumed that operations are being performed at a steady rate across the year which is appropriate.

In the assessment of maximum potential 24-hour impacts, it has been assumed that the day of maximum activity occurs on every day of the year. The assessment is required to be performed in this way to ensure that potential worst-case meteorological conditions are assumed at the same time as potential worst-case emissions (which represent approximately 3.8 times the daily average emissions), although the resulting impacts should be viewed with that conservatism in mind. Furthermore, for the purposes of this assessment, each activity operating at the Project Site is assumed to be operating at the maximum rate concurrently.

AQIA generally assess activities within and up to the entrance of a premises. In this case, given that one of the offsite haulage route travels close to sensitive receptor locations along Beach Road, the potential impacts associated with this offsite transportation of material has been included in the modelling assessment. Whilst the silt loading of the road is not known, an approximation consistent with 'worst case' conditions on a low annual daily traffic (ADT) road, in accordance with the US EPA AP-42 guidance (US EPA, 1995) has been adopted.

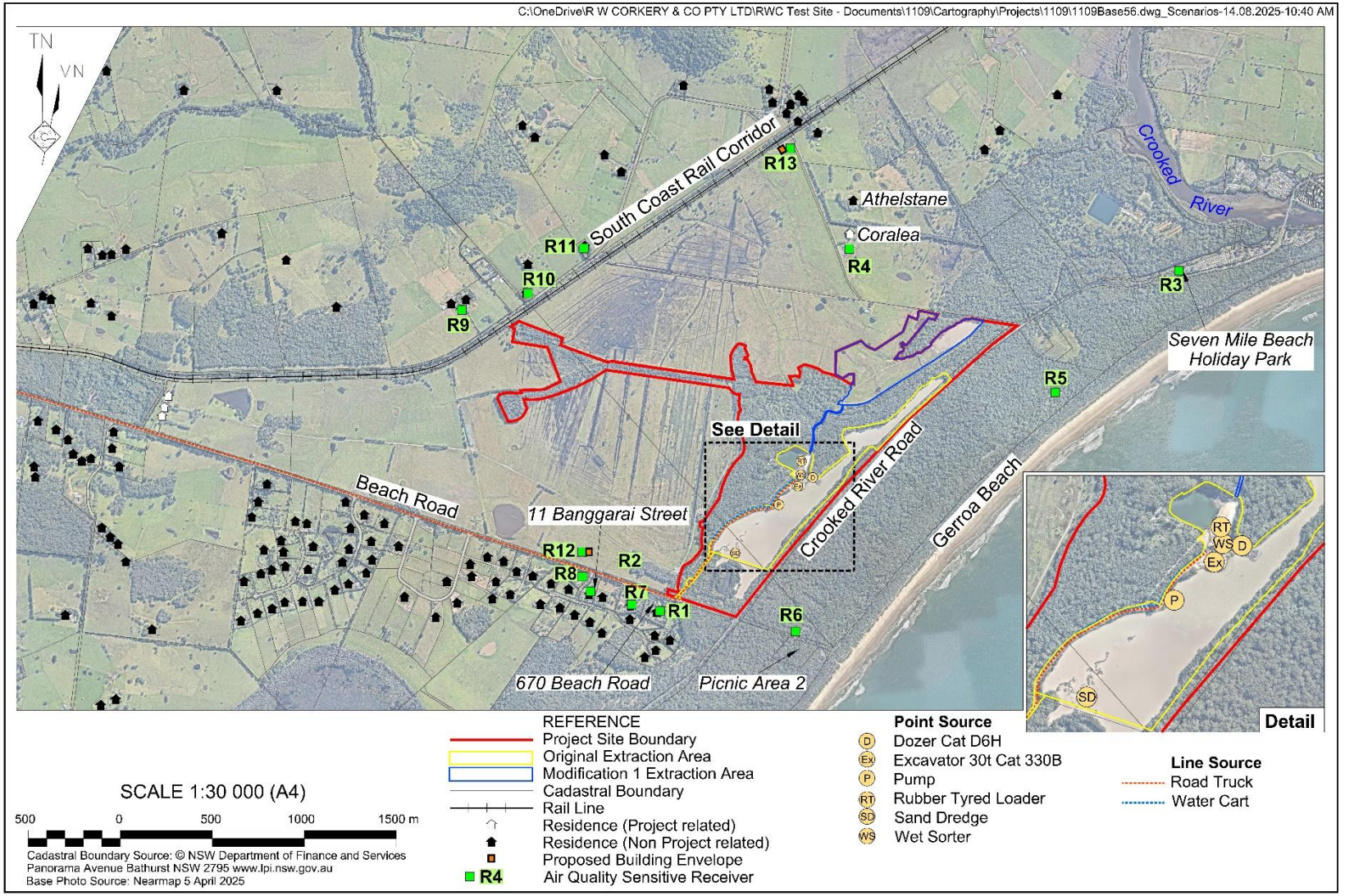
To ensure a highly conservative assessment, the AQIA has assumed that all off-site truck movements follow the western route via Beach Road, as this route passes closer to surrounding sensitive receptors than the alternative northern route along Crooked River Road. Additionally, due to the proximity of several sensitive receptors to the Quarry operations, and therefore the cumulative exposure to dust from on-site activities, this route represents a worst-case scenario. In this way, and once again, the AQIA can be viewed as presenting a highly conservative assessment.

The performance of the AQIA in this manner allows confidence that the predicted impacts would be lower than modelled and confirm that the Project can be operated to be compliant with the air quality criteria outlined in Section 2.4.

One modelling scenario has been selected to characterise the activities being performed at the Project Site, and the layout of the Project under that scenario is presented in Figure 7. It is noted that the locations of equipment have been selected to represent the likely worst-case, in relation to their realistic proximity to sensitive receptors.

A full description of the emission sources included in the AQIA, and the emission factors and assumptions adopted are presented in Appendix D.

Figure 7 Project Site layout assessed



Source: RWC

5.1.3. Air Quality Management Measures

As discussed in Section 2.4, emissions controls are currently and will continue to be employed at the Project Site. The application of these controls results in quantifiable reductions in the quantity of particulate matter being emitted as part of the Project operation.

A summary of the emissions reductions measures that are adopted as part of the Project operation is presented in Table 9. These emission reductions are outlined in the NPI EETM for Mining (NPI, 2012), relevant AP-42 documentation (US EPA, 1995), or other industry guidance (Katestone, 2011). No emissions controls have been assumed to be applied along the length of Beach Road assessed.

Table 9 Summary of emission reduction methods adopted as part of Quarry operation

Emission control method	Control efficiency (%)
Sealing of access road 200 m from site entrance	Assessed through emission factor (refer Appendix D)
Minimise disturbance of land and revegetation as soon as practicable	Assessed through dispersion modelling assessment
Restriction of vehicle speeds on site to 20 $km \cdot hr^{-1}$	85 (unpaved) 89 (paved)
Covering loads with a tarpaulin	Not quantified
Application of water on haulage routes	50
Minimise drop height during material unloading/loading	30
Limit load sizes to ensure material is not above the level of truck sidewalls	Not quantified

Note: It is noted that reduction in vehicle speeds from 80 $km \cdot hr^{-1}$ to 32 $km \cdot hr^{-1}$ was measured by (Fitz and Bufalino, 2002) to result in PM_{10} emissions reductions at 0.8 m above the road surface of 89 %, which has been correspondingly adopted in this assessment.

5.2. Greenhouse Gas Assessment

The purpose of the GHGA is to examine the potential impacts of the operation of the Project relating to emissions of GHG. A quantitative assessment of emissions is performed with direct emissions compared with total national and NSW GHG emissions for context (refer Section 4.7).

The scope of the GHGA is to provide a quantitative assessment of GHG emissions arising from the operation of the Project. This report does not provide a definitive quantification of GHG emissions arising from the Project operation but provides the general context of the likely quantum of emissions.

Opportunities for reduction of GHG emissions are discussed.

5.2.1. Emission Types

The Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW) document, "National Greenhouse Accounts Factors" Workbook (NGA Factors) (DCCEEW, 2024c), defines two types of GHG emissions (see Table 10), namely 'direct' and 'indirect' emissions. This assessment considers both direct emissions and indirect emissions resulting from the operation of the Project.

Table 10 GHG emission types

Emission Type	Definition
Direct	Produced from sources within the boundary of an organisation and as a result of that organisation's activities (e.g. consumption of fuel in on-site vehicles)
Indirect	Generated in the wider economy as a consequence of an organisation's activities (particularly from its demand for goods and services), but which are physically produced by the activities of another organisation (e.g. consumption of purchased electricity).

Note: Adapted from NGA Factors Workbook (DCCEEW, 2024c)

5.2.2. Emission Scopes

The NGA Factors (DCCEEW, 2024c) identifies two 'scopes' of emissions for GHG accounting and reporting purposes as shown in Table 11.

Table 11 GHG emission scopes

Emission Scope	Definition
Scope 1	Direct (or point-source) emission factors give the kilograms of carbon dioxide equivalent (CO_2-e) emitted per unit of activity at the point of emission release (i.e. fuel use, energy use, manufacturing process activity, mining activity, on-site waste disposal, etc.). These factors are used to calculate Scope 1 emissions.
Scope 2	Indirect emission factors are used to calculate Scope 2 emissions from the generation of the electricity purchased and consumed by an organisation as kilograms of CO_2-e per unit of electricity consumed. Scope 2 emissions are physically produced by the burning of fuels (coal, natural gas, etc.) at the power station.

Note: Adapted from NGA Factors Workbook (DCCEEW, 2024c)

A third scope of emissions, Scope 3 Emissions, are also recognised in some GHG assessments. The Greenhouse Gas Protocol (GHG Protocol) (WRI, 2004) defines Scope 3 emissions as "other indirect GHG emissions":

> *"Scope 3 is an optional reporting category that allows for the treatment of all other indirect emissions. Scope 3 emissions are a consequence of the activities of the company but occur from sources not owned or controlled by the company. Some*

examples of Scope 3 activities are extraction and production of purchased materials; transportation of purchased fuels; and use of sold products and services."

Scope 3 emissions related to the extraction and transport of fuels, and the use of fuels in employee transport have been considered. Emissions associated with the transport of materials from the Quarry are considered in this assessment as Scope 3 emissions as they are under the operational control of a separate entity to the Applicant.

5.2.3. Emission Source Identification

The geographical boundary set for this GHG assessment covers the Quarry Site and also includes the transport of materials from the Project Site to point-of-use or market. All Scope 1, Scope 2 and Scope 3 emissions within the defined boundary have been identified and reported as far as possible.

The GHG emission sources associated with the operation of the Project have been identified through the review of the proposed broad activities as described in Section 2.2. The activities/operations being performed as part of the Project, which have the potential to result in emissions of GHG, are presented in Table 12.

