

PF Formation

HITCHCOCK ROAD MAROOTA

Sand Extraction and Rehabilitation Project

ANNUAL ENVIRONMENTAL MANAGEMENT REPORT 2022-2023

ATTACHMENTS

- 1. Project approval**
- 2. Notice of Modification**
- 3. EPA Licence Annual Return**
- 4. Variation to Licence No. 3407**
- 5. Monthly Environmental Operational Procedures Checklist**
- 6. Location Weather Chart**
- 7. Site Current Photos**
- 8. Current Site Plan**
- 9. Weighbridge Verification Certificate**
- 10. CCC Meeting Minutes**
- 11. VENM/ENM import summary**
- 12. Noise Management Report**
- 13. Air Quality Report**
- 14. Ground Water Report**
- 15. Rehabilitation Report**

ATTACHMENT 1

PROJECT APPROVAL

Project Approval

Section 75J of the *Environmental Planning and Assessment Act 1979*

I approve the project referred to in Schedule 1, subject to the conditions set out in Schedules 2 to 5.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for on-going environmental management of the project.



Hon Kristina Keneally MP
Minister for Planning

Sydney

3 February 2009

SCHEDULE 1

Project Application:	06_0104
Proponent:	PF Formation
Approval Authority:	Minister for Planning
Land:	See Appendix 1
Project:	Hitchcock Road Sand Project

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DEFINITIONS

AEMR	Annual Environmental Management Report
Council	The Hills Shire Council
Day	The period from 7.00am to 6.00pm on Monday to Saturday, and

8.00am to 6.00pm on Sundays and Public Holidays

DECC Department of Environment and Climate Change

Department Department of Planning

Director-General Director-General of the Department of Planning, or delegate

DPI Department of Primary Industries

DWE Department of Water and Energy

EA Environmental Assessment for the project titled *Hitchcock Road Sand*

Extraction and Rehabilitation Project Environmental Assessment and,

Appendices (3 volumes), dated November 2007, prepared by DFA

Consultants, including the response to submissions and preferred

project report

EP&A Act *Environmental Planning and Assessment Act 1979*

EP&A Regulation *Environmental Planning and Assessment Regulation 2000*

EPL Environment Protection Licence issued under the *Protection of the*

Environment Operations Act 1997

Evening The period from 6.00pm to 10.00pm

Extraction Area The land described as the extraction area in Appendix 1

Land Land means the whole of a lot, or contiguous lots owned by the same

landowner, in a current plan registered at the Land Titles Office at the

date of this approval

Minister Minister for Planning, or delegate

Night The period from 10.00pm to 7.00am on Monday to Saturday, and

10.00pm to 8.00am on Sundays and Public Holidays

Privately owned land Land not owned by a public agency or the Proponent or its related companies

Preferred Project Report The Proponent's Preferred Project Report dated September 2008,

prepared by DFA Consultants, as modified in the Proponent's email to

the Department of 18 November 2008

Project The development as described in the EA

Proponent PF Formation, or its successors in title

Response to Submissions The Proponent's response to issues raised in submissions, dated

March 2008, prepared by DFA Consultants, and subsequent

submissions to the Department dated 27 August 2008

RTA	Roads and Traffic Authority
SHTW	Sydney Hinterland Transition Woodland
Site	Land to which the project application applies
Statement of Commitments	The Proponent's commitments in Appendix 3
Strategy A, Strategy B	The alternative rehabilitation proposals described in the preferred project report
Vegetation Offset	The conservation and enhancement program described in the preferred project report, to occur on the land shown on the plan in Appendix 5
VENM	Virgin Excavated Natural Material, as defined in the <i>Protection of the Environment Operations Act 1997</i>

SCHEDULE 2 ADMINISTRATIVE

Obligation to Minimise Harm to the Environment

1. The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.

Terms of Approval

2. The Proponent shall carry out the project generally in accordance with the:
 - (a) EA;
 - (b) preferred project report; (c) statement of commitments; and (d) conditions of this approval.

