

Our ref: DA85/2865-PA-44

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Acting Environmental Compliance Manager
11 NARABANG WAY
BELROSE 2085

13/09/2024

Subject: Air Quality Management Plan version 10

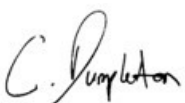
Dear Mr McKenzie

I refer to the updated Air Quality Management Plan (version 11) submitted following the 2023 annual environmental review and changes made by the NSW Environment Protection Agency to the Environment Protection Licence..

I have reviewed the plan and consider the amendments made would still meet the conditions of consent, accordingly I approve the plan.

If you wish to discuss the matter further, please contact me via email:
carl.dumpleton@planning.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read "C. Dumpleton".

Carl Dumpleton

Team Leader – Energy and Resources Assessments

As nominee of the Planning Secretary

Air Quality Management Plan

Menangle Sand and Soil Quarry

Prepared for Menangle Sand and Soil Pty Ltd
June 2024



Menangle Sand and Soil Quarry

Air Quality Management Plan

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June 2024

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Menangle Sand and Soil Quarry

Air Quality Management Plan

Report Number

J190166 RP30

Client

Menangle Sand and Soils Pty Ltd

Date

28 June 2024

Version history

Version	Date	Prepared by	Approved by	Comments
v1	31/11/20	S. Fishwick	F. Manansala	Internal draft
v2	13/12/20	S. Fishwick	F. Manansala	Internal draft
v3	13/12/20	S. Fishwick	F. Manansala	Internal draft
v4	24/2/21	S. Fishwick	F. Manansala	Draft addressing DPE comments of 20/1/21
v5	2/4/21	S. Fishwick	F. Manansala	Draft addressing DPE comments of 24/3/21
v6	12/4/21	S. Fishwick	F. Manansala	Draft addressing DPE comments of 9/4/21
v7	22/2/22	K. Ward	P. Towler	Minor updates to incorporate MOD2
v8	25/3/22	P. Towler	P. Towler	Correcting a typo
v9	31/3/22	P. Towler	P. Towler	Update addressing DPE comment of 30/3/22
vV10	28/6/24	N.Devillers	P. Towler	Minor updates, including relocation of one DDG

This report has been prepared in accordance with the brief provided by the client and has relied upon the information collected at the time and under the conditions specified in the report. All findings, conclusions or recommendations contained in the report are based on the aforementioned circumstances. The report is for the use of the client and no responsibility will be taken for its use by other parties. The client may, at its discretion, use the report to inform regulators and the public.

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1 Introduction

1.1 Background

Menangle Sand and Soil Pty Ltd (Menangle Sand and Soil) operates the Menangle Sand and Soil Quarry at 15 Menangle Road, Menangle (Figure 1.1).

The quarry, located in the Wollondilly and Campbelltown local government areas, extracts sand and soil along the Nepean River as approved by Development Consent 85/2865, granted by the Minister for Planning on 15 November 1989.

To date, sand and soil has been extracted from Stages 1 to 2 and 4 to 7 (Figure 1.2). While previously approved, sand and soil will not be extracted from Stage 3.

On 10 September 2020, the NSW Land and Environment Court (LEC) approved the Menangle Quarry Extension – Modification 1 (MOD1) to Development Consent 85/2865. Consent Conditions are provided in the Notice of Orders for LEC 2018/342158. The Consolidated Consent ('the Consent') allows the extraction of sand and soil in the Stage 8 area and operations (but no extraction) in the Stage 6 and 7 areas. Extraction in the Stage 8 area commenced in September 2023.

On 5 November 2021, the Minister for Planning and Public Spaces approved the Menangle Quarry Extension – Modification 2 (MOD2). Changes to the Consent conditions are provided in the Notice of Modification for Development Consent DA 85/2865.

The extracted material will be transported to the processing area where it will be stockpiled, processed and blended with materials imported to the site, prior to being dispatched from the quarry. Operations (but not extraction) will continue in the Stage 6 and Stage 7 areas.

Modification 2 removed the requirement for an overland conveyor and replaced it with the operation of an off-road haul truck for the transfer of extracted materials from the Stage 8 area to the processing area using existing roads.

This air quality management plan (AQMP) has been prepared to address the requirements of the Consent.

1.2 Project overview

The quarry has consent to extract the sand and soil resource in the Stage 8 area to 2035. Stage 8 has been split up into 15 sub-stages (Figure 1.3) which have been further categorised into seven extraction phases (Table 1.1).



KEY

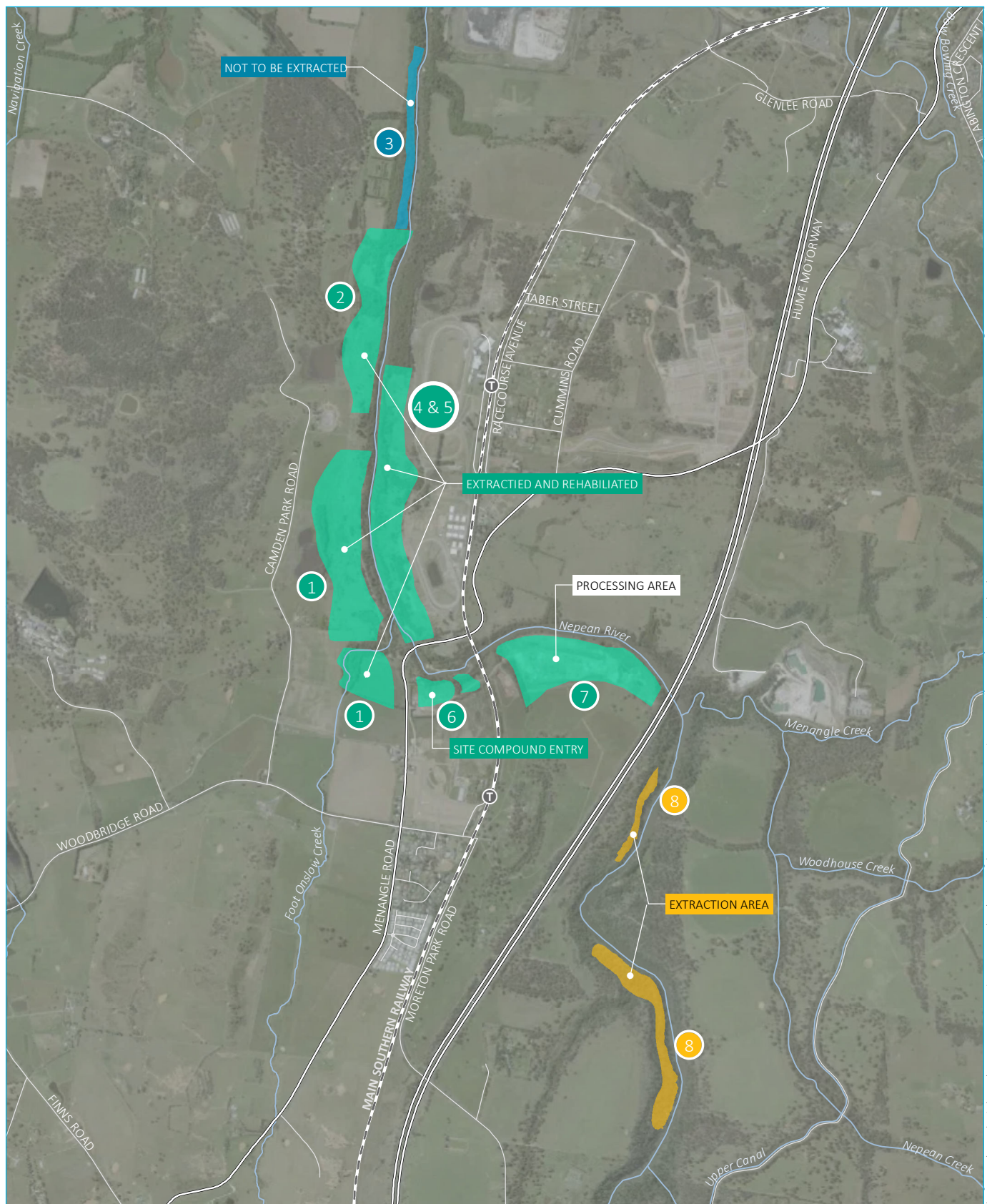
- Rail line
- Major road
- Named watercourse
- Named waterbody
- NPWS reserve
- Local government area

INSET KEY

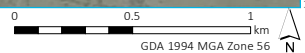
- Main road
- State forest

Regional context

Menangle Sand and Soil Quarry
Figure 1.1



Source: EMM (2022); Metromap (2022); DFSI (2017)