Table 12 GHG emission sources

Project component	Scope	Emission source description
Consumption of diesel fuel in mobile plant and equipment at the Project Site	1, 3	Emissions from combustion of fuel (Scope 1) Emissions associated with the extraction and processing of fuel (Scope 3)
Consumption of electricity at the Project Site	2, 3	Emissions associated with the generation of electricity (Scope 2) Upstream and downstream emissions associated with electricity generation (Scope 3)
Consumption of diesel fuel / unleaded fuel for material transport purposes	3	Emissions from combustion of fuel (Scope 3) Emissions associated with the extraction and processing of fuel (Scope 3)
Consumption of diesel fuel / unleaded fuel for employee transport purposes	3	Emissions associated with the extraction and processing of fuel (Scope 3)

5.2.4. Emissions Estimation

Emissions of GHG from the sources identified in Table 12 have been calculated using activity data for the source per annum (i.e. per kilowatt (kW) of electricity, per kilolitre (kL) of diesel) and the relevant emission factor for each source. The assumptions used in the calculation of activity data for the emission source and emission factors, are presented in Table 13

Table 13 Calculated activity data

Component	Assumptions	Activity	Units
Consumption of diesel fuel in mobile plant and equipment at the Quarry	The Applicant indicates that they anticipate a total of 240 000 L of diesel to be used at the Quarry for the purposes of extraction and processing of 120 000 $t \cdot yr^{-1}$. This is extrapolated from historical site-specific material extraction rates and diesel consumption data.	240.0	$kL \cdot yr^{-1}$
Consumption of diesel fuel / unleaded fuel for employee transport purposes	Four full-time equivalent positions to be continued at the Quarry (with a further 10 truck drivers). Assume employees reside in Bomaderry (44 km as a two-way journey). Truck drivers assumed to reside in Albion Park but would collect vehicles from depot and not the Quarry. It is noted that truck drivers are not included in employee transport estimations. 302 days per year. 10.6 L per 100 km fuel efficiency (ABS, 2017).	1.4	$kL \cdot yr^{-1}$
Consumption of diesel fuel / unleaded fuel for material transport purposes	120 000 $t \cdot yr^{-1}$ of product (3 429 loads [in 35 t trucks]) transported to Cleary Bros operations at either Albion Park, Bomaderry, or Coniston. For the purposes of this assessment, a third has been assumed to be transported to each (1 143 trucks loads). - 76.6 km return trip to travel to Albion Park; - 45.0 km return trip to Bomaderry; and - 115.2 km return trip to Coniston. 56.3 L per 100 km fuel efficiency (ABS, 2017)	152.4	$kL \cdot yr^{-1}$
Electricity	The Applicant indicates that they anticipate a total of approximately 6 000 kWh of electricity to be used at the Quarry for the purposes of extraction and processing of 120 000 $t \cdot yr^{-1}$. This is independent of extraction and processing rate.	6 000	$kWh\ yr^{-1}$

5.2.5. GHG Emission Factors

GHG emission factors are published in the Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW) document 'Australian National Greenhouse Accounts Factors 2024' (NGA Factors) (DCCEEW, 2024). This is the most up to date version of the NGA Factors at the time of writing.

The relevant emission factors associated with the anticipated emissions sources associated with the Project are presented in Table 14.

Table 14 Emission factors adopted for assessment

Emission source	Scope	Emission factor	Units	Source (DCCEEW, 2024)
Diesel combustion in plant and equipment	1	2 717.44	kg CO_2-e·kL^{-1}	Table 9
	3	667.78	kg CO_2-e·kL^{-1}	Table 9
Product transport	3	667.78	kg CO_2-e·kL^{-1}	Table 9
Employee transport	3	558.24	kg CO_2-e·kL^{-1}	Table 9
Electricity consumption (NSW)	2	0.66	kg CO_2-e·kWh^{-1}	Table 1
	3	0.04	kg CO_2-e·kWh^{-1}	Table 1

Note: Some emission factors presented as kg CO_2-e·kL^{-1} including the relevant energy content of the fuel as provided in (DCCEEW, 2024)

6. AIR QUALITY IMPACT ASSESSMENT

This section presents the results of the dispersion modelling assessment and uses the following terminology:

- Incremental impact – relates to the concentrations predicted as a result of the operation of the Project in isolation.
- Cumulative impact – relates to the incremental concentrations predicted as a result of the operation of the Project PLUS the background air quality concentrations discussed in Section 4.3.2.

The results are presented in this manner to allow examination of the likely impact of the Project in isolation and the contribution to air quality impacts in a broader sense.

In the presentation of results, the tables included shaded cells which represent the following:

Model prediction	Pollutant concentration / deposition rate less than the relevant criterion	Pollutant concentration / deposition rate equal to, or greater than the relevant criterion

6.1. Particulate Matter – Annual Average PM_{10} and $PM_{2.5}$

The predicted annual average particulate matter concentrations (as TSP, PM_{10} and $PM_{2.5}$) resulting from the operations at the Project Site are presented in Table 15.

The addition of existing background concentrations (refer Section 4.3.2) results in predicted concentrations of annual average TSP being below the relevant criteria at all privately owned residences.

Table 15 Predicted annual average TSP, PM_{10} and $PM_{2.5}$ concentrations

Receptor	Annual average concentration (µg·m^{-3})								
	TSP			PM_{10}			$PM_{2.5}$		
	Incr.	Bkg.	Cumul.	Incr.	Bkg.	Cumul.	Incr.	Bkg.	Cumul.
Criterion		90			25			8	
Max. % of criterion	0.5	32.4	32.9	0.6	52.5	53.1	<1.2	59.6	60.8
R1	0.5	29.1	29.6	0.2	13.1	13.3	<0.1	4.8	4.9
R2	0.2	29.1	29.3	<0.1	13.1	13.2	<0.1	4.8	4.9
R3	<0.1	29.1	29.2	<0.1	13.1	13.2	<0.1	4.8	4.9
R4	<0.1	29.1	29.2	<0.1	13.1	13.2	<0.1	4.8	4.9
R5	<0.1	29.1	29.2	<0.1	13.1	13.2	<0.1	4.8	4.9
R6	<0.1	29.1	29.2	<0.1	13.1	13.2	<0.1	4.8	4.9
R7	0.3	29.1	29.4	0.1	13.1	13.2	<0.1	4.8	4.9
R8	0.4	29.1	29.5	0.1	13.1	13.2	<0.1	4.8	4.9
R9	<0.1	29.1	29.2	<0.1	13.1	13.2	<0.1	4.8	4.9
R10	<0.1	29.1	29.2	<0.1	13.1	13.2	<0.1	4.8	4.9
R11	<0.1	29.1	29.2	<0.1	13.1	13.2	<0.1	4.8	4.9
R12	0.3	29.1	29.4	<0.1	13.1	13.2	<0.1	4.8	4.9
R13	<0.1	29.1	29.2	<0.1	13.1	13.2	<0.1	4.8	4.9

Note: Incr. = incremental impact, Bg. = background, Cumul. = cumulative impact

No contour plots of annual average TSP, PM_{10} or $PM_{2.5}$ are presented, given the minor predicted contribution from the operations at the Project Site at the nearest relevant sensitive receptors.

6.2. Respirable Crystalline Silica – Annual Average

As outlined in Section 3.3.2, RCS concentrations have conservatively been taken to be 75 % of the annual average PM_{10} concentration. This is applied to the incremental impact only and assumes that the background air quality environment is not impacted by RCS, which is considered to be a reasonable assumption. The maximum predicted incremental annual average PM_{10} concentration at any sensitive receptor under Project operations is 0.2 µg·m^{-3} which results in a predicted impact of 0.15 µg·m^{-3} of RCS (0.2 µg·m^{-3} × 75 %). This is significantly below the adopted annual average RCS criterion of 3 µg·m^{-3}.

6.3. Particulate Matter – Annual Average Dust Deposition Rates

Table 16 presents the annual average dust deposition rates predicted as a result of the operations at the Project Site.

An assumed background dust deposition of 2 g·m^{-2}·month^{-1} is presented in Table 16, although comparison of the incremental concentration with the incremental criterion of 2 g·m^{-2}·month^{-1} is also valid (as discussed

within Section 3.3). In either case, the resulting conclusions drawn are identical. Achievement of the incremental and cumulative dust deposition rates is predicted at all surrounding receptors.

No contour plots of annual average dust deposition are presented, given the minor predicted contribution from the operations at the Quarry at the nearest sensitive receptors.

Table 16 Predicted annual average dust deposition

Receptor	Annual average dust deposition ($g \cdot m^{-2} \cdot month^{-1}$)		
	Incr.	Bkg.	Cumul.
Criterion	2.0	-	4.0
Max. % of criterion	<0.1	-	52.5
R1	<0.1	2.0	<2.1
R2	<0.1	2.0	<2.1
R3	<0.1	2.0	<2.1
R4	<0.1	2.0	<2.1
R5	<0.1	2.0	<2.1
R6	<0.1	2.0	<2.1
R7	<0.1	2.0	<2.1
R8	<0.1	2.0	<2.1
R9	<0.1	2.0	<2.1
R10	<0.1	2.0	<2.1
R11	<0.1	2.0	<2.1
R12	<0.1	2.0	<2.1
R13	<0.1	2.0	<2.1

Note: Incr. = incremental impact, Bg. = background, Cumul. = cumulative impact

6.4. Particulate Matter - Maximum 24-hour Average

Presented in Table 17 are the maximum 24-hour average PM_{10} and $PM_{2.5}$ concentrations predicted to occur at the nearest sensitive receptors as a result of the operations at the Project Site. No background concentrations are included within this table.

The predicted incremental concentrations are minor, and as previously noted in Section 5.1.2, the assessment has been performed in a highly conservative manner, with all activities assumed to be operating at their maximum rates on every day of the year.

Table 17 Predicted maximum incremental 24-hour PM_{10} and $PM_{2.5}$ concentrations

Receptor	Maximum 24-hour average concentration (µg·m^{-3})	
	PM_{10}	$PM_{2.5}$
Criterion	50	25
Max. % of criterion	10.8	4.4
R1	5.4	1.1
R2	2.3	0.5
R3	0.2	<0.1
R4	0.3	<0.1
R5	0.5	<0.1
R6	1.1	0.2
R7	2.9	0.6
R8	3.8	0.8
R9	0.3	<0.1
R10	0.3	<0.1
R11	0.3	<0.1
R12	2.5	0.6
R13	0.3	<0.1

The following tables present the predicted maximum 24-hour average PM_{10} and $PM_{2.5}$ concentrations resulting from the operation of the Project, with background included. These allow an assessment of whether the Project can be operated to not result in exceedances of the air quality criteria outlined in Section 2.4, with the addition of existing ('background') air quality conditions.

Results are presented for the sensitive receptor at which the highest incremental PM_{10} and $PM_{2.5}$ impacts have been predicted, and also for the sensitive receptors at which the highest cumulative impacts (increment plus background) have been predicted, which are indicated within each table.

The left side of the tables show the predicted concentration on days with the highest cumulative impacts (typically driven by the days with the highest contemporaneous background), and the right side shows the total predicted cumulative impact on days with the highest predicted incremental concentrations.

Model predictions presented in Table 18 and Table 19 indicate that there are not predicted to be any exceedances of the maximum 24-hour average PM_{10} or $PM_{2.5}$ criteria at any surrounding receptor.

To allow a visualisation of the extent of any impacts surrounding the Project Site, a contour plot of the incremental contribution to the 24-hour average PM_{10} and $PM_{2.5}$ concentrations during Project operations is presented in Figure 8 and Figure 9 respectively.