Notes:

- *The layout of the project is shown in the figure in Appendix 2; and*
- *The statement of commitments is included in Appendix 3.*

3. If there is any inconsistency between the above:
 - (a) the preferred project report shall prevail over the EA; (b) the conditions of this approval shall prevail generally, to the extent of the inconsistency.
4. The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:
 - (a) any reports, plans, programs or correspondence that are submitted in accordance with the conditions of this approval; and
 - (b) the implementation of any actions or measures contained in these reports, plans, programs or correspondence.

Existing Sand Mining Consent

5. Subject to an agreement in accordance with condition 7 below, the Proponent may accept material extracted from Lot 2 DP 555184 and Lot 1 DP 34599 in accordance with the development consent issued by the Land and Environment Court on 14 July 1998 to be transported across the site and to the slurry plant on Lot 1 DP 570966 via the slurry pipeline and processed on Lot 198 DP 752025.

Limits on Approval

6. Extraction and processing operations may take place until 30 November 2028.

Note: Under this approval, the Proponent is required to rehabilitate the site and provide offsets to the satisfaction of the Director-General. Consequently this approval will continue to apply in all other respects other than the right to conduct extraction and processing operations until the site has been rehabilitated and the offset provided to a satisfactory standard.

7. The quantity of processed material produced at the site, together with material produced on Lot 2 DP 555184 and Lot 1 DP 34599 in accordance with the development consent issued by the Land and Environment Court on 14 July 1998, shall not exceed 400,000 tonnes a year.

Prior to the commencement of any processing of extractive material (under the above consent) from activities on Lot 2 DP 555184 or Lot 1 DP 34599, the Proponent shall demonstrate, to the satisfaction of the Director-General, that it has reached an agreement with the owners of those Lots regarding the proportion of the extraction limit as it applies to each Lot.

8. The Proponent shall restrict total laden truck movements associated with the project to:
 - (a) 200 per day, for the Proponent's combined operations at Maroota;
 - (b) 20 per day, for trucks importing VENM to the site; and
 - (c) 10 per day, for trucks entering/exiting the site between 6.00am and 7.00am.

Note: For the avoidance of doubt, 200 is the maximum laden truck movement volume allowed on any one day, including the VENM and early morning truck movements.

9. The Proponent shall not undertake any extraction within 2 metres of the established wet weather groundwater level.

Note: The wet weather groundwater level shall be established in accordance with condition 3 of Schedule 3.

10. The Proponent shall not disturb any SHTW vegetation (as shown on the plan in Appendix 5) on site without the prior written approval of the Director-General. In seeking this approval the Proponent shall demonstrate, to the satisfaction of the Director-General, that it has established at least 3.7 hectares of SHTW on the site, to a standard that meets the criteria in Appendix 6.

Note: This demonstration must include an assessment by a suitably qualified and independent ecologist.

Management Plans / Monitoring Programs

11. With the approval of the Director-General, the Proponent may submit any management plan or monitoring program required by this approval on a progressive basis.

Demolition

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

Protection of Public Infrastructure

13. The Proponent shall:

- (a) repair, or pay all reasonable costs associated with repairing, any public infrastructure that is damaged by the project; and
- (b) relocate, or pay all reasonable costs associated with relocating, any public infrastructure that needs to be relocated as a result of the project.

Operation of Plant and Equipment

14. The Proponent shall ensure that all plant and equipment used at the site is:

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

Crown Land

15. The Proponent shall not commence any development authorised by this approval on Crown land without the prior approval of the Department of Lands.

Section 94 Contributions

16. The Proponent shall pay a monthly contribution to the Council for the upgrade and maintenance of roads in accordance with Baulkham Hills Shire Council's section 94 plan in force at the date of this approval.

SCHEDULE 3 ENVIRONMENTAL PERFORMANCE

GENERAL EXTRACTION AND PROCESSING PROVISIONS

Identification of Boundaries

1. Within 3 months of the date of this approval, or as otherwise agreed by the Director-General, the Proponent shall:

- (a) engage an independent registered surveyor to survey the boundaries of the approved limit of extraction and the approved ancillary work areas;
- (b) submit a survey plan of these boundaries to the Director-General; and
- (c) ensure that these boundaries are clearly marked at all times in a permanent manner that allows operating staff and inspecting officers to clearly identify those limits.