KEY

- Train station
- Rail line
- Main road
- Local road
- Named watercourse
- Extractive operations (approved)
- Extractive operations (approved but not extracted)
- Stage 8 - extraction/rehabilitation area

Menangle Quarry stages 1 to 8

Menangle Sand and Soil Quarry
Figure 1.2



Source: EMM (2024); Metromap (2024); DCSSS (2023)

KEY

Stage 8 - restoration area (no extraction)

Existing environment

Major road

Minor road

Watercourse/drainage line

Access track

Haul roads

Substage 8A-8M

Substage 8A-8C

Substage 8D-8M

Substage boundary

Phase 1 Sub-stages 8A - 8B

Phase 2 Sub-stage 8C

Phase 3 Sub-stages 8D - 8E

Phase 4 Sub-stages 8F - 8G

Phase 5 Sub-stages 8H - 8I

Phase 6 Sub-stages 8J - 8K

Phase 7 Sub-stages 8L - 8M

Stage 8 area

Menangle Sand and Soil Quarry
Figure 1.3

Table 1.1 **Stage 8 phases**

Phase	Substage
1	8A–8B
2	8C
3	8D–8E
4	8F–8G
5	8H–8I
6	8J–8K
7	8L–8M

As well as the extraction areas, key components of the quarry include:

- a wheel wash and weighbridge
- a site office and amenity building
- a workshop west of the site office
- fuel supply tanks north of the storage shed
- materials stockpiling and processing area
- other minor infrastructure.

These components will be used to support activities in the Stage 8 area which include:

- extraction in the Stage 8 extraction area followed by rehabilitation
- restoration of areas adjacent to the extraction areas
- internal haul roads.

1.3 Operations

1.3.1 Activities

Operations at the quarry comprises the following activities:

- vegetation management and clearance
- sand and soil excavation
- material transport by off-road haul truck
- sorting and screening of excavated material
- processing of excavated material

- blending of excavated material with imported materials
- stockpiling
- loading of product into trucks
- product dispatch via trucks.

1.3.2 Plant and equipment

Condition A33 of the development consent states:

All plant and equipment used on site, or to monitor the performance of the development must be:

- (a) maintained in a proper and efficient condition; and
- (b) operated in a proper and efficient manner.

Regular maintenance of all plant and equipment will be logged and stored on site available for review at any time.

1.4 Quarry life

The Stage 8 Operations may be carried out on the site until 31 December 2035.

1.5 Operating hours

The quarry will operate during the approved hours in accordance with development consent Table 1, Condition A26 (see Table 1.2 below).

Table 1.2 Operating hours

Activity	Permissible hours
Construction work	<ul style="list-style-type: none"> • 7 am to 5 pm Monday to Friday • 7 am to 1 pm Saturday • At no time on Sundays or public holidays
Quarrying operations including loading and dispatch of laden trucks	<ul style="list-style-type: none"> • 6 am to 5 pm Monday to Friday • 6 am to 12 noon Saturday • At no time on Sundays or public holidays
Maintenance, security, office work, cleaning, etc	<ul style="list-style-type: none"> • May be conducted at any time, provided that these activities are not audible at any residence on privately-owned land

Condition A27 of the development consent states that where police or other public authorities request that deliveries or dispatching of materials are to be carried out outside operating hours and emergency work to avoid the loss of lives, property or to prevent environmental harm is required, then these activities are permitted outside the normal operating hours. In such circumstances, the Applicant must notify the Department and affected residents prior to undertaking the activities, or as soon as is practical thereafter.

1.6 Access

1.6.1 Site access

The main access to the site is from Menangle Road. Menangle Road is an arterial road which provides sub-regional access.

1.6.2 Access to the Stage 8 area

The existing access under the Hume Motorway was retained when the Road Transport Authority (now Transport for NSW, TfNSW) bisected the lands when acquiring the corridor for the original Hume Highway in 1969. The existing access road under the bridge has been sealed and complies with TfNSW drainage and pavements standards.

Material will be transported beneath the Hume Motorway Menangle Bridge by off-road haul truck using existing tracks.

The earthmoving equipment, off-road haul truck and other plant to service the Stage 8 area may also access the area via Moreton Park Road. Major plant is expected to remain onsite through-out the duration of the quarrying operations except for major servicing or replacement.

1.6.3 Product dispatch

Truck movements at the site (ie combined inbound and outbound movements) will not exceed an average of:

- 147 per day on Monday to Friday and
- 80 per day on Saturday.

1.7 Purpose and objectives

EMM Consulting Pty Limited (EMM) has been engaged by Menangle Sand and Soil to prepare an air quality management plan (AQMP) as required by development consent conditions (DA 85/2865) prior to commencing Stage 8 quarrying operations.

This AQMP addresses operations across the quarry for phases 1–7 (see Table 1.1).

The final AQMP approved by the Planning Secretary will be implemented.

1.8 Report preparation

This AQMP has been prepared by EMM's National Technical Leader for air quality, Scott Fishwick. Scott has over 15 years' experience as a senior air quality consultant, specialising in atmospheric dispersion modelling, air quality impact assessments, meteorological processes, ambient air quality and meteorological monitoring.

1.9 Consultation

1.9.1 AQMP preparation

There is a requirement of the Consent that this AQMP be prepared in consultation with the EPA.

A letter was sent via email to the NSW Environmental Protection Authority (EPA) on 14 October 2020 inviting input to the contents of this AQMP (Appendix A). The EPA responded via a letter on 26 November that the documents

appear appropriate to manage activities at the site and that the EPA supports the development of Environmental Management Plans (EMPs) as part of good environmental management but does not generally approve specific EMPs for industry operations. The letter is attached in Appendix A.

The draft AQMP was provided to the EPA for their review and the EPA had no comments.

Following Department of Planning, Industry and Environment (now Department of Planning, Housing and Infrastructure , DPHI) review of the draft AQMP, the final AQMP (version 6, 12 April 2021) was approved by the Planning Secretary on 14 April 2021 (Appendix B).

1.9.2 AQMP update

Agencies, including EPA were consulted during the MOD2 application process. Their comments were considered by Menangle Sand and Soil during the application process and by DPHI on behalf of the Minister in approving the application and amending the Consent conditions.

The EPA were consulted during the preparation of version 10 of this plan regarding changes to the monitoring programme. On 6 June 2024, EPA responded, "The EPA do not object to Menangle Sand and Soil Quarry submitting the proposed changes to NSW Planning for review, however the proposal should include more details regarding supporting documentation alongside the written request" (see Appendix A).

2 Environmental requirements

2.1 Legislation

The AQMP provides recommended air quality emission management measures for the quarry. The AQMP has been prepared to address the requirements of the development consent conditions, guided by the following guidelines and policies:

- Australian Standard AS 3580.14-2011 *Methods for sampling and analysis of ambient air Part 14: Meteorological monitoring for ambient air quality monitoring applications*
- NSW Land and Environment Court 2020, Development Consent DA 85/2865 (approved 10 September 2020)
- NSW Department of Environment and Conservation (DEC) 2007, *Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales*
- NSW Environment Protection Authority (EPA) 2016, *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW*.

2.2 Project consent conditions

Table 2.1 lists the requirements of the development consent conditions and references the section of the report where each of these requirements has been addressed.

Table 2.1 Quarry development consent conditions and relevant section of the report

Condition Number	Condition	Relevant report section
A26	The Applicant must comply with the operating hours set out in Table 1.	1.4
A27	The following activities may be carried out outside the hours specified in Table 1. a) delivery or dispatch of materials as requested by Police or other public authorities; and b) emergency work to avoid the loss of lives, property or to prevent environmental harm. In such circumstances, the Applicant must notify the Department and affected residents prior to undertaking the activities, or as soon as is practical thereafter.	1.4
A33	All plant and equipment used on site, or to monitor the performance of the development must be: a) maintained in a proper and efficient condition; and b) operated in a proper and efficient manner.	5.1
B10	The Applicant must ensure that no offensive odours (as defined under the POEO Act) are emitted by the development.	4.3
B11	The Applicant must ensure that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 3 at any residence on privately-owned land.	3 and 5.2
B12	The air quality criteria in Table 3 do not apply if the Applicant has an agreement with the owner/s of the relevant residence to exceed the air quality criteria, and the Applicant has advised the Department in writing of the terms of this agreement.	3
B13	The Applicant must:	-
	a) take all reasonable steps to: i. minimise odour, fume, greenhouse gas and dust (including PM ₁₀ and PM _{2.5}) emissions of the development; ii. minimise any visible off-site air pollution generated by the development; and iii. minimise the extent of potential dust generating surfaces exposed in the Stage 8 Area at any given point in time;	5.1
	b) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see Note c to Table 3 above);	6.3
	c) carry out regular air quality monitoring to determine whether the development is complying with the relevant conditions of Schedule 2; and	6.2
	d) regularly assess meteorological and air quality monitoring data and relocate, modify or stop operations on the site to ensure compliance with the relevant conditions of Schedule 2.	6.2
B13A	The Applicant must construct and maintain all haul roads to minimise:	-
	a) excessive dust emissions by (including but not limited to): i. sealing the road surface with a clean coarse aggregate or equivalent, and minimising the surface silt content of the roads or implementing other surface treatment options such as chemical suppressants or paving; and ii. watering the haul roads at the appropriate water rate when in use.	5.1
B14	The Applicant must prepare an Air Quality Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:	This document
	a) be prepared by a suitably qualified and experienced person/s;	1.6