Table 18 Summary of contemporaneous impact and background – PM_{10}

Date	24-hour average PM_{10} concentration ($\mu g \cdot m^{-3}$) Receptor R1			Date	24-hour average PM_{10} concentration ($\mu g \cdot m^{-3}$) Receptor R1		
	Incr.	Bg.	Cumul.		Incr.	Bg.	Cumul.
25-01-21	1.1	39.4	40.5	30-06-21	5.4	9.5	14.9
29-04-21	2.3	33.9	36.2	08-07-21	4.5	15.0	19.5
22-01-21	1.5	33.1	34.6	14-07-21	4.4	12.4	16.8
24-01-21	1.3	33.1	34.4	22-06-21	4.0	9.0	13.0
28-10-21	1.1	30.6	31.7	22-05-21	3.9	15.2	19.1
30-04-21	2.2	27.4	29.6	24-06-21	3.8	10.2	14.0
18-12-21	1.3	28.3	29.6	01-07-21	3.8	14.1	17.9
29-10-21	0.1	28.6	28.7	24-05-21	3.7	7.5	11.2
12-02-21	1.4	26.4	27.8	02-06-21	3.6	16.7	20.3
27-04-21	<0.1	27.7	27.8	31-07-21	3.1	14.2	17.3
These data represent the highest Cumulative Impact 24-hour PM_{10} predictions (outlined in red) as a result of the operation of the project.				These data represent the highest Incremental Impact 24-hour $_{PM10}$ predictions (outlined in blue) as a result of the operation of the project.			

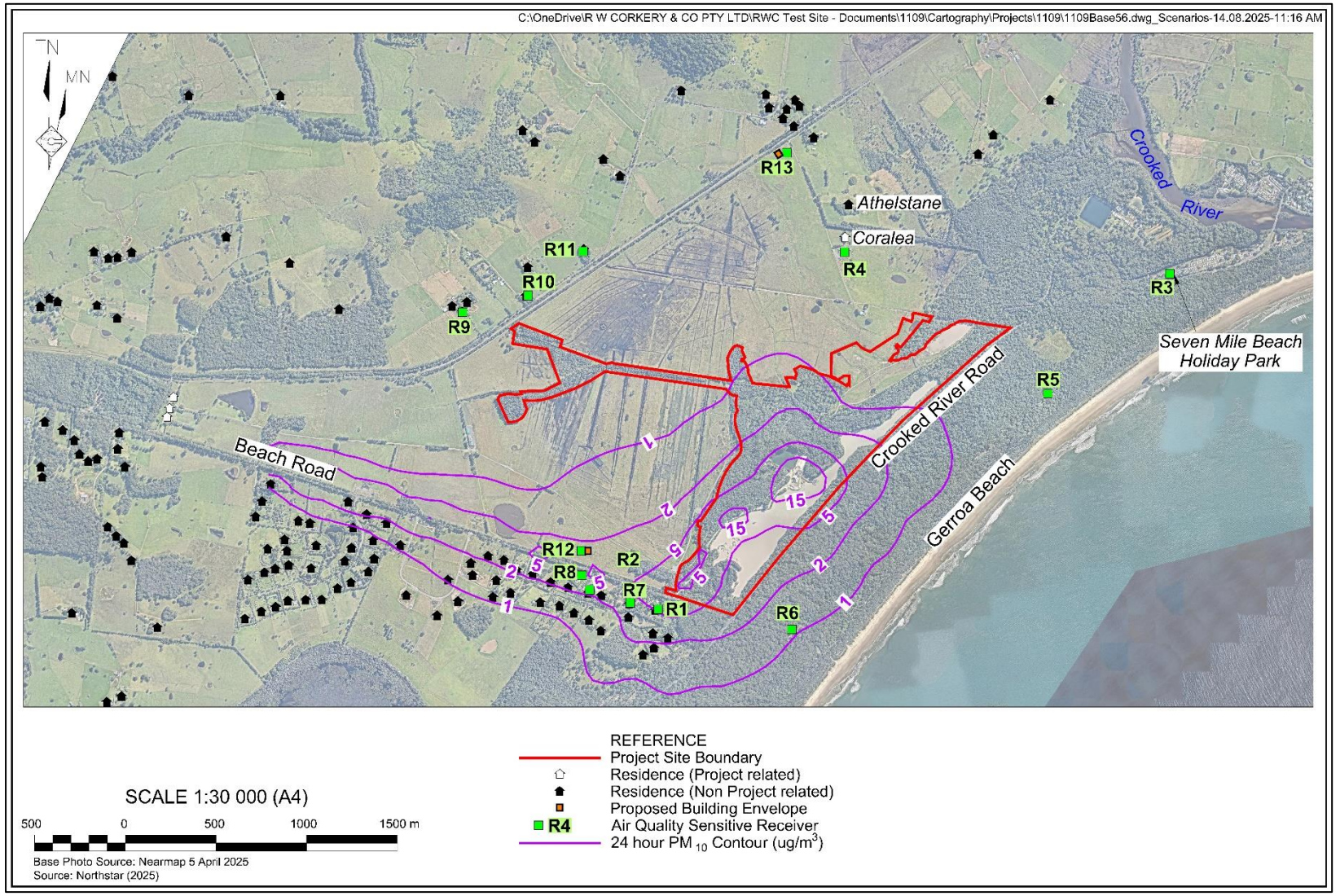
Note: Incr. = incremental impact, Bg. = background, Cumul. = cumulative impact

Table 19 Summary of contemporaneous impact and background – $PM_{2.5}$

Date	24-hour average $PM_{2.5}$ concentration ($\mu g \cdot m^{-3}$) Receptor R1			Date	24-hour average $PM_{2.5}$ concentration ($\mu g \cdot m^{-3}$) Receptor R1		
	Incr.	Bg.	Cumul.		Incr.	Bg.	Cumul.
29-04-21	0.5	23.3	23.8	30-06-21	1.1	5.8	6.9
30-04-21	0.5	21.9	22.4	08-07-21	1.0	6.2	7.2
03-05-21	0.4	13.4	13.8	22-05-21	0.9	6.8	7.7
22-08-21	0.3	12.6	12.9	14-07-21	0.9	6.6	7.5
24-01-21	0.2	12.4	12.6	22-06-21	0.9	3.9	4.8
25-01-21	0.2	12.4	12.6	24-05-21	0.8	2.9	3.7
28-10-21	0.2	12.0	12.2	02-06-21	0.8	5.9	6.7
27-04-21	<0.1	12.1	12.2	24-06-21	0.8	3.1	3.9
18-12-21	0.3	11.5	11.8	01-07-21	0.7	5.6	6.3
29-08-21	0.6	10.7	11.3	10-06-21	0.7	3.5	4.2
These data represent the highest Cumulative Impact 24-hour $PM_{2.5}$ predictions (outlined in red) as a result of the operation of the project.				These data represent the highest Incremental Impact 24-hour $PM_{2.5}$ predictions (outlined in blue) as a result of the operation of the project.			

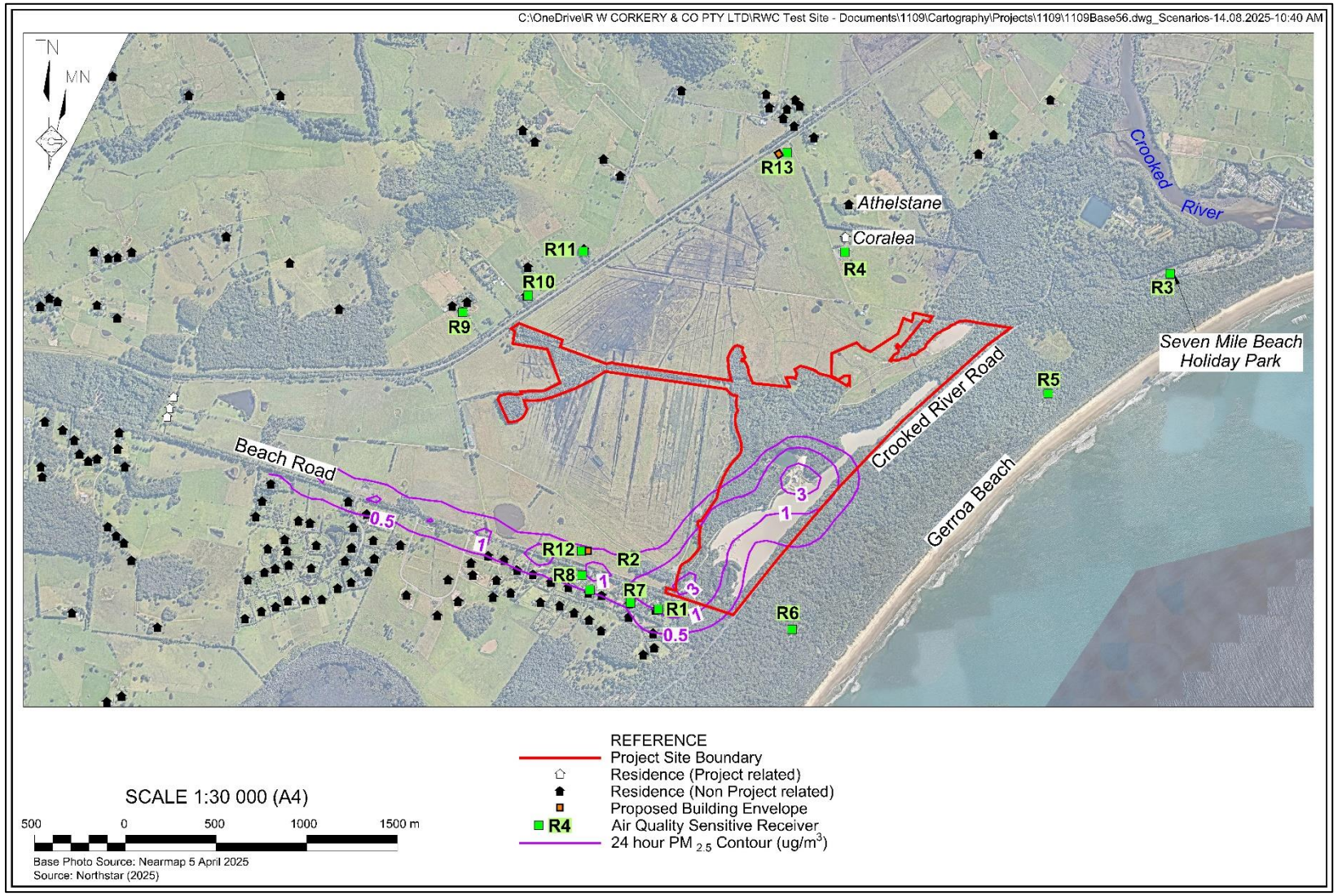
Note: Incr. = incremental impact, Bg. = background, Cumul. = cumulative impact

Figure 8 Maximum incremental 24-hour average PM_{10}



Note Criterion = 50 $\mu g \cdot m^{-3}$ (cumulative)

Figure 9 Maximum incremental 24-hour average $PM_{2.5}$



Note Criterion = 25 $\mu g \cdot m^{-3}$ (cumulative)

7. GREENHOUSE GAS ASSESSMENT

This section presents the results of the GHGA and compares direct emissions with NSW and Australian totals and provides a range of measures which might be considered to reduce GHG emissions.