Note: The limit of extraction and ancillary areas is shown conceptually on the layout plans in Appendix 2, as amended/clarified by the conditions below.

General Limits of Extraction

2. Notwithstanding the layout plans in Appendix 2, the Proponent shall not undertake extraction within:
 - (a) 30 metres of Hitchcock Road; and
 - (b) 10 metres of the property boundary of Lot 2 DP 555184, unless sand extraction has commenced on that lot, and extraction in this buffer has been agreed by the Director-General.

Maximum Extraction Depth Map

3. The Proponent shall:
 - (a) establish the wet weather groundwater level for the site based on all available (and at least 12 months) site specific groundwater monitoring data;
 - (b) engage a suitably qualified and experienced expert to establish the maximum extraction depths to which extraction can be undertaken on site, to comply with condition 9 of Schedule 2;
 - (c) submit a Maximum Extraction Depth Map (contour map or similar) for the project to the Director-General within 3 months of the date of this approval; and (d) comply with the extraction depths specified in the map, to the satisfaction of the Director-General.
4. Within 3 months of the completion of the Independent Environmental Audit (see condition 6 of Schedule 5), the Proponent shall review and update the Maximum Extraction Depth Map for the project to the satisfaction of the Director-General.

NOISE

Operational Noise Assessment Criteria

5. The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 1 at any residence or on more than 25 per cent of any privately-owned land.

Noise Assessment Location	Day	Night	
	L _{Aeq} (15 minute)	L _{Aeq} (15 minute)	L _{A1} (1 minute)
R1 - Hammond	41	35	45
R2 – Hitchcock	40	35	45
R5 – Pignataro	42	35	45
R6 – Camilleri	40	35	45
R7 – Maroota Public School	36 _{(L_{Aeq}(1 Hour))}	N/A	N/A
R8 – Portelli	39	35	45
R9 – Young	39	35	45
R10 - Tornatola	39	35	45

Table 1: Noise Impact Assessment Criteria

Notes:

- To determine compliance with the $L_{Aeq(15 \text{ minute})}$ noise limits, noise from the project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of the dwelling where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the project is impractical, alternative means of determining compliance may be accepted (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise level where applicable.
- To determine compliance with the $L_{A1(1 \text{ minute})}$ limit, noise from the project is to be measured at 1 metre from the dwelling façade.
- The noise limits apply under meteorological conditions of:
 - wind speed up to 3m/s at 10m above ground level;
 - temperature inversion conditions of up to 3 degrees C/100m and wind speed up to 2m/s at 10m above the ground;
 where the wind velocity and temperature gradients are determined to be relevant to the project site in accordance with the NSW Industrial Noise Policy.
- The Director-General may relax the noise limits in Table 1 for any property where the Proponent has an agreement with the relevant owner/s to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.
- For more information on the noise assessment locations see Appendix 4.

Cumulative Noise Criteria

6. The Proponent shall take all reasonable and feasible measures to ensure that the noise generated by the project combined with the noise generated by other extractive industries does not exceed the following amenity criteria on any privately owned land, to the satisfaction of the Director-General:

- $L_{Aeq(11 \text{ hour})}$ 50 dB(A) – Day;
- $L_{Aeq(4 \text{ hour})}$ 45 dB(A) – Evening; and
- $L_{Aeq(9 \text{ hour})}$ 40 dB(A) – Night.

Operating Hours

7. The Proponent shall comply with the operating hours in Table 2.

Activity	Day	Time
Construction work	Monday - Friday	7.00am to 6.00pm
	Saturday	8.00am to 1.00pm
	Sunday and Public Holidays	None
Quarrying and Processing, (inc. overburden removal)	Monday – Saturday	7.00am to 6.00pm
	Sunday and Public Holidays	None
Product Transportation	Monday – Saturday	6.00am to 6.00pm
	Sunday and Public Holidays	None
Maintenance	Monday – Saturday	7.00am to 6.00pm
	Sunday and Public Holidays	None

Table 2: Operating Hours

Notes:

- Product transportation prior to 7.00am is restricted as per condition 8 of Schedule 2.
- Maintenance activities may be conducted outside the hours in Table 2 provided that the activities are not audible at any residence beyond the boundary of the site.