Table 2.1 Quarry development consent conditions and relevant section of the report

Condition Number	Condition	Relevant report section
	b) be prepared in consultation with the EPA;	1.7
	c) describe the measures to be implemented to ensure: <ul style="list-style-type: none"> i. compliance with the air quality criteria and operating conditions in this Schedule; ii. best practice air quality management is being employed; and iii. air quality impacts of the development are minimised during adverse meteorological conditions and extraordinary events; and 	5.1
	d) include an air quality monitoring program that: <ul style="list-style-type: none"> i. is capable of evaluating the performance of the development against the air quality criteria; and ii. includes a protocol for identifying any air quality-related exceedance, incident or non-compliance and for notifying the Department and relevant stakeholders of these events. 	6.2
B15	The Applicant must not commence Quarrying Operations in the Stage 8 Area until the Air Quality Management Plan is approved by the Planning Secretary.	1.9
B16	The Applicant must implement the Air Quality Management Plan as approved by the Planning Secretary.	1.7
B17	Prior to the commencement of Quarrying Operations in the Stage 8 Area, and for the life of the development, the Applicant must ensure that there is a suitable meteorological station operating in close proximity to the site that: <ul style="list-style-type: none"> a) complies with the requirements in the Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales (DEC, 2007); and b) is capable of measuring meteorological conditions in accordance with the NSW Industrial Noise Policy (EPA, 2000), unless a suitable alternative is approved by the Planning Secretary following consultation with the EPA	6.2
C1	As soon as practicable and no longer than 7 days after obtaining monitoring results showing an exceedance of any noise or air quality criterion in PART B of Schedule 2 following the date of commencement of Quarrying Operations in the Stage 8 Area, the Applicant must provide details of the exceedance to any affected landowners/tenants if the Applicant has not otherwise reached an agreement to exceed the relevant criteria with the affected landowner pursuant to condition B5 or B12. For any exceedance of any air quality criterion in PART B of this consent, the Applicant must also provide to any affected land owners and tenants a copy of the fact sheet entitled "Mine Dust and You" (NSW Health, 2017).	EMS Section 8.3.2
C2	If, at any time following the date of commencement of Quarrying Operations in the Stage 8 Area, a landowner considers the development to be exceeding any noise or air quality criterion in PART B of Schedule 2, they may ask the Planning Secretary in writing for an independent review of the impacts of the development on their land.	EMS Section 8.3.3

n/a – not applicable

EMS – see Environmental Management System

3 Air quality criteria

The primary air pollutants generated by the quarry are particulate matter, including the following:

- total suspended particulate matter (TSP)
- particulate matter less than 10 microns in aerodynamic diameter (PM₁₀)
- particulate matter less than 2.5 microns in aerodynamic diameter (PM_{2.5}).

Condition B11 of the development consent conditions states:

The Applicant must ensure that particulate matter emissions generated by the development do not cause exceedances of the criteria Table 3 at any residence on privately-owned land.

The specific criteria from Table 3 of the development consent conditions are listed in Table 3.1.

Table 3.1 Development consent air quality criteria

PM metric	Averaging period	Impact assessment criteria
TSP	Annual	90 µg/m ³ ^{a,c}
PM ₁₀	24 hour	50 µg/m ³ ^b
	Annual	25 µg/m ³ ^{a,c}
PM _{2.5}	24 hour	25 µg/m ³ ^b
	Annual	8 µg/m ³ ^{a,c}
Dust deposition ^d	Annual	2 g/m ² /month ^b
		4 g/m ² /month ^a

Notes: µg/m³: micrograms per cubic meter; g/m²/month: grams per square metre per month.

- total impact (ie incremental increase in concentrations due to the development plus background concentrations due to all other sources).
- incremental impact (ie incremental increase in concentrations due to the development on its own).
- excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Planning Secretary.
- deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter – Gravimetric Method.

In accordance with condition B12 of the development consent conditions, the air quality criteria in Table 3.1 do not apply if the Menangle Sand and Soil has an agreement with the owner/s of the relevant residence to exceed the air quality criteria, and the Menangle Sand and Soil has advised DPHI in writing of the terms of this agreement.

4 Quarry emission sources

4.1 Dust emissions sources

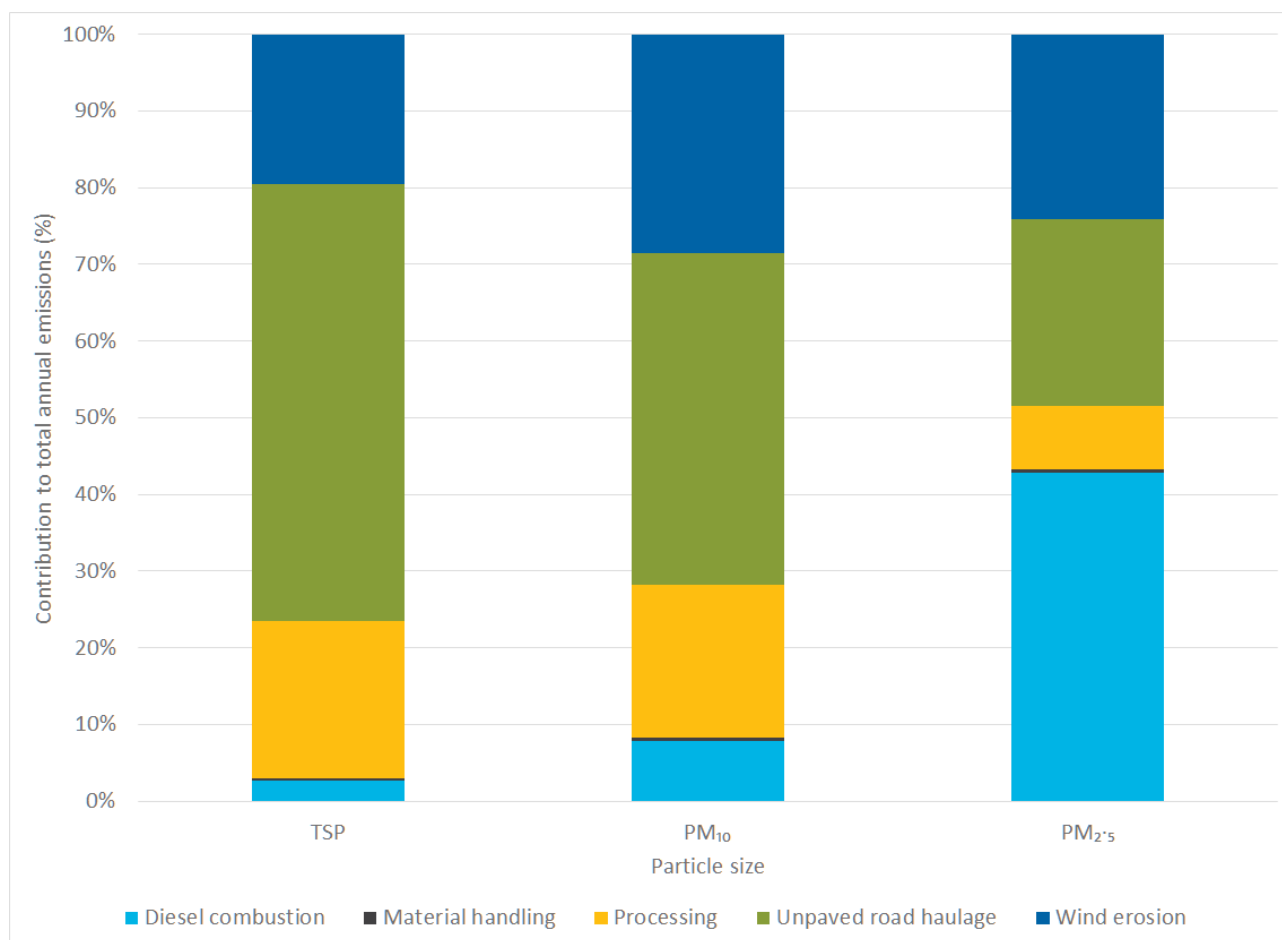
A detailed air quality impact assessment (AQIA) for the quarry including the operation of the proposed Stage 8 area was completed by Ramboll Environ (2016). The AQIA quantified annual emissions from the quarry and identified the following sources of air pollutant emissions:

- removal of topsoil and overburden material
- extraction of raw material from quarrying areas and loading to trucks
- unloading of raw material to conveyor hopper
- overland conveying of raw material to stockpiling area
- loading of raw material to haul trucks
- transfer of raw material by haul trucks to processing plant area
- unloading of material to the processing plant area (raw material and imported material)
- screening and conveying of material
- final product stockpile loading
- loading to product dispatch trucks
- haulage of product material to quarry exit
- wind erosion of exposed areas and stockpiles
- diesel combustion by trucks and quarrying equipment.