7.1. Calculation of GHG Emissions

Based on the activity data for the operation of the Quarry and the emission factors outlined in Section 5.2, maximum annual GHG emissions have been calculated and are presented in Table 21. The Project is calculated to result in direct (Scope 1) GHG emissions of 652.2 t CO_2-e·yr^{-1}.

7.2. Greenhouse Gas Emissions in Context

A comparison of the calculated GHG emissions associated with the Project against Australian (DCCEEW, 2024a) and NSW (DCCEEW, 2024b) total emissions in 2022 is presented Table 20.

These data indicate that the operation of the Project would contribute less than 0.001 % of NSW total GHG emissions and less than 0.00015 % of Australian total GHG emissions in 2022 (including LULCF).

The total annual emission value is significantly lower than the NSW EPA 'Large Emitter' trigger threshold of 25 000 t CO_2-e·yr^{-1}.

Table 20 Project GHG emissions in context

Project Phase	Emissions (t CO_2-e·yr^{-1})		
	Quarry	NSW (2022)	Australia (2022)
		Total – 107.44 Mt	Total – 440.62 Mt
Maximum operation	652.2	0.001 %	0.00015 %

Table 21 Calculated Project GHG emissions

Scope		Activity Rate	Units	Energy Content	Units	Emission Factor		Emissions CO_2-e ($t \cdot yr^{-1}$)
1	Diesel fuel in plant and machinery on site	240.0	$kL \cdot yr^{-1}$	38.6	$GJ \cdot kL^{-1}$	70.2	kg CO_2-e·GJ^{-1}	652.2
							Scope 1 (subtotal)	**652.2**
2	Electricity consumption	6 000	$kWh \cdot yr^{-1}$	-	-	0.66	kg CO_2-e·kWh^{-1}	4.0
							Scope 2 (subtotal)	**4.0**
3	Diesel fuel in plant and machinery on site	240.0	$kL \cdot yr^{-1}$	38.6	$GJ \cdot kL^{-1}$	17.3	kg CO_2-e·GJ^{-1}	160.3
	Material transport	152.4						101.7
	Employee travel	1.4		34.2		17.2		0.8
	Electricity consumption	6 000	$kWh \cdot yr^{-1}$	-		0.04	kg CO_2-e·kWh^{-1}	0.2
							Scope 3 (subtotal)	**263.1**

Note: the estimated emissions (expressed as t CO_2-e·yr^{-1}) may be presented to a greater precision than the product of the input values (activity rate, energy content and emission factors) which may be rounded for presentation purposes.

8. MITIGATION AND MONITORING

8.1. Air Quality Mitigation

Based on the findings of the AQIA, it is considered that the particulate control measures implemented as part of the Quarry operation are sufficient to ensure that air quality impacts at surrounding receptor locations are adequately controlled.

A number of mitigation measures will continue to be implemented as part of the Quarry operation. Where defensible quantification of the control efficiencies afforded by these measures can be determined, these have been applied within the assessment.

The mitigation measures which are used as part of the Quarry activities are summarised in Table 22.

Table 22 Summary of emission reduction methods adopted as part of Quarry operation

Emission control method	Control efficiency (%)
Sealing of access road 200 m from site entrance	Assessed through emission factor (refer Appendix D)
Minimise disturbance of land and revegetation as soon as practicable	Assessed through dispersion modelling assessment
Restriction of vehicle speeds on site to 20 $km \cdot hr^{-1}$	85 (unpaved) 89 (paved)
Covering loads with a tarpaulin	Not quantified
Application of water on haulage routes	50
Minimise drop height during material unloading/loading	30
Limit load sizes to ensure material is not above the level of truck sidewalls	Not quantified

As previously discussed, the Quarry operates in accordance with the Quarry Environmental Management Plan (QEMP), which includes an Air Quality Management Plan (AQMP) (Cleary Bros, 2022). The Quarry will continue to be operated in accordance with the QEMP and AQMP.

This AQIA indicates that additional controls would not be required to meet the air quality criteria, and only minor updates to the AQMP may be required. The Quarry Manager will continue to be responsible for ensuring that no operations are performed without the inclusion of the relevant controls.

8.2. GHG Emissions Management

The GHGA indicates that GHG emissions resulting from the operation of the Quarry are anticipated to be small, although emissions could be further reduced through the application of a number of measures:

- All vehicles/plant and machinery should be turned off when not in use and regularly serviced to ensure efficient operation, including the optimisation of tyre pressures;
- Truck routes and loading capacity should be designed to reduce the distance and effort required by the vehicles;
- Maintenance of roads in good condition to avoid meandering of vehicles; and
- Reducing gradients around site where feasible.

8.3. Monitoring

The predictions presented in this AQIA indicate that there would be no predicted exceedances of the adopted air quality criteria as a result of the Quarry operation, even adopting worst case assumptions. However, the air quality monitoring which is currently performed as part of Quarry operations would be continued. Furthermore, it is recommended that regular audits are performed to ensure that the Quarry is implementing the air quality control measures appropriately, as outlined within this report, and in accordance with the QEMP and AQMP.

Ongoing measurement of diesel and electricity consumption would continue to be performed by the Applicant to meet corporate NGER reporting requirements.

9. CONCLUSION

The Applicant has engaged Northstar to perform an AQIA and GHGA for the proposed Project.

The AQIA forms part of the Modification Report prepared to accompany the development application for the Project under Part 4 of the *Environmental Planning and Assessment Act* 1979.

The AQIA has been performed in accordance with the requirements of the NSW Approved Methods document and meets the requirements of the SEARs. The AQIA provides a detailed description of:

- Proposed activities which form the Project which reflect peak activity rates during site operation.
- Legislative requirements which are required to be met, including NSW EPA air quality criteria, POEO Act, and POEO (Clean Air) Regulations, and any policies and guidelines as they relate to air quality impacts of the Project.
- Existing conditions surrounding the Quarry Site, including the definition of sensitive receptor locations, prevailing meteorology, air quality, and topography.
- The approach to assessment, including justification for the approach adopted.
- Emissions controls proposed to be employed as part of the Project operation.
- Predicted air quality impacts during the scenario modelled.
- Air quality management and mitigation measures which would continue to be employed to ensure that the environmental objectives associated with the Project are achieved.

The results of the AQIA indicate that predicted incremental concentrations associated with the operation of the Project at surrounding sensitive receptors are minor, and no exceedances of the annual average TSP, PM_{10}, or $PM_{2.5}$ concentration or dust deposition criteria are predicted. No additional exceedances of the 24-hour PM_{10} and $PM_{2.5}$ concentration criteria are predicted, even during the assessment of maximum throughput and off-site transport.

The GHGA assessment concludes that the NSW EPA 'Large Emitter' threshold of 25 000 t CO_2-e·yr^{-1} would not be triggered by this Project. A detailed outline of the assumptions adopted, calculations performed, and a comparison with NSW and Australian direct emissions totals is provided, in addition to further options to reduce GHG emissions.

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APPENDIX A

Commonly used units and abbreviations

Units Used in the Report

Units presented in the report follow the International System of Units (SI) conventions, unless derived from references using non-SI units.

Commonly used SI units

The following units are commonly used in Northstar reports.

Symbol	Name	Quantity
SI base units		
K	Kelvin	thermodynamic temperature
kg	kilogram	mass
m	metre	length
mol	mole	amount of substance
s	seconds	time
Non-SI units mentioned in the SI or accepted for use		
°	degree	plane angle
d	day	time
h	hour	time
ha	hectare	area
J	joule	energy
L	litre	volume
min	minute	time
N	newton	force or weight
t	tonne	mass
V	volt	electrical potential
W	watt	power

Multiples of SI and non-SI units

The following prefixes are added to unit names to produce multiples and sub-multiples of units:

Prefix	Symbol	Factor
T	tera-	10^{12}
G	giga-	10^{9}
M	mega-	10^{6}
k	kilo-	10^{3}
h	hector-	10^{2}
da	deca-	10^{1}

Prefix	Symbol	Factor
p	pico-	10^{-12}
n	nano-	10^{-9}
μ	micro-	10^{-6}
m	milli-	10^{-3}
c	centi-	10^{-2}
d	deci-	10^{-1}

In this report, units formed by the division of SI and non-SI units are expressed as a negative exponent, and do not use the solidus (/) symbol. For example:

- 50 micrograms per cubic metre would be presented as 50 $\mu g \cdot m^{-3}$ and not 50 $\mu g/m^3$; and,
- 0.2 kilograms per hectare per hour would be presented as 0.2 $kg \cdot ha^{-1} \cdot hr^{-1}$ and not 0.2 kg/ha/hr.

Commonly used SI-derived and non-SI units

$g \cdot m^{-2} \cdot s^{-1}$	gram per square metre per second	rate of mass deposition per unit area
$g \cdot s^{-1}$	gram per second	rate of mass emission
$kg \cdot ha^{-1} \cdot hr^{-1}$	kilogram per hectare per hour	rate of mass deposition per unit area
$kg \cdot m^{-3}$	kilogram per cubic metre	density
$L \cdot s^{-1}$	litres per second	volumetric rate
m^2	square metre	area
m^3	cubic metre	volume
$m \cdot s^{-1}$	metre per second	speed and velocity
$mg \cdot m^{-3}$	milligram per cubic metre	mass concentration per unit volume
$mg \cdot Nm^{-3}$	milligram per normalised cubic metre (of air)	mass concentration per unit volume
$\mu g \cdot m^{-3}$	microgram per cubic metre	mass concentration per unit volume
$mg \cdot m^{-3}$	milligram per cubic metre	mass concentration per unit volume
Pa	pascal	pressure
ppb	parts per billion ($1x10^{-9}$)	volumetric concentration
pphm	parts per hundred million (1×10^{-5})	volumetric concentration
ppm	parts per million ($1x10^{-6}$)	volumetric concentration

Commonly used abbreviations

Abbreviation	Term
ABS	Australian Bureau of Statistics
ACT	Australian Commonwealth Territory
AGL	above ground level
AHD	Australian height datum
APC	air pollution control
AQI	air quality index
AQIA	air quality impact assessment
AQMS	air quality monitoring station
AQRA	air quality risk assessment
ARPANSA	Australian Radiation Protection and Nuclear Safety Agency
AS/NZS	Australian Standard / New Zealand Standard
AWS	automatic weather station
BCA	Building Code of Australia
BGL	below ground level
BOM	Bureau of Meteorology
CEMP	construction environment management plan
CH_4	methane

Abbreviation	Term
CO	carbon monoxide
CO_2	carbon dioxide
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DEM	digital elevation model
EETM	emission estimation technique manual
EPA VIC	Environmental Protection Authority Victoria
EPBC	Environment Protection and Biodiversity Conservation Act
FIBC	flexible intermediate bulk container
GIS	geographical information system
IAQM	UK Institute of Air Quality Management
IBC	intermediate bulk container
ID	internal diameter
LLV	low level waste
LoM	life of mine
MSDS	Material Safety Data Sheet
NCAA	National Clean Air Agreement
NEPM	National Environment Protection Measure
NH_3	ammonia
NO	nitric oxide
NO_X	oxides of nitrogen
NO_2	nitrogen dioxide
NORM	naturally occurring radioactive material
NSW	New South Wales
NSW DCCEEW	New South Wales Department of Climate Change, Energy, the Environment and Water
NSW EPA	New South Wales Environment Protection Authority
NT	Northern Territory
OEMP	operational environmental management plan
O_3	ozone
OU	odour unit
$OU \cdot m^3 \cdot s^{-1}$	odour units times metres cubed per second
$OU \cdot s^{-1}$	odour units per second
Pb	lead
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter of 10 µm or less
$PM_{2.5}$	particulate matter with an aerodynamic diameter of 2.5 µm or less
ROM	run of mine
SA	South Australia
SEPP	State Environmental Protection Policy
SO_X	oxides of sulphur
SO_2	sulphur dioxide
SRTM3	Shuttle Radar Topography Mission

Abbreviation	Term
SVOC	semi-volatile organic compound
TAPM	The Air Pollution Model
TAS	Tasmania
TEU	twenty-foot equivalent unit
TSP	total suspended particulates
TVOC	total volatile organic compounds
TWA	time weighted average
US EPA	United States Environmental Protection Agency
UTM	Universal Transverse Mercator
VIC	Victoria
VLLW	very low level waste
VOC	volatile organic compound

APPENDIX B

Meteorology

Meteorological Stations

As discussed in Section 4.3, a meteorological modelling exercise has been performed to characterise the meteorology of the Project Site. The meteorological monitoring has been based on measurements acquired from surrounding automatic weather stations (AWS) operated by the Australian Government Bureau of Meteorology (BoM).