- *This condition does not apply to delivery of material if that delivery is required by police or other authorities for safety reasons, and/or the operation or personnel or equipment are endangered. In such circumstances, notification is to be provided to DECC and the affected residents as soon as possible, or within a reasonable period in the case of emergency.*

Noise Management Plan

8. The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan shall:
- be submitted to the Director-General within 3 months of the date of this approval;
 - be prepared in consultation with DECC;
 - include details of how the noise performance of the project would be monitored, and include a noise monitoring protocol for evaluating compliance with the relevant noise limits in this approval; and
 - include an investigation and assessment (including modelling) of additional reasonable and feasible noise mitigation measures that would be implemented to ensure that noise emissions at all stages of the project comply with the noise impact assessment criteria in Table 1.

Note: The EA predicted that receiver locations R5, R6, R9 and R10 would exceed the applicable noise criteria by between 2 and 5 decibels, during worst case operations.

9. If the additional noise mitigation measures identified in condition 8(d) are not able to reduce noise levels to within 2 decibels of the impact assessment criteria in Table 1 then, upon receiving a written request from the applicable landowner, the Proponent shall implement additional noise mitigation measures such as double glazing, insulation, and/or air conditioning at any residence on the land in consultation with the landowner.

These additional mitigation measures must be reasonable and feasible.

If within 3 months of receiving this request from the landowner, the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.

AIR QUALITY

Impact Assessment Criteria

10. The Proponent shall ensure that dust generated by the project does not cause exceedances of the criteria listed in Tables 3, 4 and 5 at any residence or on more than 25 per cent of any privately owned land.

Pollutant	Averaging period	Criterion
Total suspended particulate (TSP) matter	Annual	90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	30 µg/m ³

Table 3: Long Term Impact Assessment Criteria for Particulate Matter

Pollutant	Averaging period	Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	50 µg/m ³

Table 4: Short Term Impact Assessment Criteria for Particulate Matter

Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level
Deposited dust	Annual	2 g/m ² /month	4 g/m ² /month

Table 5: Long Term Impact Assessment Criteria for Deposited Dust

Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS 3580.10.11991: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.

Operating Conditions

11. The Proponent shall ensure any visible air pollution generated by the project is assessed regularly, and that quarrying operations are relocated, modified, and/or stopped as required to minimise air quality impacts on privately owned land.

Air Quality Monitoring

12. The Proponent shall prepare and implement an Air Quality Monitoring Program for the project to the satisfaction of the Director-General. This program shall:
- (a) be submitted to the Director-General for approval within 3 months of the date of this approval; (b) be prepared in consultation with DECC;
 - (c) include details of how the air quality performance of the project would be monitored, providing for additional dust deposition monitoring in the vicinity of clusters of residences to the north and west of the site; and
 - (d) include a protocol for evaluating compliance with the relevant air quality criteria in this approval.

METEOROLOGICAL MONITORING

13. The Proponent shall ensure the project has a suitable meteorological station on the site or in the immediate vicinity that complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* publication.

WATER

Water Supply

14. The Proponent shall ensure that it has sufficient water for all stages of the project, and if necessary, adjust the scale of operations to match its water supply.

Note: The Proponent is required to obtain necessary water licences for the project under the Water Act 1912 and/or Water Management Act 2000.

Discharges

15. The Proponent shall not discharge any water from the quarry or its associated operations except in accordance with an EPL.