The *Menangle Sand and Soil Modification 2 Comparative Air Quality Impact Assessment* (EMM 2021) was prepared as part of the MOD1 application.

4.2 Source significance

Based on the emissions inventory presented in the AQIA (Ramboll Environ 2016), a summary of the significance of emission source type by particle size is presented in Figure 4.1.



Source: Ramboll (2016).

Figure 4.1 Emission source significance by particle size – AQIA inventory

The following notes are made in relation to site emissions presented in Figure 4.1:

- the movement of trucks along unpaved haul routes is the primary contributor to emissions of TSP and PM₁₀
- material processing and wind erosion emissions are moderate contributors to annual emissions of all size fractions
- the significance of diesel combustion emissions increases with decreasing particle size.

4.3 Odour emissions sources

The quarry does not feature significant odour generating emission sources.

5 Mitigation measures

5.1 Air emission mitigation measures

Conditions B13 and B13A of the Consent (listed in Table 2.1) relate to the management of air emissions from the quarry. The following mitigation measures will be continued for Stage 8 operations:

- the use of wet suppression by water cart along all unpaved transport routes on site
- the use of water sprays to exposed surfaces and material storage stockpiles during periods of hot, dry and windy conditions
- the use of water sprays along the haul road between the site entrance and the processing area
- ongoing active rehabilitation of completed quarrying areas
- application of water sprays at all screens at the processing plant
- application of water sprays at conveyor transfer points at the processing plant
- use of amenity bunds at the processing plant and quarrying areas to reduce the potential for wind-blown dust generation.

The following mitigation measures will be implemented during the use of the Stage 8 area haul road to meet the requirements of condition B13A:

- the quarry's 20 km/h speed limit will apply along the Stage 8 area haul road
- excessive dust emissions will be prevented through:
 - fixed irrigation installed along the part of the haul road that is being used for the active substage;
 - use of a water cart to supplement the fixed irrigation if additional water is required to control dust emissions;
 - sealing the road surface with a clean coarse aggregate or equivalent;
 - minimising the surface silt content of the roads; and/or
 - implementing other surface treatment options such as chemical suppressants or paving.

The measures described in Section 7.2 of the *Menangle Sand and Soil Quarry Soil and Water Management Plan* will be implemented, with regard to *A Field Guide for Erosion and Sediment Control Maintenance Practices* (OEH 2012) or latest version, to prevent erosion and sedimentation, drying of eroded material and the subsequent formation dust that could become windblown.

For diesel combustion emissions, the following measures will be implemented:

- any new equipment purchased for site will meet the US-EPA Tier 2 emission standards
- all plant and equipment will be regularly serviced and maintained to meet manufacturers emissions specifications, with all maintenance to be logged and stored on site available for review at any time

- idling of trucks, plant and equipment on site will be minimised wherever practicable to do so.

5.2 Risk of adverse impacts

The AQIA (Ramboll Environ 2016) and *Modification 2 Comparative Air Quality Impact Assessment* (EMM 2021) presented the results of atmospheric dispersion modelling conducted for particulate matter emissions generated from proposed Stage 8 operations at the quarry, including processing within the Stage 7 area. The dispersion modelling accounted for the mitigation measures detailed in Section 5.1.

The results of the dispersion modelling indicated that the proposed Stage 8 operations at the quarry would not result in exceedances of applicable NSW EPA assessment criteria at any of the surrounding sensitive receptors.

The risk of adverse air quality impacts in the surrounding environment from the quarry with the documented dust mitigation measures in place, is considered to be low.

6 Monitoring and incident reporting

6.1 Dust mitigation performance monitoring and responsibilities

Quarry personnel are responsible for monitoring the performance of onsite air pollution mitigation measures on a day-to-day basis. Responsibilities for air pollutant emission management are as set as follows:

The quarry foreman is responsible for:

- regular visual monitoring of the dust levels at the quarry
- managing vehicle speed movements
- restricting operations during periods of strong wind
- utilising spray systems where applicable
- cleaning of the material storage/processing areas
- completion of a complaint form if dust complaint is received
- coordinating with the Quarry Manager to ensure the complaint is investigated.

The Quarry Manager is responsible for:

- implementing this procedure
- auditing the site on a regular basis to ensure compliance with conditions B13 and B13A for air pollutant emissions
- coordinating investigation of the dust with the quarry foreman
- documenting the results of the investigation and actions taken
- maintaining the records of any dust complaints
- liaison with the complainant regarding the steps to be taken to minimise further air pollution emissions where appropriate
- ensuring that the nominated personnel have been trained in the requirements of this procedure.

Quarry personnel, including the off-road haul truck driver, will visually monitor for any visible dust generation along the Stage 8 haul road. The boundary of the quarry and the Hume Motorway road corridor is about 5 m from the track at its closest point and about 25 m from the closest traffic lane on the Motorway. If any dust generated by the haul truck is visible at the boundary between the quarry and the road corridor, dust control measures listed in Section 5.1 will be reviewed and additional measures implemented (eg increasing the level of watering). If dust remains visible at the site boundary, truck movements will be restricted until the required dust controls are implemented.

6.2 Ambient air quality monitoring

The development consent conditions do not feature any specific requirement for routine ambient air quality monitoring at the quarry (ie location, method or frequency). Condition B14d states the AQMP must:

B14(d) - include an air quality monitoring program that:

- (i) is capable of evaluating the performance of the development against the air quality criteria; and
- (ii) includes a protocol for identifying any air quality-related exceedance, incident or non-compliance and for notifying the Department and relevant stakeholders of these events.

6.2.1 Dust deposition

As identified in Section 5.2, the risk of adverse air quality impacts in the surrounding environment from the quarry is predicted to be low. In order to provide a measure of environmental management performance, Menangle Sand and Soil propose to install three dust deposition gauges (DDG) in the vicinity of the quarry. The proposed DDG locations, illustrated in Figure 6.1, are as follows:

- DDG1 – to the east of the site entry compound (moved 130 m to the west)
- DDG2 – near groundwater monitoring location BH2
- DDG3 – near groundwater monitoring location BH4.

As reported in Section 3 'Regular Air Quality Monitoring' in the *Annual Review (2023)*, DDG1 is located in a grassed area that requires regular maintenance, including mowing, that has contaminated dust deposition samples. It is therefore proposed to move the dust gauge approximately 130 m to the west so that it is no longer surrounded by grass that needs maintenance and is closer to boundary of the site (see Figure 6.1).

Dust deposition monitoring will be conducted in accordance with AS/NZS 3580.10.1:2016: *Methods for sampling and analysis of ambient air - Method 10.1: Determination of particulate matter - Deposited matter - Gravimetric method*. As far as practicable and taking site constraints into consideration, the siting of dust deposition gauges will be conducted in accordance with AS/NZS 3580.1.1:2016: *Methods for sampling and analysis of ambient air - Part 1.1: Guide to siting air monitoring equipment*.

The proposed location of DDG01 meets the requirements of AS/NZS 3580.1.1:2016:

- clear sky angle of 120°
- unrestricted air flow of 360° around sample inlet
- 10 m from nearest object or tree dripline
- 5 m from road

no boiler or incinerator flues nearby. Monthly samples will be collected and sent to a laboratory for analysis. Results from the sampling will be reviewed as they are received from the laboratory with results compared against the applicable NSW EPA assessment criterion of 4 g/m²/month.

As highlighted in Section 5.2, the risk of dust impacts from the operation of the quarry is low. The dust deposition gauges will be used to track the performance of dust mitigation practices at the quarry.

At the end of a 12-month period, demonstrated compliance with the development consent criterion of 4 g/m²/month (Table 3.1) will represent a dust control key performance indicator for the quarry.

Following a completed period of 12 months of monitoring, the need to continue the dust deposition monitoring will be reviewed in conjunction with DPHI.