A summary of the relevant monitoring sites is provided in Table B1.

Table B1 Meteorological monitoring stations proximate to the Project Site

Site name	Source	Approximate location		Approximate distance from Project Site (km)
		mE	mS	
Project Site	Applicant	297 123	6 149 690	On-site
Kiama (Bombo Headland) AWS – Station #068242	BoM	303 967	6 163 333	14.9
Nowra RAN Air Station AWS – Station #068072	BoM	274 923	6 130 071	27.9

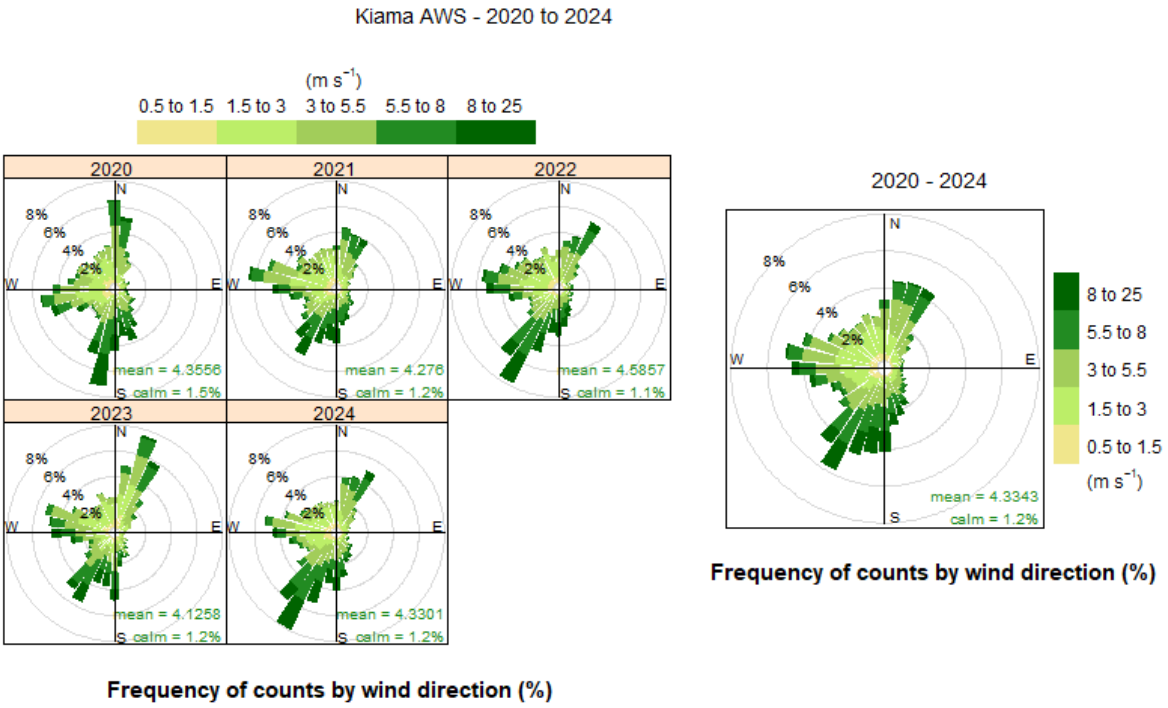
As discussed in Section 4.3, meteorological conditions at Kiama AWS have been examined to determine a 'typical' or representative dataset for use in dispersion modelling. Annual wind roses for the most recent years of data (2020 to 2024) are presented in Figure B1. The annual wind speed frequency distribution for the five-year period is presented in Figure B2.

The wind roses indicate that from 2020 to 2024, winds at Kiama AWS show generally similar wind distribution patterns across the years assessed, with predominant north north-easterly, south south-westerly, and west north-westerly components evident.

The majority of wind speeds experienced at the Kiama AWS between 2020 and 2024 are generally in the range 1.5 meters per second ($m \cdot s^{-1}$) to 8 $m \cdot s^{-1}$ with the highest wind speeds (greater than 8 $m \cdot s^{-1}$) occurring from mostly southerly directions. Winds of this speed occur during 10.2 % of the observed hours during the years while calm winds (less than 0.5 $m \cdot s^{-1}$) occur during 1.2 % of hours on average across the years 2020 to 2024.

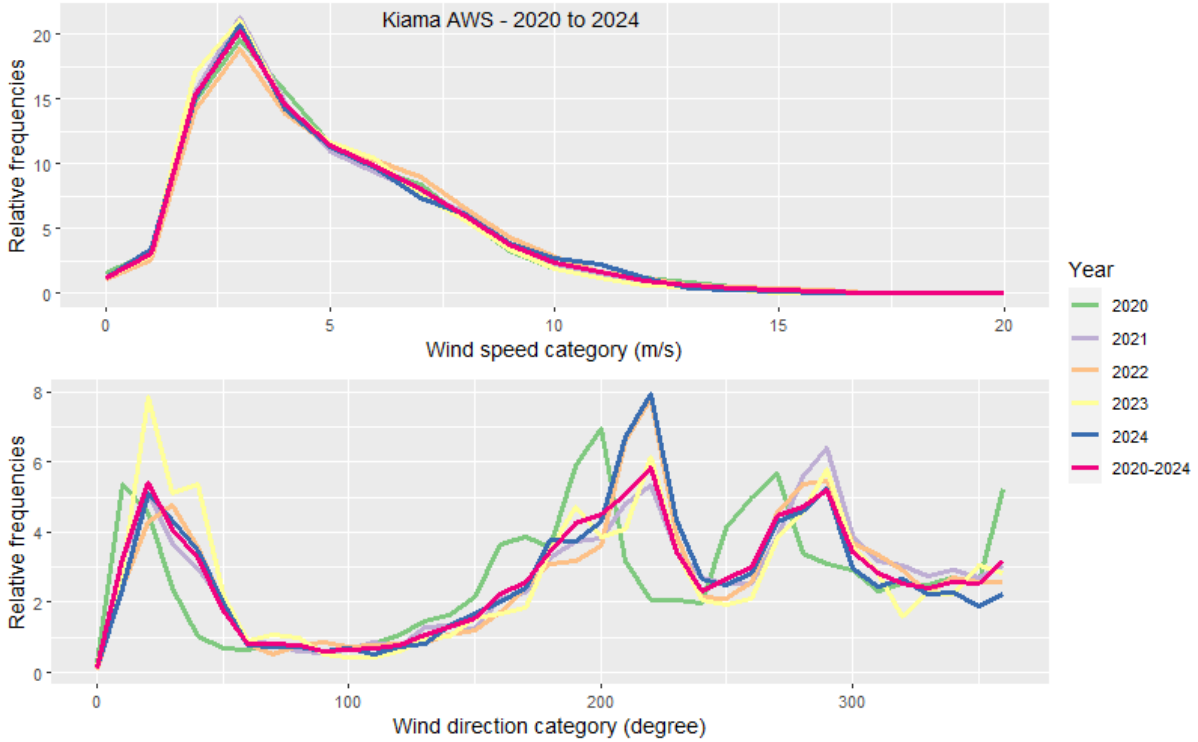
The correlation coefficient between each year and the five-year period for the distribution of wind speed, wind direction, PM_{10} and $PM_{2.5}$ are summarised in Table B2. The correlation coefficients were ranked and aggregated to select the representative year for the meteorological modelling. The rankings are also presented in Table B2.

Figure B1 Annual wind roses – Kiama AWS (2020 to 2024)



Source: Northstar

Figure B2 Wind direction and speed distributions Kiama AWS (2020 to 2024)



Source: Northstar

Table B2 Correlation coefficient analysis – Kiama AWS & Albion Park South AQMS (2020 to 2024)

Parameter	Wind speed		Wind direction		PM_{10}		$PM_{2.5}$		Aggregated rank
	Corr.	Rank	Corr.	Rank	Corr.	Rank	Corr.	Rank	
2020	0.998	4	0.672	5	0.990	3	0.993	3	4
2021	0.999	1	0.968	1	0.999	1	0.999	1	1
2022	0.997	5	0.941	3	0.951	5	0.960	5	5
2023	0.998	3	0.926	4	0.991	2	0.997	2	2
2024	0.999	2	0.953	2	0.969	4	0.963	4	3
2020-2024	1	-	1	-	1	-	1	-	-

Wind speed observations for each year correlated well against the wind speed over the five-year period, with each year having a correlation coefficient greater than 0.99. The year 2021 is the highest ranked for correlation against the wind speed over the three-year period.

Wind direction observations for each year are also reasonably well correlated against the wind direction over the five-year period, with each year having a correlation coefficient greater than of 0.92, with the exception of 2020 which has a correlation coefficient of 0.672. The year 2021 is the highest ranked for correlation against the wind direction over the five-year period.

Particulate matter concentrations for each year are reasonably well correlated against particulate matter concentrations over the five-year period. Each year resulted in having a correlation coefficient greater than 0.95. The year 2021 is the highest rank for both PM_{10} and $PM_{2.5}$.

The correlation coefficient analysis indicates that 2021 is the most representative year for meteorological modelling.

Meteorological Processing

The BoM data adequately covers the issues of data quality assurance; however, it is limited by its location compared to the Project Site. To address these uncertainties, a multi-phased assessment of the meteorology data has been performed.

In absence of any measured onsite meteorological data, site representative meteorological data for this Project was generated using the CALMET meteorological model in a format suitable for using in the CALPUFF dispersion model (refer Section 5.1).

CALMET is a meteorological model that develops wind and temperature fields on a three-dimensional gridded modelling domain. Associated two-dimensional fields such as mixing height, surface characteristics, and dispersion properties are also included in the file produced by CALMET. The interpolated wind field is then modified within the model to account for the influences of topography, as well as differential heating and surface roughness associated with different land uses across the modelling domain. These modifications are

applied to the winds at each grid point to develop a final wind field and thus the final wind field reflects the influences of local topography and current land uses.