Water Management and Monitoring

16. The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan shall:
- (a) be submitted to the Director-General within 3 months of the date of this approval;
 - (b) be prepared in consultation with DWE and DECC; and (c) include a:
 - Site Water Balance;
 - Erosion and Sediment Control Plan;
 - Surface Water Monitoring Program; and
 - Groundwater Monitoring Program.
17. The Site Water Balance shall:
- (a) include details of:
 - sources and security of water supply;
 - water use on site;
 - water management on site, including the location and capacity of water storages on site and the means of access;
 - off-site water transfers; and
 - reporting procedures; and
 - (b) investigate and describe measures to minimise water use by the project.
18. The Erosion and Sediment Control Plan shall:
- (a) be consistent with the requirements of *Managing Urban Stormwater: Soils and Construction, Volume 1, 4th Edition, 2004* (Landcom);
 - (b) identify activities that could cause soil erosion and generate sediment;
 - (c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;
 - (d) describe the location, function, and capacity of erosion and sediment control structures;
 - (e) demonstrate that the design capacity of basins intended to collect storm runoff will not be compromised by storage of operational water; and
 - (f) describe what measures would be implemented to maintain (and if necessary decommission) the structures over time.
19. The Surface Water Monitoring Program shall include:
- (a) detailed baseline data on surface water flows and quality in downstream watercourses that could be affected by the project;
 - (b) surface water quality and stream health assessment criteria, including trigger levels for investigating any potentially adverse surface water impacts; and (c) a program to monitor:

- surface water flows, quality, and impacts on water users; • stream health; and
 - channel stability.
20. The Groundwater Monitoring Program shall include:
- (a) provision of additional monitoring bores around the periphery of the site;
 - (b) detailed baseline data on groundwater levels, flows and quality in the region, and particularly any groundwater bores, springs and seeps (including spring and seep fed dams) that may be affected by operations on site;
 - (c) groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts; (d) a program to monitor:
 - groundwater levels and quality in new and existing monitoring bores;
 - the impacts of the project on:
 - any groundwater bores, springs and seeps (including spring and seep fed farm dams) on privately-owned land; and
 - any groundwater dependent ecosystems; and
 - (e) a protocol for further groundwater modelling to confirm the limits to excavation depth across the site permitted in accordance with condition 9 of Schedule 2.

LANDSCAPE MANAGEMENT

Rehabilitation

21. The Proponent shall progressively rehabilitate the site to the satisfaction of the Director-General, in a manner that is generally consistent with the concept final landform (Strategy A or Strategy B) in the preferred project report (as reproduced in Appendix 7).

Offset Strategy

22. The Proponent shall implement the Offset Strategy described in the preferred project report, and summarised in Table 6 (shown conceptually on the plan in Appendix 5), to the satisfaction of the Director-General.

Area	Minimum Size (hectares)
On-Site Revegetation Area (SHTW)	7.9
On-Site Revegetation Area (Other Woodland)	4.1
Total	12

Table 6: Offset Strategy

23. Within 3 years of the date of this approval, the Proponent shall make suitable arrangements to provide appropriate long term security for the offset areas to the satisfaction of the Director-General.

Note: The Department acknowledges that the arrangements may provide for staged or delayed implementation, in accordance with the extraction in these areas.

Landscape Management Plan

24. The Proponent shall prepare and implement a Landscape Management Plan for the project to the satisfaction of the Director-General. This plan must:

- (a) be prepared in consultation with DECC by suitably qualified expert/s whose appointment/s have been approved by the Director-General;
- (b) be submitted to the Director-General for approval within 6 months of the date of this approval; and
- (c) include a:
 - Rehabilitation and Offset Management Plan; and
 - Quarry Closure Plan.

Rehabilitation and Offset Management Plan

25. The Rehabilitation and Offset Management Plan must include:

- (a) the rehabilitation objectives for the site, vegetation offsets and landscaping;
- (b) a description of the short, medium, and long term measures that would be implemented to:
 - rehabilitate the site;
 - implement the Offset Strategy; and
 - maintain and enhance existing site vegetation outside the disturbance area;
- (c) detailed performance and completion criteria for the site rehabilitation and implementation of the Offset Strategy;
- (d) a detailed description of the measures that would be implemented over the next 3 years, including the procedures to be implemented for:
 - progressively rehabilitating disturbed areas;
 - implementing vegetation offsets;
 - protecting vegetation and soil outside the disturbance areas;
 - rehabilitating creeks and drainage lines on the site to ensure no net loss of stream length and aquatic habitat;
 - undertaking pre-clearance surveys;
 - managing impacts on fauna;
 - landscaping the site to minimise visual impacts;
 - conserving and reusing topsoil;
 - collecting and propagating seed for rehabilitation works;
 - salvaging and reusing material from the site for habitat enhancement;
 - controlling weeds and feral pests;
 - controlling access; and
 - bushfire management;
- (e) a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria;
- (f) a description of the potential risks to successful rehabilitation and/or revegetation, and a description of the contingency measures that would be implemented to mitigate these risks; and (g) details of who would be responsible for monitoring, reviewing, and implementing the plan.