Condition B17 relates to the establishment of a meteorological monitoring station in the vicinity of the quarry and states the following:

Prior to the commencement of Quarrying Operations in the Stage 8 Area, and for the life of the development, the Applicant must ensure that there is a suitable meteorological station operating in close proximity to the site that:

- (a) complies with the requirements in the Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales (DEC, 2007); and
- (b) is capable of measuring meteorological conditions in accordance with the NSW Industrial Noise Policy (EPA, 2000),

unless a suitable alternative is approved by the Planning Secretary following consultation with the EPA.

6.2.2 Air quality monitoring campaigns

To supplement the DDG monitoring network, Menangle Sand and Soil conducted two real-time particulate matter (PM₁₀ and PM_{2.5}) monitoring campaigns at the quarry,

The results of ambient air quality monitoring campaigns are reported in *Menangle Sand and Soil Quarry Air Quality Monitoring Campaign* (EMM 2024a). This report was appended to the *Annual Review (2023)*.

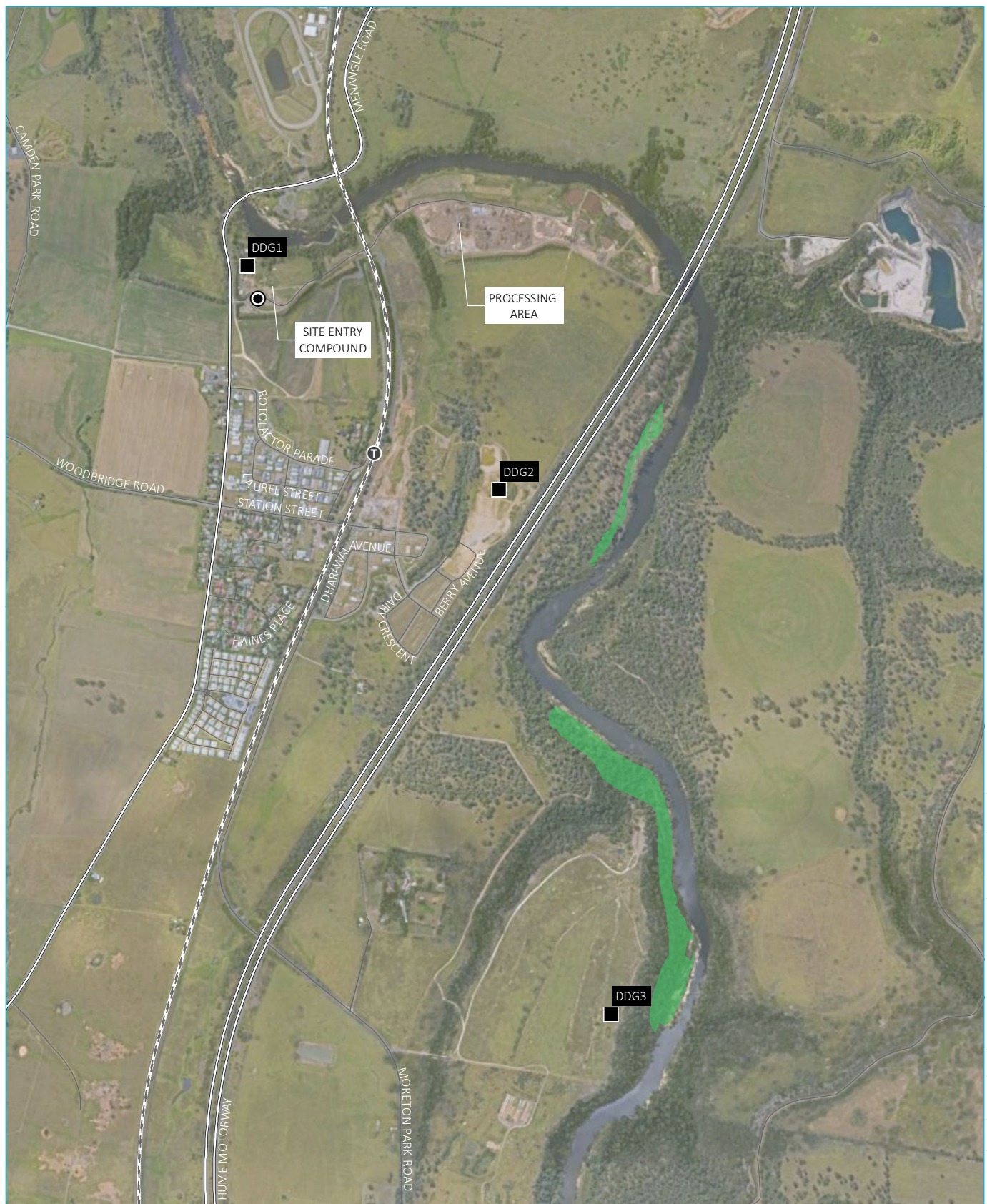
In summary, the two campaigns found:

- one exceedance of the 24-hour PM₁₀ criterion (50 µg/m³) was recorded at the AQM01 monitoring location (adjacent to DDG01) due to the influence of local lawn mowing emissions, no exceedances were recorded at the three other monitoring locations
- no exceedances of the 24-hour average PM_{2.5} criterion (25 µg/m³) were recorded at any of the monitoring locations
- the PM₁₀ and PM_{2.5} concentrations recorded at the quarry were generally comparable with the concurrent measurements at the Department of Climate Change, Energy, the Environment and Water (DCCEEW) Campbelltown West and Camden Air Quality Monitoring Station for the two campaign periods, indicating that regional emissions sources are the primary driver of ambient particulate matter concentrations.

6.2.3 Meteorological monitoring

The meteorological station at the quarry is located to the east of the site entry compound (see Figure 6.1) and is in compliance with the Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales (DEC 2007), specifically:

- AS/NZS 3580.1.1:2016: *Methods for sampling and analysis of ambient air - Part 1.1: Guide to siting air monitoring equipment*
- Australian Standard AS 3580.14-2014 *Methods for sampling and analysis of ambient air Part 14: Meteorological monitoring for ambient air quality monitoring applications.*



Source: EMM (2024); DCSSS (2023); GA (2009); MetroMap (2024)

KEY

- | | |
|--------------------------|----------------------|
| ● Meteorological station | Existing environment |
| ■ Dust deposition gauge | ● Train station |
| ■ Extraction area | — Rail line |
| | — Major road |
| | — Minor road |

Dust deposition gauge and meteorological station locations

Menangle Sand and Soil
Air quality management plan
Figure 6.1

6.3 Actions during adverse weather conditions

From the perspective of dust emissions from the quarry, adverse meteorological conditions are considered to be sustained periods of hot and dry weather and/or high wind speeds. A key environmental management responsibility of quarry personnel is the visual monitoring of dust emissions.

In the event of adverse weather conditions, the Quarry Manager is required to maintain vigilance for visual dust emissions leaving quarry boundary and implement appropriate additional mitigation strategies. Additional mitigation measures will include the targeted use of water sprays at the quarry to the identified contributing dust emissions sources or the temporary restriction and/or cessation of the activity until adverse weather conditions have eased.

6.4 Complaints reporting

A complaint management system to engage in active community consultation and maintain positive relations with local residents will be implemented for the site. The purpose of this system is to minimise complaints by addressing their concerns upfront and monitor the environmental performance of the site.

6.4.1 Registering complaints

Any enquiries or complaints made by members of the public to site personnel will be directed to the Quarry Manager.

Complaints may be made to the quarry's direct line during business hours (02 4633 8239) or to the Quarry Manager's mobile phone (up-to-date number provided at www.benedict.com.au/locations/menangle) outside of business hours or for emergencies. These numbers will be provided on a sign at the site entrance.

6.4.2 Complaint response

Any complaint received by Menangle Sand and Soil regarding air quality impacts from the quarry will be acted on within 24-hours in the following manner:

- details of the complaint (date, time, specifics, complainants contact details) will be recorded
- activities occurring during the complaint period will be investigated
- findings of operations during the complaint period will be recorded in the complaints register
- relevant management practices will be reviewed as necessary
- findings of the review will be communicated to the complainant.

6.4.3 Complaints register

The details of any complaint will be logged in the complaints register, with investigation findings and actions noted. The record of a complaint will be kept for at least 4 years after the complaint was made. The record will be produced to any authorised officer of the EPA who asks to see them.

The complaints register will be available on the project website and will be updated monthly.

Should the complaint be relevant to any of the conditions of the Consent, it will be handled as per the Consent conditions relevant to that environmental aspect.