In this study, CALMET has been run in no-observations (no-obs) mode using gridded prognostic data generated by The Air Pollution Model (TAPM, v 4.0.5), developed by the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

TAPM is a prognostic model which predicts wind speed and direction, temperature, pressure, water vapour, cloud, rainwater and turbulence. The program allows the user to generate synthetic observations by referencing databases (covering terrain, vegetation and soil type, sea surface temperature and synoptic scale meteorological analyses) which are subsequently used in the model input to generate site-specific hourly meteorological observations at user-defined levels within the atmosphere.

The parameters used in TAPM and CALMET modelling are presented in Table B3.

Table B3 Meteorological parameters used for this study

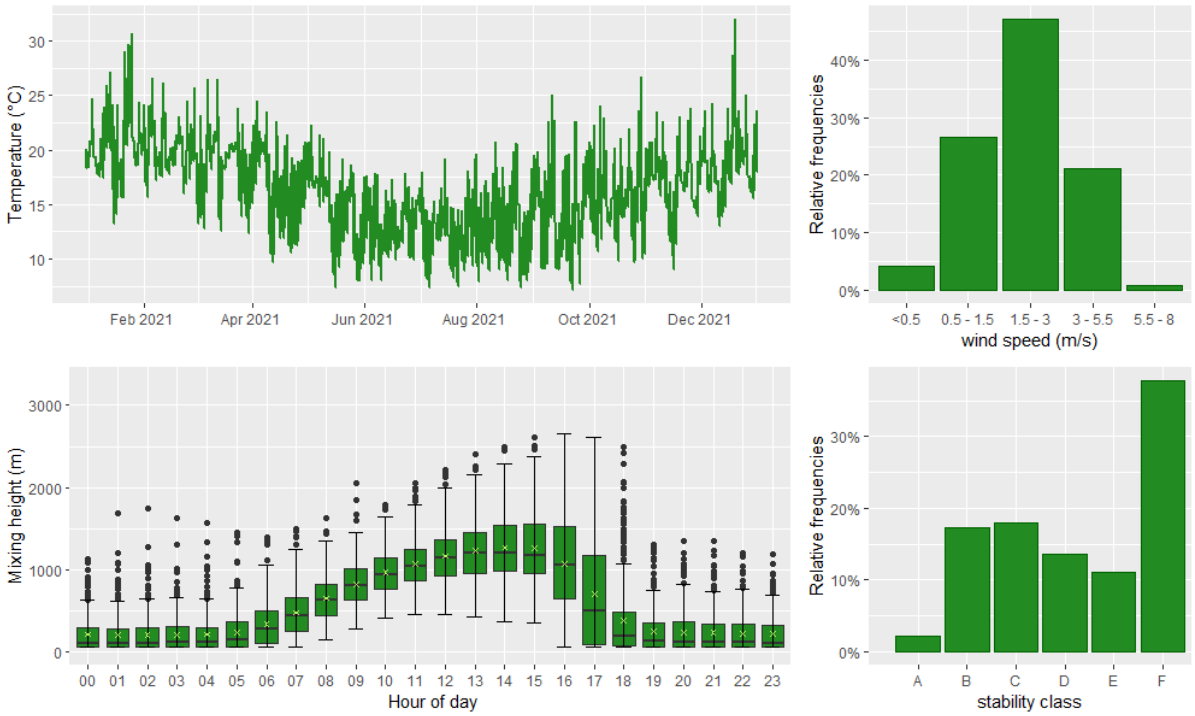
TAPM v 4.0.5	
Modelling period	1 January 2021 to 31 December 2021
Centre of analysis	294 167 mE, 6 146 829 mS (UTM Coordinates)
Number of grid points	45 × 45 × 25
Number of grids (spacing)	5 (30 km, 10 km, 3 km, 1 km, 0.3 km)
Terrain	AUSLIG 9 second DEM
Data assimilation	No data assimilation
CALMET	
Modelling period	1 January 2021 to 31 December 2021
South-West corner of analysis	293 814 mS, 6 145 780 mS (UTM Coordinates)
Meteorological grid domain (resolution)	1.6 km × 1.6 km (0.1 km)
Vertical resolution (cell heights)	10 (0 m, 20 m, 40 m, 80 m, 160 m, 320 m, 640 m, 1200 m, 2000 m, 3000 m, 4000 m)
Data assimilation	No-obs approach using TAPM – 3D.DAT file

As generally required by NSW EPA the following provides a summary of the modelled meteorological dataset. Given the nature of the pollutant emission sources at the Project Site, detailed discussion of the humidity, evaporation, cloud cover, katabatic air drainage and air recirculation potential of the Project Site has not been provided. Details of the predictions of wind speed and direction, mixing height and temperature at the Project Site are provided below.

Diurnal variations in maximum and average mixing heights predicted by CALMET at the Project Site during 2021 are illustrated in Figure B3.

As expected, an increase in mixing height during the morning is apparent, arising due to the onset of vertical mixing following sunrise. Maximum mixing heights occur in the mid to late afternoon, due to the dissipation of ground-based temperature inversions and growth of the convective mixing layer.

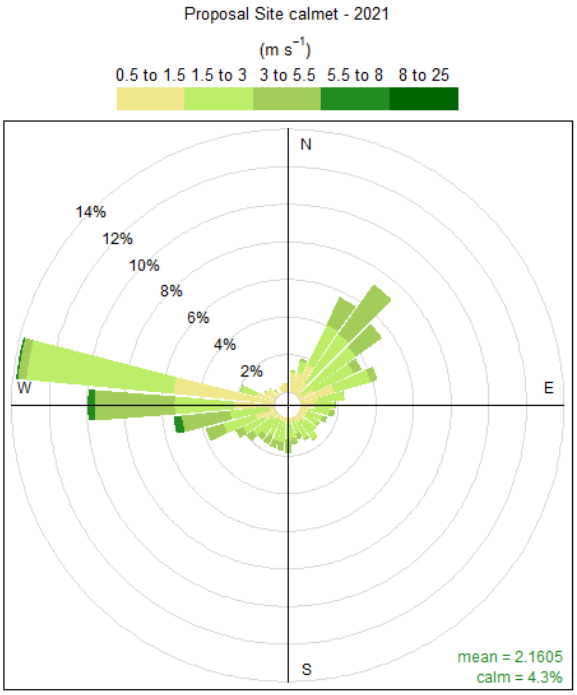
Figure B3 Predicted temperature, mixing height, stability class and wind characteristics – Project Site (2021)



Source: Northstar

The modelled wind speed and direction at the Project Site during 2021 are presented in Figure B4.

Figure B4 Predicted wind direction and speed – Project Site (2021)

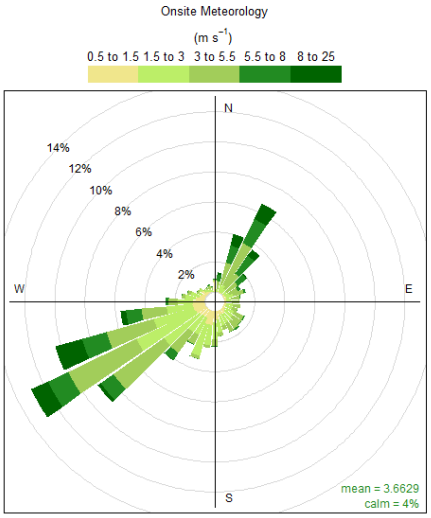
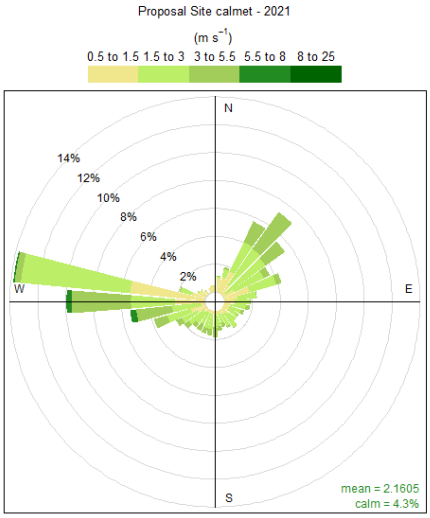


Source: Northstar

As discussed in Section 4.3.2, meteorological conditions are currently monitored at the Project site and meteorological data between 1 July 2022 and 25 May 2025 have been provided by the Applicant. A wind rose of the data has been produced to compare the meteorological conditions observed at the Project site against the data modelled in CALMET as illustrated in Figure B5.

Figure B5 indicates that the data compares reasonably well and correspondingly, it is considered that the modelled CALMET data is suitable for use within the dispersion modelling assessment.

Figure B5 Comparison of observed data and CALMET data at the Project site

Observed data	Modelled CALMET data
	
Frequency of counts by wind direction (%)	Frequency of counts by wind direction (%)

APPENDIX C

Background Air Quality

Background Air Quality

TSP, PM_{10} and $PM_{2.5}$ concentrations are not monitored at the Project Site and therefore air quality monitoring data measured at a representative location has been adopted for the purposes of this assessment. Determination of data to be used as a location representative of the Project Site and during a representative year can be complicated by factors which include:

- The sources of air pollutant emissions around the Project Site and representative AQMS; and
- The variability of particulate matter concentrations (often impacted by natural climate variability).

Data from air quality monitoring stations (AQMS) operated by the NSW Department of Climate Change, Energy, Environment and Water (NSW DCCEEW) have been considered within this AQIA. The locations of the nearest AQMS (listed by proximity) are briefly summarised in Table C1.

Table C1 Closest AQMS to the Project Site

AQMS location	Source	Distance to Project Site (km)	2021 data	Measurements		
				PM_{10}	$PM_{2.5}$	TSP
Albion Park South	NSW DCCEEW	21.8	✓	✓	✓	✗
Wollongong	NSW DCCEEW	40.7	✓	✓	✓	✗

It is noted that there are no AQMS within 20 km of the Project Site. However, adoption of air quality monitoring data, often collected at significant distances from proposed projects, to represent conditions at those locations is a routinely adopted approach in NSW. NSW DCCEEW operates an extensive air quality monitoring network, generally reflective of the most populated areas of the State. Site specific air quality monitoring funded by proponents can sometimes be used, although for the purposes of use within an AQIA, at least a full year of continuous measurement is required.