Quarry Closure Plan

26. The Quarry Closure Plan must:

- (a) include provision for certification from a qualified geotechnical engineer that the final proposed landform is stable;
- (b) define the objectives and criteria for closure of the quarry;
- (c) investigate options for the future use of the site, including any final void;

- (d) describe the measures that would be implemented to minimise or manage the ongoing (post closure) environmental effects of the project; and
- (e) describe how the performance of these measures would be monitored over time.

Rehabilitation and Offset Bond

27. Within 3 months of the approval of the Landscape Management Plan, the Proponent shall lodge a rehabilitation and offset bond for the project with the Director-General. The sum of the bond shall be calculated at:

- (a) \$2.50/m² for the area of disturbance in each 3 year review period, including the offset areas; and
- (b) \$1.00/m² for the total area of land previously disturbed by the quarry, or as otherwise directed by the Director-General.

Notes:

- *If the rehabilitation and offsets are completed to the satisfaction of the Director-General, the DirectorGeneral will release the bond.*
- *If the rehabilitation and/or offsets are not completed to the satisfaction of the Director-General, the DirectorGeneral will call in all or part of the bond, and arrange for the satisfactory completion of the relevant works.*

ABORIGINAL HERITAGE

28. Should the Proponent discover material suspected of being Aboriginal relics or skeletal remains, work in that area shall cease and the Proponent shall advise DECC and proceed in accordance with DECC instructions.

TRAFFIC AND TRANSPORT

Materials Transport

29. The Proponent shall transport all excavated material between the extraction site and processing plant site, including processing residues, via slurry pipelines.

Note: When the slurry system is unusable by reason of breakdown or essential maintenance, extractive material may be transported by truck during the period of such breakdown or maintenance. The Proponent shall ensure that such periods are as brief as possible and shall advise the Council each day that truck transport is to be used.

Haulage Records

30. The Proponent shall record and maintain a log of the extraction quantities and traffic movement in and out of the site, available for inspection at the request of the Director-General or the Council.

Road Haulage

31. The Proponent shall ensure that:

- (a) all loaded vehicles entering or leaving the site are covered; and
- (b) all loaded vehicles leaving the site are cleaned of materials that may fall on the road, before they leave the site.

VISUAL

Visual Amenity

32. The Proponent shall minimise the visual impacts of the project to the satisfaction of the DirectorGeneral.

Lighting Emissions

33. The Proponent shall:

- (a) take all practicable measures to mitigate off-site lighting impacts from the project; and
- (b) ensure that all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting*, to the satisfaction of the Director-General.

Advertising

34. The Proponent shall not erect or display any advertising structure(s) or signs on the site without the written approval of the Director-General.

Note: This does not include traffic management and safety or environmental signs.

WASTE MANAGEMENT

Waste Minimisation

35. The Proponent shall:

- (a) only import VENM to the site; and
- (b) minimise the amount of waste generated by the project to the satisfaction of the DirectorGeneral.

EMERGENCY AND HAZARDS MANAGEMENT

Dangerous Goods

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

Safety

37. The Proponent shall secure the project to ensure public safety to the satisfaction of the DirectorGeneral.

Bushfire Management

38. The Proponent shall:

- (a) ensure that the project is suitably equipped to respond to any fires on-site; and
- (b) assist the Rural Fire Service and emergency services as much as possible if there is a fire on site.

PRODUCTION DATA

39. The Proponent shall:

- (a) provide annual production data to the DPI using the standard form for that purpose; and (b) include a copy of this data in the AEMR.

SCHEDULE 4 ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. If the results of monitoring required in Schedule 3 identify that impacts generated by the project are greater than the relevant impact assessment criteria, then the Proponent shall notify the Director-General and the affected landowners and/or existing or future tenants accordingly, and provide quarterly monitoring results to each of these parties until the results show that the project is complying with the relevant criteria.