6.5 Air quality incident and non-compliance definitions and response

For the purpose of this AQMP, a verified complaint that is deemed to be the direct result of operational emissions from the quarry will be classified as an air quality incident. As soon as Benedict becomes aware of an air quality incident, notification must be made to DPHI and any other relevant agencies.

Further, a non-compliance is defined as an exceedance of applicable assessment criterion detected by the proposed air quality monitoring network (see Section 6.2) that is attributable to quarry operations.

6.5.1 Incident notification

On becoming aware of an air quality incident, Benedict will notify DPHI via the Major Projects Website immediately after the Applicant becomes aware of an incident. Notification requirements are outlined in the EMS in the incident notification section.

Within 24-hours of an air quality incident, an initial letter report outlining basic details of the incident will be sent to the EPA's Regional Manager Planning Section. Within 14 days of an incident, a detailed report will be prepared and submitted to the EPA's Regional Manager Planning Section documenting incident investigation findings, causes of the incident and additional mitigation measures proposed to prevent a reoccurrence.

A register of verified incidents will be maintained by Menangle Sand and Soil and made available for review on request.

6.5.2 Non-compliance notification

Within seven days of becoming aware of a non-compliance, the Applicant will notify DPHI in writing via the Major Projects Website. The Application will identify the non-compliance, the reasons for non-compliance and what actions that will be undertaken to address the non-compliance.

As soon as practicable, and no longer than 7 days after obtaining monitoring results showing an exceedance of any air quality criterion in Part B of Schedule 2 (listed in Table 3.1) following the date of commencement of Quarrying Operations in the Stage 8 Area, the Applicant will provide details of the exceedance to any affected landowners/tenants if the Applicant has not otherwise reached an agreement to exceed the relevant criteria with the affected landowner pursuant to condition B12.

For any exceedance of any air quality criterion presented in Table 3.1, the Applicant will provide a copy of the fact sheet entitled "Mine Dust and You" (NSW Health 2017) to any affected landowners and tenants.

6.5.3 Independent review

If, at any time following the date of commencement of Quarrying Operations in the Stage 8 Area, a landowner considers the development to be exceeding any air quality criterion in Part B of Schedule 2 (listed in Table 3.1), they may ask the Planning Secretary in writing for an independent review of the impacts of the development on their land.

If the Planning Secretary is satisfied that an independent review is warranted, then within 3 months of the Planning Secretary's decision, or as otherwise agreed by the Planning Secretary and the landowner, the Applicant will:

- a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Planning Secretary, to:
 - i) consult with the landowner to determine their concerns;

- ii) conduct monitoring to determine whether the development is complying with the relevant criteria in Part B of Schedule 2;
 - iii) if the development is not complying with that criteria, identify measures that could be implemented to ensure compliance with the relevant criteria; and
- b) give the Planning Secretary and landowner a copy of the independent review; and
- c) comply with any written requests made by the Planning Secretary to implement any findings of the review.

6.6 Key performance indicators

Menangle Sand and Soil commits to the following key performance indicators (KPIs) to demonstrate the performance of ongoing dust control management practices at the quarry:

- successful implementation of the control measures in accordance with B13 of the development consent conditions (see Table 2.1);
- no exceedance due to quarry operations of the annual dust deposition criterion of 4 g/m²/month at the end of a 12-month period at any of the three DDG locations (see Section 6.2)
- no exceedance due to quarry operations of the 24-hour average PM₁₀ criterion of 50 µg/m³ or 24-hour average PM_{2.5} criterion of 25 µg/m³
- no confirmed air quality-related complaints from the operation of the quarry.

In the event that KPIs are not met, dust mitigation measures and maintenance practices will be reviewed and amended as necessary.

6.7 Review of AQMP

A comprehensive review of the complaint and incident records will be completed as part of the project annual review of operations, and each year thereafter, and will be provided to DPHI.

The air quality monitoring program will be reviewed at least every three years, when updates to the plan are required, or as directed by the Secretary in consultation with other agencies. The review process is to reflect changes in environmental legislation and guidelines, and changes in technology or operational procedures.

Review of this AQMP will also take place if monitoring records indicate that it is warranted or in the event of any significant change to air quality management procedures at the facility. Any modifications to the AQMP will be undertaken in consultation with the appropriate government agencies.

The EMS addresses all the development approval related requirements for plan reviews.

References

Australian Standard 2014, *AS 3580.14-2014 Methods for sampling and analysis of ambient air Part 14: Meteorological monitoring for ambient air quality monitoring applications*.

EMM 2021. *Menangle Sand and Soil Modification 2 Comparative Air Quality Impact Assessment*.

NSW Department of Environment and Conservation 2007, *Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales*.

NSW Land and Environment Court 2020, *Development Consent DA 85/2865* (approved 10 September 2020).

NSW Environment Protection Authority 2016, *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW*.

OEH 2012, *A Field Guide for Erosion and Sediment Control Maintenance Practices*. NSW Office for Water.

Ramboll Environ 2016, *Menangle Quarry Extension Project - Air Quality Impact Assessment*.

Appendix A

Agency consultation

12 October 2020

Mr Chris Kelly
NSW Environment Protection Authority
planning.matters@epa.nsw.gov.au

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St Leonards NSW 1590

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E info@emmconsulting.com.au
www.emmconsulting.com.au

Re: Menangle Sand and Soil Quarry - Air Quality and Noise Management Plans

Dear Chris,

Menangle Sand and Soil Pty Ltd operates the Menangle Sand and Soil Quarry (the 'Quarry') at 15 Menangle Road Menangle. A modification to the Quarry's approval has recently been approved. The updated approval requires that air quality and noise management plans are prepared in consultation with the Environment Protection Authority (EPA).

This letter seeks the EPA's input to these plans.

1 Quarry overview

Menangle Sand and Soil Pty Ltd operates the Menangle Sand and Soil Quarry at 15 Menangle Road Menangle. Quarrying has been undertaken in the location for over 40 years by a number of operators and at varying rates of production. Extraction, processing and rehabilitation activities have been undertaken by Menangle Sand and Soil since 1978.

Current extractive activities were approved in 1989 (DA 85/2865) and have involved the construction and operation of the quarry in seven stages. Sand and soil has been extracted from Stages 1 to 2 and 4 to 6 and is currently being extracted from Stage 7. While previously approved, sand and soil will not be extracted from Stage 3.

In September 2020, the NSW Land and Environment Court approved 'Menangle Quarry Extension – Modification 1' (MOD1). This allows the extraction of sand and soil in a new area, the Stage 8 area, that is about 13 ha, and extends about 2 kilometres along the Nepean River south of the Stage 7 area. The extension will increase the life of the quarry by 15 years. The extracted material will be transported to the existing processing area where it will be stockpiled, processed and blended with materials imported to the site, prior to being dispatched from the quarry.

A description of the quarry, including MOD1, is provided in Appendix A. The Notice of Orders Made by the Land and Environment Court (the 'consent') is provided in Appendix B.

2 Previous assessments

The preparation of the environmental assessment for the modification application included the preparation of air quality and noise assessments addressing the matters the NSW Environment Protection Agency (EPA) requested be considered in the Environmental Assessment (EMM 2017).

In summary, the assessment found that the proposed modified operations at the Quarry are unlikely to result in exceedances of the applicable NSW EPA assessment criteria or NEPM assessment goals for any of the assessed pollutants at the surrounding sensitive receptors and that cumulative noise is predicted to satisfy the relevant amenity criteria.

These reports are available on the Major Projects website:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8531

3 Management plans

EMM Consulting Pty Limited (EMM) is preparing:

- a Noise Management Plan (NMP) in accordance with Part B, Condition B7 (b) of the consent.
- an Air Quality Management Plan (AQMP) in accordance with Part B, Condition B14 (b) of the consent.

The NMP and AQMP will address the matters raised in the conditions and Menangle Sand and Soil's Summary of Commitments provided in Table 3.1 of Appendix A.

3.1 Noise Management Plan

The NMP will include the following:

- overview of noise mitigation and management;
- relevant noise criteria;
- monitoring method(s);
- location, frequency and duration of monitoring;
- record keeping;
- response mechanisms;
- compliance reporting; and
- review and improvement.

3.2 Air Quality Management Plan

The AQMP will include the following:

- overview of emission sources and ranking by emissions magnitude;
- review of mitigation measures;
- key performance indicator(s);
- monitoring method(s);
- location, frequency and duration of monitoring;
- record keeping;

- response mechanisms; and
- compliance reporting.

This letter seeks your input on the contents and preparation of the NMP and AQMP. We will also provide the draft management plans to you for your review and comment. We would welcome the opportunity to meet, via teleconference, to discuss the plan.

It is requested that any comments you may have are provided by 26 October 2020 to allow them to be considered during preparation of the plan.