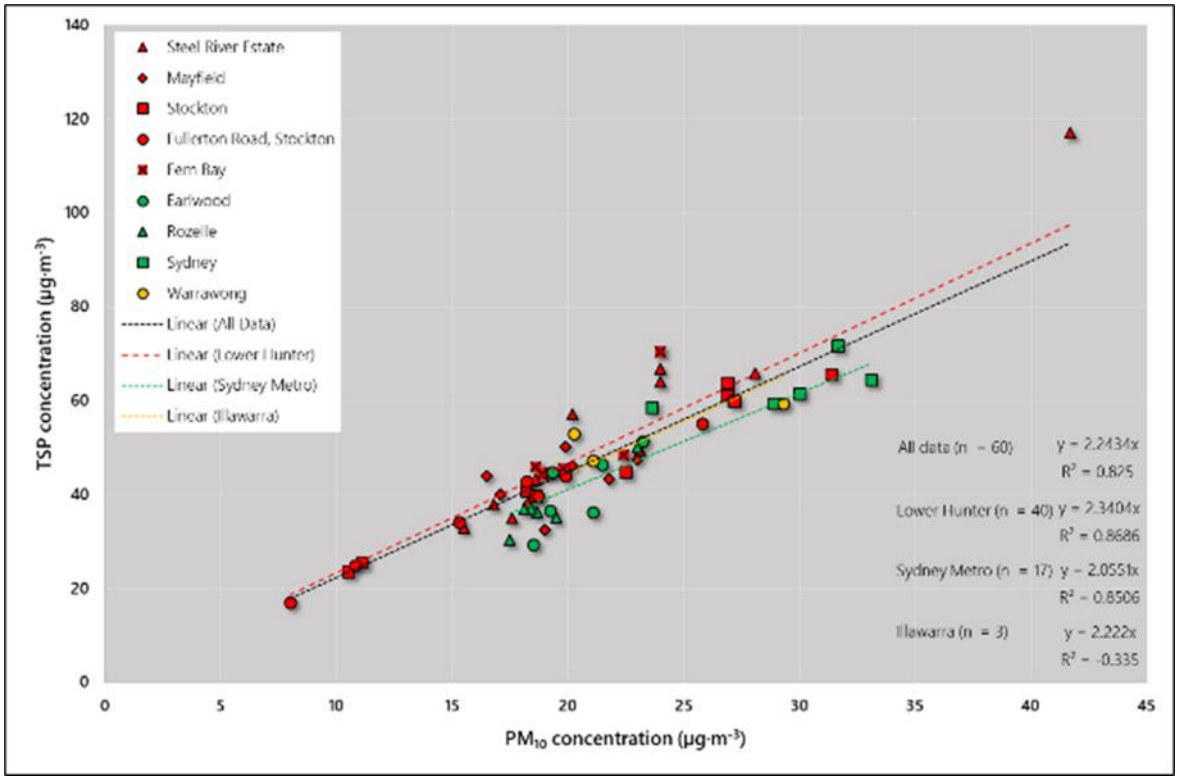
The closest active AQMS that records PM data is noted to be located at Albion Park South and is considered to be the most reflective of the conditions at the Project Site.

The results of the correlation coefficient analysis provided in Appendix B indicates that meteorological and PM data measured in 2021 is an appropriate dataset for use within this study. Reference should be made to Appendix B for justification.

Concentrations of TSP are not measured at any AQMS surrounding the Project Site. An analysis of co-located measurements of TSP and PM_{10} in the Lower Hunter (1999 to 2011), Illawarra (2002 to 2004), and Sydney Metropolitan (1999 to 2004) regions is presented in Figure C1.

The analysis concludes that, on the basis of the measurements collected in the Illawarra Region between 1999 to 2011, the derivation of a broad TSP:PM_{10} ratio of 2.222 : 1 (i.e. PM_{10} represents ~45% of TSP) from all data is appropriate. In the absence of any more specific information, this ratio has been adopted within this AQIA, resulting in a background annual average TSP concentration of 29.1 $\mu g \cdot m^{-3}$ being adopted.

Figure C1 Co-located TSP and PM_{10} measurements – Lower Hunter, Sydney Metro, and Illawarra



Source: Northstar

Dust deposition rates are measured by the Applicant at the Quarry for the purposes of ongoing air quality management. There are currently three dust monitoring sites located within the boundary of the Project Site with their respective locations shown in Figure 5. Historically, an additional dust deposition gauge (3A) was located at the east of the Project Site, which was relocated to site 4A in 2023. Results of the dust deposition monitoring (as total insoluble solids, $g \cdot m^{-2} \cdot month^{-1}$) over the most recent five complete years of monitoring (2021 to 2024), plus the most recent five months of data in 2025 is presented in Table C2.

Table C2 Quarry dust deposition results

Year	Annual average total insoluble solids deposition rate ($g \cdot m^{-2} \cdot month^{-1}$)				
	1A	2A	3A	4A	All sites
2020	2.4 (12)	2.1 (12)	2.4 (12)	N/A	2.3
2021	1.2 (12)	0.7 (12)	0.5 (12)	N/A	0.8
2022	2.3 (12)	1.3 (12)	0.6 (12)	N/A	1.4
2023	1.4 (12)	1.8 (12)	0.3 (8)	0.3 (4)	1.0
2024	1.1 (12)	1.6	N/A	0.6 (12)	1.1
2025	0.9 (5)	0.2 (5)	N/A	0.3 (5)	0.5

Note: Number of measurements shown in brackets.

Given that the annual average total insoluble solids deposition rates have been measured to be below 2 $g \cdot m^{-2} \cdot month^{-1}$ over the last 3 complete years of monitoring, with the 2021 (representative year for modelling) rate being 0.8 $g \cdot m^{-2} \cdot month^{-1}$, the adopted annual average total insoluble solids deposition rate of

2 $g \cdot m^{-2} \cdot month^{-1}$ (the difference in NSW EPA maximum allowable and incremental impact criterion) is considered appropriate to allow the presentation of a conservative assessment.

Summary statistics for the selected data monitoring at Albion Park AQMS are presented in Table C3. Graphs presenting the daily varying PM_{10} and $PM_{2.5}$ data recorded at Albion Park AQMS in 2021 are presented in Figure C2 and Figure C3 respectively.

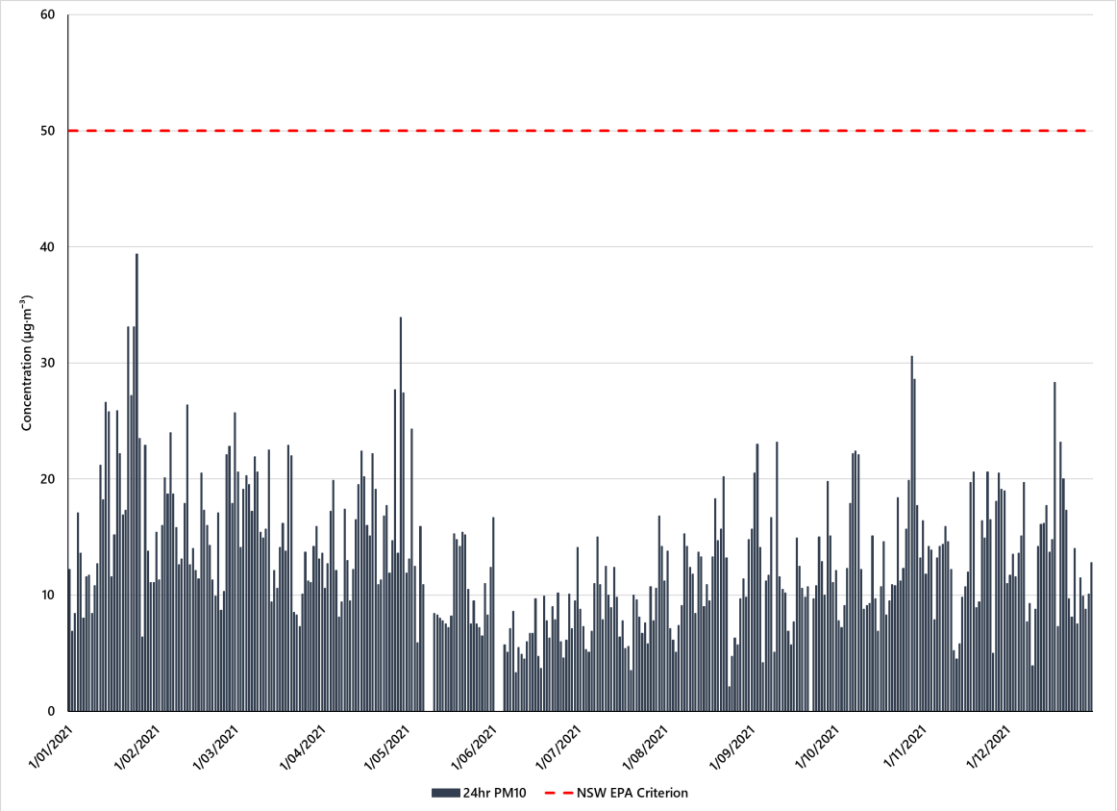
Table C3 Background air quality statistics for Albion Park AQMS (2022)

Pollutant	TSP	PM_{10}	$PM_{2.5}$
Averaging period	Annual	24-hour	24-hour
Units	$\mu g \cdot m^{-3}$	$\mu g \cdot m^{-3}$	$\mu g \cdot m^{-3}$
Data points (nb)	358	358	356
Mean	29.1	13.1	4.8
Standard deviation	-	5.9	2.6
Skew[1]	-	1.0	2.4
Kurtosis[2]	-	1.5	11.9
Minimum	-	2.1	-0.6
Percentiles			
25th	-	8.8	3.2
50th	-	12.1	4.2
75th	-	16.1	5.9
90th	-	20.6	7.8
95th	-	23.2	8.9
97th	-	26.5	9.9
98th	-	27.7	12.0
99th	-	31.7	12.5
Maximum	29.1	39.4	23.3
Data Capture (%)	97.8	97.8	97.3

Notes: 1: Skew represents an expression of the distribution of measured values around the derived mean. Positive skew represents a distribution tending towards values higher than the mean, and negative skew represents a distribution tending towards values lower than the mean. Skew is dimensionless.

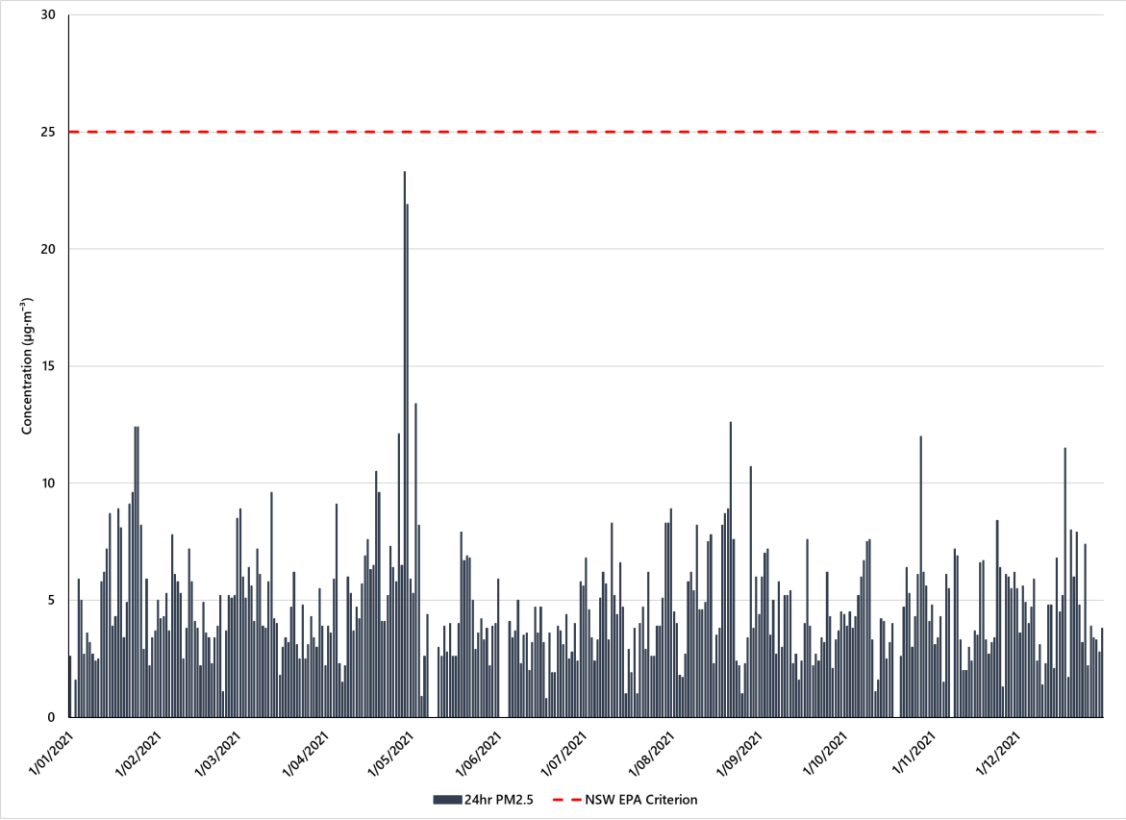
2: Kurtosis represents an expression of the value of measured values in relation to a normal distribution. Positive skew represents a more peaked distribution, and negative skew represents a distribution more flattened than a normal distribution. Kurtosis is dimensionless.