INDEPENDENT REVIEW

2. If a landowner of privately owned land considers that the operations of the quarry are exceeding the impact assessment criteria in Schedule 3, then he/she may ask the Proponent in writing for an independent review of the impacts of the project on his/her land.

If the Director-General is satisfied that an independent review is warranted, the Proponent shall within 3 months of the Director-General advising that an independent review is warranted:

- (a) consult with the landowner to determine his/her concerns;
 - (b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to conduct monitoring on the land, to determine whether the project is complying with the relevant criteria in Schedule 3, and identify the source(s) and scale of any impact on the land, and the project's contribution to this impact; and (c) give the Director-General and landowner a copy of the independent review.
3. If the independent review determines that the quarrying operations are complying with the relevant criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.
 4. If the independent review determines that the quarrying operations are not complying with the relevant criteria in Schedule 3, and that the quarry is primarily responsible for this non-compliance, then the Proponent shall:
 - (a) implement all reasonable and feasible measures, in consultation with the landowner, to ensure that the project complies with the relevant criteria; and

- (b) conduct further monitoring to determine whether these measures ensure compliance;
or
- (c) secure a written agreement with the landowner to allow exceedances of the relevant criteria in
Schedule 3, to the satisfaction
of the Director-General.

If the additional monitoring referred to above subsequently determines that the quarrying operations are complying with the relevant criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.

If the Proponent is unable to finalise an agreement with the landowner, then the Proponent or landowner may refer the matter to the Director-General for resolution.

If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (see Appendix 8).

5. If the landowner disputes the results of the independent review, either the Proponent or the landowner may refer the matter to the Director-General for resolution.

If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (see Appendix 8).

SCHEDULE 5 ENVIRONMENTAL MANAGEMENT, MONITORING, REPORTING & AUDITING

ENVIRONMENTAL MANAGEMENT STRATEGY

1. The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy shall be submitted to the Director-General within 3 months of the date of this approval, and;
 - (a) provide the strategic context for environmental management of the project;
 - (b) identify the statutory requirements that apply to the project;
 - (c) describe in general how the environmental performance of the project would be monitored and managed;
 - (d) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the construction, operation and environmental performance of the project;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the life of the project;
 - respond to any non-compliance;
 - manage cumulative impacts; and
 - respond to emergencies; and
 - (e) describe the role, responsibility, authority, and accountability of the key personnel involved in the environmental management of the project.

ENVIRONMENTAL MONITORING PROGRAM

2. The Proponent shall prepare an Environmental Monitoring Program for the project to the satisfaction of the Director-General. This program shall be submitted to the Director-General concurrently with the submission of the various monitoring programs and consolidate the various monitoring requirements in Schedule 3 of this approval into a single document.

REPORTING

Incident Reporting

3. Within 24 hours of detecting an exceedance of the limits/performance criteria in this approval or the occurrence of an incident that causes (or may cause) harm to the environment, the Proponent shall notify the Department and other relevant agencies of the exceedance/incident.
4. Within 6 days of notifying the Department and other relevant agencies of an exceedance/incident, the Proponent shall provide the Department and these agencies with a written report that:
 - (a) describes the date, time, and nature of the exceedance/incident;
 - (b) identifies the cause (or likely cause) of the exceedance/incident;
 - (c) describes what action has been taken to date; and
 - (d) describes the proposed measures to address the exceedance/incident.

Annual Reporting

5. Within 12 months of the date of this approval, and annually thereafter, the Proponent shall submit an AEMR to the Director-General, relevant agencies and CCC. This report shall:
 - (a) identify the standards and performance measures that apply to the project;
 - (b) describe the works that will be carried out in the next 12 months;
 - (c) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years;
 - (d) include a summary of the monitoring results for the project during the past year; (e) include an analysis of these monitoring results against the relevant:
 - impact assessment criteria/limits;
 - monitoring results from previous years; and
 - predictions in the EA;
 - (f) identify any trends in the monitoring results over the life of the project;
 - (g) identify any non-compliance during the previous year; and
 - (h) describe what actions were, or are being, taken to ensure compliance.