Should you wish to discuss anything specific please call me on the below number.

Please do not hesitate to contact me if you have any questions.

Yours sincerely



Jeremy Slattery

Associate, Environmental Management

Phone: 0421 827 231

jslattery@emmconsulting.com.au

Report appended to letter:

Land and Environment Court Proceedings 342158 of 2018

Applicant's Description of Amended Project

Menangle Sand & Soil Pty Limited v Minister for Planning

24 August 2020

Available from:

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=DA85/2865-MOD-1%2120201026T085721.270%20GMT>



DOC20/987285

Mr Jeremy Slattery
EMM Consulting Pty Limited
PO Box 21
ST LEONARDS NSW 1590

Email: jslattery@emmconsulting.com.au

Dear Mr Slattery

**Modification 1 - Update of Environmental Management Plans
Menangle Sand and Soil Quarry - Menangle Rd, Menangle**

I am writing in response to the information submitted to the Environment Protection Authority (EPA) on 13 October 2020 regarding the recently approved (NSW Land and Environment Court) Modification 1 of the above Menangle Sand & Soil Pty Ltd (MSS) sand quarry operation. Your correspondence advises that the updated approval conditions require that the Soil and Water (SWMP), Air Quality (AQMP) and Noise Management Plans (NMP) are prepared in consultation with the EPA.

Following a review of the updated draft management plans, the EPA advises that the documents appear appropriate to manage the activities undertaken at the site. EMM Consulting Pty Limited should advise the proponent that they should review and update the management plans as necessary as the development progresses into the newly approved Stage 8.

The EPA supports the development of Environmental Management Plans (EMPs) as part of good environmental management but does not generally approve specific EMPs for industry operations. The preparation and implementation of any EMP for the above works is ultimately the responsibility of the proponent. MSS may wish to have the NMP, AQMP & SWMP audited to an industry standard or certified to the ISO 14001 Standard as part of an overall Environmental Management System.

If you have questions regarding the above, please phone Matt Fuller on (02) 4224 4100.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Greg Newman', written over a light blue horizontal line.

26/11/2020

GREG NEWMAN
Unit Head Regulation

Phone 131 555
Phone 02 4224 4100
(from outside NSW)

Fax 02 4224 4110
TTY 131 677
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13 May 2024

Chris Kelly
Senior Operations Officer
Metropolitan South
Environmental Protection Agency
6 Parramatta Square
10 Darcy Street
Parramatta NSW 2150

Re: Menangle Sand and Soil Quarry - proposed management plan updates

Dear Mr Kelly,

1 Project overview

Menangle Sand and Soil Pty Ltd (Menangle Sand and Soil) operates the Menangle Sand and Soil Quarry at 15 Menangle Road, Menangle. The quarry extracts sand and soil along the Nepean River as approved by Development Consent 85/2865 granted by the Minister for Planning in 1989 and as modified in 2020 (MOD1) and 2021 (MOD2). The quarry also operates under Environment Protection Licence (EPL) 3991.

The Consolidated Consent ('the Consent') allows the extraction of sand and soil in the Stage 8 area (about 13 ha) that extends about 2 kilometres (km) along the Nepean River south of the quarry's processing area (the Stage 7 area). The site is accessed from Menangle Road through the site entry compound (the Stage 6 area). The Consent and EPL cover these areas.

More details (including maps) of the approved operations are provided in the quarry's environmental management plans (see below).

The quarry operates in accordance with environmental management plans that were first prepared in 2022 in consultation with various agencies, as required by the Consent. The plans have been approved by the Planning Secretary.

The following plans were prepared in consultation with the Environment Protection Authority (EPA):

- Air Quality Management Plan (AQMP)
- Noise Management Plan (NMP)
- Soil and Water Management Plan (SWMP).

The plans are available on the Major Projects Website:

<https://www.planningportal.nsw.gov.au/major-projects/projects/menangle-quarry> (see Post Approval tab).

The Consent requires that the quarry periodically reviews, and if required updates, the quarry's environmental management plans. This includes a review within three months of submitting the Annual Review. The *Menangle Sand and Soil, Annual Review, 1 January 2023–31 December 2023* (Benedict Sands Menangle 2024) (the Annual Review) was submitted to Department of Planning, Housing and Infrastructure (DPHI) in March 2024.

As a result of the review, Menangle Sand and Soil seeks to update the AQMP, NMP and SWMP. The proposed changes to these plans are outlined below.

2 Proposed management plan updates

2.1 Air Quality Management Plan

The most recent version of the *Menangle Sand and Soil Quarry Air Quality Management Plan*, version 9, 31 March 2022 (EMM 2022a) was approved by the Planning Secretary on 19 April 2022.

It is proposed to update the air quality monitoring programme as described below.

2.1.1 Air quality monitoring

The ambient air quality monitoring described in Section 6.2 of the AQMP consists of:

- ongoing monitoring using three dust deposition gauges
- two air quality separate four-week monitoring campaigns.

2.1.2 Dust gauges

As reported in Section 3 'Regular Air Quality Monitoring' in the *Annual Review*, one of the dust deposition gauges is located in a grassed area that requires regular maintenance, including mowing, that has contaminated dust deposition samples. It is therefore proposed to move the dust gauge approximately 130 m to the west so that it is no longer surrounded by grass that needs maintenance and is closer to boundary of the site (see Figure 2.1).



Figure 2.1 **Proposed relocation of DDG01**

The proposed location of DDG01 meets the requirements of *Methods for Sampling and Analysis of Ambient Air, Guide to Siting Air Monitoring Equipment (AS/NZS 3580.1.1:2016)*:

- clear sky angle of 120°
- unrestricted air flow of 360° around sample inlet
- 10 m from nearest object or tree dripline
- 5 m from road
- no boiler or incinerator flues nearby.

It is proposed to amend Figure 6.1 ‘Dust deposition gauge and meteorological station locations’ of the AQMP, to show the new location for DDG01.

2.1.3 Ambient air quality monitoring campaigns

Two four-week ambient air quality monitoring campaigns are required by Section 6.2 of the AQMP. These campaigns included real-time monitoring of PM₁₀ and PM_{2.5} using two particulate matter monitoring units.

These campaigns have been completed (Photograph 2.1).



Photograph 2.1 **AQM01 campaign monitoring location – co-located with DDG1**

The results of ambient air quality monitoring campaigns are reported in *Menangle Sand and Soil Quarry Air Quality Monitoring Campaign* (EMM 2024a). This report was appended to the *Annual Review*.

A summary of the monitoring results from the two campaigns are as follows:

- one exceedance of the 24-hour PM_{10} criterion ($50 \mu g/m^3$) was recorded at the AQM01 monitoring location (adjacent to DDG01) due to the influence of local lawn mowing emissions, no exceedances were recorded at the three other monitoring locations
- no exceedances of the 24-hour average $PM_{2.5}$ criterion ($25 \mu g/m^3$) were recorded at any of the monitoring locations
- the PM_{10} and $PM_{2.5}$ concentrations recorded at the quarry were generally comparable with the concurrent measurements at the Department of Climate Change, Energy, the Environment and Water (DCCEEW) Campbelltown West and Camden Air Quality Monitoring Station for the two campaign periods, indicating that regional emissions sources are the primary driver of ambient particulate matter concentrations.

As these campaigns have been completed, it is proposed to remove the requirement for ambient air quality monitoring campaigns from the AQMP.

2.2 Noise Management Plan

The most recent version of the *Menangle Sand and Soil Quarry Noise Management Plan*, version 7, 25 February 2022 (EMM 2022b) was approved by the Planning Secretary on 19 April 2022.

It is proposed to update the noise monitoring programme as described below.

2.2.1 Noise monitoring

The noise monitoring described in Section 5 of the NMP consists of quarterly attended monitoring at locations representative of the nearest privately-owned to quarry operations.

2.2.2 Monitoring results

Two rounds of attended quarterly noise monitoring have been completed:

- October 2023 (EMM 2023): monitoring at eight locations
- February 2024 (EMM 2023x): monitoring at six locations.

Monitoring and reporting were completed in accordance with the *Noise Policy for Industry* (EPA 2017) and the *Approved Methods for the Measurement and Analysis of Environmental Noise in NSW* (EPA 2022). Noise levels were monitored at residences during the shoulder period (6 am to 7 am Monday to Saturday) and day period (7 am to 6 pm Monday to Saturday and 8 am to 6 pm Sundays and public holidays).

Consent Condition B4, in conjunction with Consent Appendix 3, specifies the residences where noise criteria apply. Since the Consent was granted, about 90 houses and a playground/park have been built north and south of the quarry's processing area. So while monitoring is required at the locations specified by the Consent, the monitoring does not provide information useful in the managing the quarry. It is not possible to change the monitoring locations without modifying the Consent. However, the frequency of monitoring can be changed with the Planning Secretary's approval.