Figure C2 Daily varying PM_{10} concentrations – Albion Park AQMS (2021)



Source: Northstar

Figure C3 Daily varying $PM_{2.5}$ concentrations – Albion Park AQMS (2021)



Source: Northstar

APPENDIX D

Emissions Inventory

Table D1 Parameters adopted in emissions calculations

Parameter	Value	Notes
Mean wind speed	3.7 $m \cdot s^{-1}$	Meteorological station at Quarry – used in preference to CALMET data as resulting emissions totals were greater. CALMET data used in modelling
Pre-processed material silt and moisture content	2 %, 12 %	Assumed silt content, Applicant provided moisture content
Post-processed material silt and moisture content	2 %, 5 %	Assumed silt content, Applicant provided moisture content
Onsite unpaved haulage road silt content	7.1 %	AP-42 value for haul road at sand and gravel processing facility
Onsite paved haulage road silt content	70 $g \cdot m^{2}$	AP-42 value for haul road at sand and gravel processing facility
Offsite paved haulage road silt content	0.6 $g \cdot m^{2}$	US EPA AP42 <500 trucks per day
Average weight of wheel loader on site	20.86 t	Assumed CAT 972H or similar (8.3 t payload)
Average weight of product trucks	32.5 t or 39.0 t	Assumed payload of 35 t (used in annual average assessment) or Assumed payload of 42 t (used in peak daily assessment)

Table D2 Material quantities adopted in emissions calculations

Parameter	Value	Notes
Quantity of dredged and processed material	126 316 $t \cdot yr^{-1}$ 3 006 $t \cdot day^{-1}$ (peak)	Assumed 1 m^3 of dredged material results in 0.95 m^3 of product (Applicant provided)
Quantity of product	120 000 $t \cdot yr^{-1}$ 2 856 $t \cdot day^{-1}$ (peak)	Applicant provided. Peak daily production rate is over 6.5 times the daily average
Average laden trucks per day	19	Equating to 665 $t \cdot day^{-1}$
Maximum laden trucks per day	68	Equating to 2 856 $t \cdot day^{-1}$

Table D3 Emissions estimates - volume sources - peak daily and annual activity rates

Source ID	Description	Emission factor	Activity rate	
			$t \cdot day^{-1}$	$t \cdot yr^{-1}$
VOL1	Sand dredging	AP-42 - Batch drop - Section 13.2.4.3	3,006.3	126,315.8
VOL2	Pumping via pipe to processing area	AP-42 - Conveyor transfer point - Table 11.19.2.1	3,006.3	126,315.8
VOL3	Washing plant	AP-42 - Screening - Table 11.19.2.1	3,006.3	126,315.8
VOL4	Loading to product stockpiles	AP-42 - Batch drop - Section 13.2.4.3	2,856.0	120,000.0
VOL5	Loading from product stockpiles to trucks	AP-42 - Batch drop - Section 13.2.4.3	2,856.0	120,000.0
VOL6	Loading rejects stockpile	AP-42 - Batch drop - Section 13.2.4.3	150.3	6,315.8
VOL7	Loading rejects to truck	AP-42 - Batch drop - Section 13.2.4.3	150.3	6,315.8
VOL8	Unloading rejects in dredged area	AP-42 - Batch drop - Section 13.2.4.3	150.3	6,315.8

Table D4 Emissions estimates - volume sources - annual emission rates

Source ID	Emission Factor				Emission Controls	Controlled emission (kg.yr-1)		
	TSP	PM_{10}	$PM_{2.5}$	Units		TSP	PM_{10}	$PM_{2.5}$
VOL1	1.89E-04	8.96E-05	1.36E-05	kg·t-1	Wet process (100%)	0.00E+00	0.00E+00	0.00E+00
VOL2	1.50E-03	5.50E-04	1.54E-04	kg·t-1	Wet process (100%)	0.00E+00	0.00E+00	0.00E+00
VOL3	1.25E-02	4.30E-03	3.01E-04	kg·t-1	Wet process (100%)	0.00E+00	0.00E+00	0.00E+00
VOL4	1.89E-04	8.96E-05	1.36E-05	kg·t-1	-	2.27E+01	1.08E+01	1.63E+00
VOL5	6.45E-04	3.05E-04	4.62E-05	kg·t-1	-	7.74E+01	3.66E+01	5.55E+00
VOL6	1.89E-04	8.96E-05	1.36E-05	kg·t-1	-	1.20E+00	5.66E-01	8.57E-02
VOL7	6.45E-04	3.05E-04	4.62E-05	kg·t-1	-	4.08E+00	1.93E+00	2.92E-01
VOL8	6.45E-04	3.05E-04	4.62E-05	kg·t-1	Loading into water (100%)	0.00E+00	0.00E+00	0.00E+00

Table D5 Emissions estimates - volume sources - peak daily emission rates

Source ID	Emission Factor				Emission Controls	Controlled emissions (kg.day-1)		
	TSP	PM_{10}	$PM_{2.5}$	Units		TSP	PM_{10}	$PM_{2.5}$
VOL1	1.89E-04	8.96E-05	1.36E-05	kg·t-1	Wet process (100%)	0.00E+00	0.00E+00	0.00E+00
VOL2	1.50E-03	5.50E-04	1.54E-04	kg·t-1	Wet process (100%)	0.00E+00	0.00E+00	0.00E+00
VOL3	1.25E-02	4.30E-03	3.01E-04	kg·t-1	Wet process (100%)	0.00E+00	0.00E+00	0.00E+00
VOL4	1.89E-04	8.96E-05	1.36E-05	kg·t-1	-	5.41E-01	2.56E-01	3.87E-02
VOL5	6.45E-04	3.05E-04	4.62E-05	kg·t-1	-	1.84E+00	8.72E-01	1.32E-01
VOL6	1.89E-04	8.96E-05	1.36E-05	kg·t-1	-	2.85E-02	1.35E-02	2.04E-03
VOL7	6.45E-04	3.05E-04	4.62E-05	kg·t-1	-	9.70E-02	4.59E-02	6.95E-03
VOL8	6.45E-04	3.05E-04	4.62E-05	kg·t-1	Loading into water (100%)	0.00E+00	0.00E+00	0.00E+00

Table D6 Emissions estimates - road sources - peak daily and annual activity rates

Source ID	Description	Emission factor	Activity rate	
			VKT·year^{-1}	VKT·day^{-1}
ROAD1	Material haulage on unpaved road	AP-42 Unpaved roads - Section 13.2.2	7,754.7	105.1
ROAD2	Material haulage on paved road (site)	AP-42 Paved roads - Section 13.2.1	2,197.0	29.8
ROAD3	Material haulage on paved road (offsite)	AP-42 Paved roads - Section 13.2.1	24,528.2	332.5
ROAD4	Loader moving rejects	AP-42 Unpaved roads - Section 13.2.2	198.3	4.7

Table D7 Emissions estimates - road sources - annual emission rates

Source ID	Emission factor				Emission Controls	Controlled emission (kg.yr-1)		
	TSP	PM_{10}	$PM_{2.5}$	Units		TSP	PM_{10}	$PM_{2.5}$
ROAD1	2.92E+00	8.05E-01	8.05E-02	kg·VKT-1	Haul road watering (50%), Speed limits (85%)	1.13E+04	3.12E+03	3.12E+02
ROAD2	5.37E+00	1.03E+00	2.50E-01	kg·VKT-1	Haul road watering (50%), Speed limits (85%)	5.90E+03	1.13E+03	2.74E+02
ROAD3	3.68E-01	7.07E-02	1.71E-02	kg·VKT-1	-	9.04E+03	1.73E+03	4.20E+02
ROAD4	2.39E+00	6.59E-01	6.59E-02	kg·VKT-1	Haul road watering (50%), Speed limit (85%)	2.37E+02	6.54E+01	6.54E+00

Table D8 Emissions estimates - road sources - peak daily emission rates

Source ID	Emission factor				Emission Controls	Controlled emissions (kg.day-1)		
	TSP	PM_{10}	$PM_{2.5}$	Units		TSP	PM_{10}	$PM_{2.5}$
ROAD1	3.17E+00	8.74E-01	8.74E-02	kg·VKT-1	Haul road watering (50%), Speed limits (85%)	1.67E+02	4.59E+01	4.59E+00
ROAD2	6.47E+00	1.24E+00	3.01E-01	kg·VKT-1	Haul road watering (50%), Speed limits (89%)	9.64E+01	1.85E+01	4.48E+00
ROAD3	3.68E-01	7.07E-02	1.71E-02	kg·VKT-1	-	1.22E+02	2.35E+01	5.69E+00
ROAD4	2.39E+00	6.59E-01	6.59E-02	kg·VKT-1	Haul road watering (50%), Speed limit (85%)	5.65E+00	1.56E+00	1.56E-01

Table D9 Emissions estimates - open area wind erosion sources - peak activity rates

Source ID	Description	Emission factor	Peak activity rate	
			Area (ha)	hr·day^{-1}
WE1	Wind erosion of exposed areas	AP-42 - Wind erosion of exposed areas - annual - Table 11.9-4	1.4	24

Table D10 Emissions estimates - open area wind erosion sources - peak daily emission rates

Source ID	Emission factor				Emission Controls	Controlled emissions (kg.day-1)		
	TSP	PM_{10}	$PM_{2.5}$	Units		TSP	PM_{10}	$PM_{2.5}$
WE1	8.50E+02	4.25E+02	6.38E+01	kg·ha-1·yr-1	-	3.16E+00	1.58E+00	2.37E-01

Table D11 Emissions estimates - open area wind erosion sources - annual emission rates

Source ID	Emission factor				Emission Controls	Controlled emission (kg.yr-1)		
	TSP	PM_{10}	$PM_{2.5}$	Units		TSP	PM_{10}	$PM_{2.5}$
WE1	8.50E+02	4.25E+02	6.38E+01	kg·ha-1·yr-1	-	1.15E+03	5.77E+02	8.66E+01

air quality | environment | sustainability

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