The site complied with all Consent and EPL noise conditions. Site operations were inaudible at all monitoring locations on all occasions.

The quarry has not received any complaints, including regarding noise.

Given the monitoring results and the ineffective monitoring locations, it is proposed to undertake attended noise monitoring biannually (i.e. once every two years) rather than quarterly.

The Planning Secretary's approval will also be sought for the proposed changed to the monitoring frequency.

2.3 Soil and Water Management Plan

The most recent version of the *Menangle Sand and Soil Quarry Soil and Water Management Plan*, version 3, 25 February 2022 (EMM 2022b) was approved by the Planning Secretary on 25 March 2022.

The approved SWMP covers the first three extraction substages in the Stage 8 area (Substages 8A–8C). The plan is being revised to address all substages (Substages 8A–8M).

It is proposed to amend the SWMP to include:

- recent rainfall and streamflow statistics
- reference to all substages (Substages 8A–8M)
- sediment basin sizes for all substages
- the Ephemeral Creek Management Plan required by Consent Condition B40
- improvements to the Stage 7 water management system
- an updated site water balance.

The previous Stage 7 water management system is shown in Figure 5.5 of the SWMP. The proposed Stage 7 water management system is shown in Figure 2.2 below.

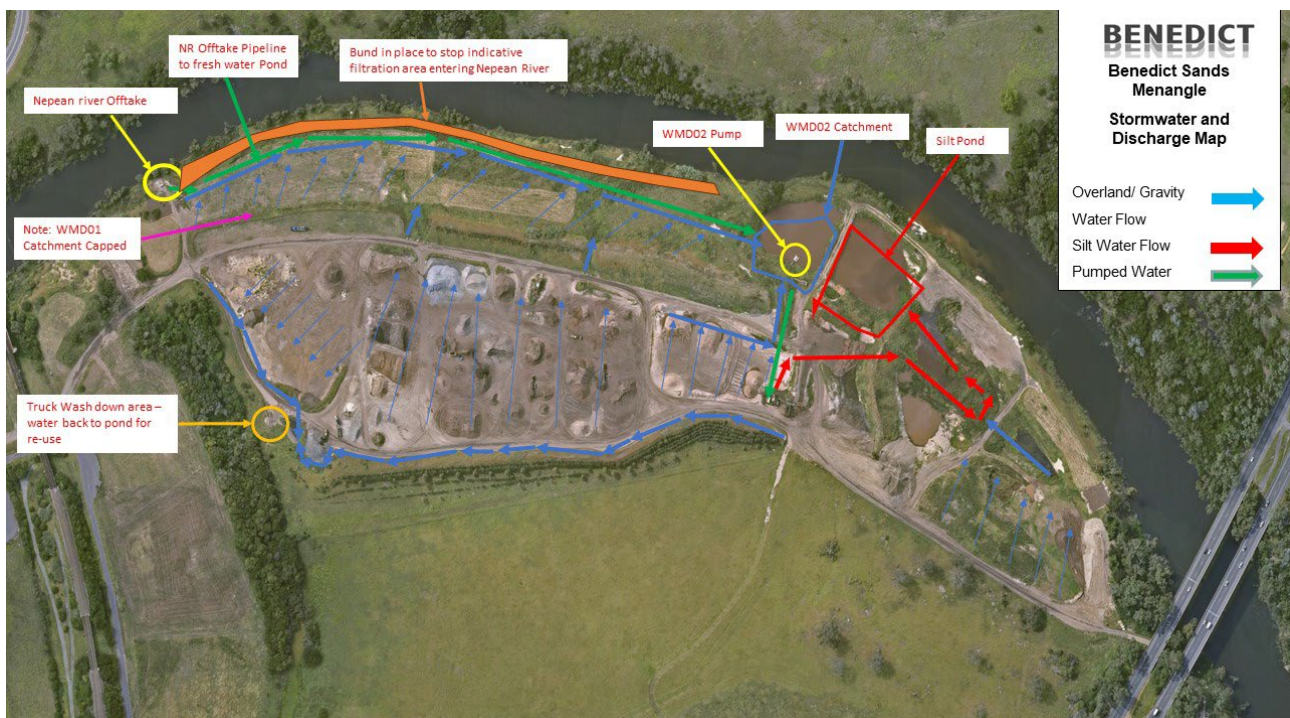


Figure 2.2 Proposed Stage 7 area water management system

2.4 Other updates

The management plans will be reviewed to ensure that they align with current department names and references. The appended consultation correspondence associated with the previous plans will be replaced with consultation correspondence associated with the amendments.

3 Conclusion

Menangle Sand and Soil seeks EPA's comments and/or endorsement of the proposed updates to the management plans.

Please contact me if you have any questions.

Yours sincerely

Dr Philip Towler
Associate Director
ptowler@emmconsulting.com.au

References

Benedict Sands Menangle 2024, *Menangle Sand and Soil, Annual Review, 1 January 2023–31 December 2023*.

EMM 2022a, *Menangle Sand and Soil Quarry Air Quality Management Plan*. Report prepared by EMM Consulting Pty Limited for Menangle Sand and Soil Pty Ltd.

EMM 2022b, *Menangle Sand and Soil Quarry Noise Management Plan*. Report prepared by EMM Consulting Pty Limited for Menangle Sand and Soil Pty Ltd.

EMM 2022c, *Menangle Sand and Soil Quarry Soil and Water Management Plan*. Report prepared by EMM Consulting Pty Limited for Menangle Sand and Soil Pty Ltd.

EMM 2023, *Menangle Sand and Soil Quarry Noise Compliance Assessment*. Report prepared by EMM Consulting Pty Limited for Menangle Sand and Soil Pty Ltd.

EMM 2024a, *Menangle Sand and Soil Quarry Air Quality Monitoring Campaign*. Report prepared by EMM Consulting Pty Limited for Menangle Sand and Soil Pty Ltd.

EMM 2024b, *Menangle Sand and Soil Quarry, Noise Compliance Q1 Assessment*. Report prepared by EMM Consulting Pty Limited for Menangle Sand and Soil Pty Ltd.

EPA 2017, *Noise Policy for Industry*, NSW Environment Protection Authority.

EPA 2022, *Approved Methods for the Measurement and Analysis of Environmental Noise in NSW*, NSW Environment Protection Authority.

Phil Towler

From: Kohben Grech <kohben.grech@epa.nsw.gov.au>
Sent: Thursday, 6 June 2024 9:08 AM
To: Phil Towler
Subject: Menangle Sand and Soil Quarry - proposed management plan updates

You don't often get email from kohben.grech@epa.nsw.gov.au. [Learn why this is important](#)

CAUTION: This email originated outside of the Organisation.

Hi Philip,

The NSW EPA is writing to you regarding the proposed management plan updates for Menangle Sand and Soil Quarry (EPL 3991).

The EPA encourages the development of such plans to address approval condition requirements and ensure that proponents have determined how they will meet their statutory obligations and designated environmental objectives. Our role is not to be directly involved with the development of strategies to achieve those objectives. The EPA does however make the following comment(s):

- The EPA do not object to Menangle Sand and Soil Quarry submitting the proposed changes to NSW Planning for review, however the proposal should include more details regarding supporting documentation alongside the written request.

Kind regards,

Kohben Grech
Operations Assistant - Operations
NSW Environment Protection Authority
D 02 4908 6854 **M** 0447 171 195

.....



www.epa.nsw.gov.au @NSW_EPA

The EPA acknowledges the traditional custodians of the land, waters and sky where we work. As part of the world's oldest surviving culture, we pay our respect to Aboriginal elders past and present.

I work on Awabakal Country



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Appendix B

Plan approval



Ms Alycia Campbell
Environmental Compliance Manager
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BELROSE NSW 2085

19/04/2022

Dear Ms Campbell

Menangle Quarry - Air Quality Management Plan (DA85/2865)
Air Quality Management Plan - Version 9

I refer to the updated Air Quality Management Plan which was submitted in accordance with condition B14 of Schedule 2 of the consent for Menangle Quarry (DA85/2865).

The Department has carefully reviewed the document and is satisfied that it generally meets the requirements of the conditions.

Accordingly, the Secretary has approved the Air Quality Management Plan - Version 9 (dated March 2022). Please ensure that the approved plan is placed on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Kevin Reid on 0292746209.

Yours sincerely

A handwritten signature in black ink that reads 'Jessie Evans'.

Jessie Evans
Director, Resource Assessments
Resource Assessments

As nominee of the Secretary