INDEPENDENT ENVIRONMENTAL AUDIT

6. Within 12 months of the date of this approval, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit shall:
 - (a) be conducted by a suitably qualified, experienced, and independent person(s) whose appointment has been approved by the Director-General;
 - (b) include consultation with the relevant agencies;

- (c) assess the environmental performance of the project, and its effects on the surrounding environment;
- (d) assess whether the project is complying with the relevant standards, performance measures and statutory requirements; and
- (e) review the adequacy of any strategy/plan/program required under this approval, and, if necessary, recommend measures or actions to improve the environmental performance of the project, and/or any strategy/plan/program required under this approval.

Note: The person(s) conducting the audit should have expertise in flora and fauna assessment, hydrogeology and quarry rehabilitation.

7. Within 6 weeks of completion of each Independent Environmental Audit, the Proponent shall submit a copy of the audit report to the Director-General, with a response to any of the recommendations in the audit report.
8. Within 3 months of submitting a copy of the audit report to the Director-General, the Proponent shall review and if necessary revise:
 - (a) each of the environmental management and monitoring strategies/plans/programs in Schedules 3 and 5; and
 - (b) the sum of the Vegetation Offset Bond (see Schedule 3). This review shall consider:
 - the effects of inflation;
 - any changes to the total area of disturbance; and
 - the performance of the vegetation offsets against the completion criteria of the Rehabilitation and Vegetation Offset Management Plan,

to the satisfaction of the Director-General

COMMUNITY CONSULTATIVE COMMITTEE

9. The Proponent shall establish a Community Consultative Committee (CCC) for the project to the satisfaction of the Director-General, in general accordance with the Department's *Guideline for Establishing and Operating Community Consultative Committees for Mining Projects*.

Note: The Proponent may continue the operation of the Liaison and Review Committee established under condition 6.7 of the development consent issued by the Land and Environment Court on 14 July 1998 to fulfil this condition.

ACCESS TO INFORMATION

10. Within 1 month of the approval of any plan/strategy/program required under this approval (or any subsequent revision of these plans/strategies/programs), or the completion of the audits or AEMR required under this approval, the Proponent shall:
 - (a) provide a copy of the relevant document/s to the relevant agencies and to members of the general public upon request; and
 - (b) ensure that a copy of the relevant document/s is made publicly available on its website and at the Proponent's office.
11. During the project, the Proponent shall:
 - (a) make a summary of monitoring results required under this approval publicly available on its website and at the site office; and

(b) update these results on a regular basis.

APPENDIX 1 SCHEDULE OF LAND

Extraction Area	<ul style="list-style-type: none">• Lots 1 & 2 DP 570966• Lots 1 & 2 DP 1063296• Lot 1 DP 1013943• Lot 2 DP 233818• Lot 1 DP 1091018• Lot 1 DP 223323• Lots 167 & 214 DP 752039
Processing Plant	<ul style="list-style-type: none">• Lot 198 DP 752025

APPENDIX 2 GENERAL LAYOUT OF PROJECT





Figure 1
 SITE PLAN FOR COORDINATED DEVELOPMENT STAGE 1

APPENDIX 3 STATEMENT OF COMMITMENTS

Noise and Vibration

- Site activities will be managed so that any necessary high noise and vibration levels occur at times of least impact.
- All site activities will be undertaken incorporating noise attenuation measures such as restricting working hours for certain works required in the proximity of sensitive receptors.
- All equipment used on site will be certified in relation to noise performance.
- Panels and covers of silenced plant will be kept shut and plant and equipment switched off when not in use.
- All mechanical equipment will be silenced by the best practical means using current technology, prior to use. Noise suppression devices will be fitted according to manufacturer's instructions. Noise control kits will be fitted to noisy mobile equipment and shrouds provided around stationary equipment where necessary.
- All plant and equipment will be inspected regularly to ensure that it is well maintained to minimise noise emissions.
- The L_{10} noise level at the boundary of adjacent receivers where baseline data has been obtained will not normally exceed the background level by more than 5 dB(A).
- Compliance monitoring of noise levels will be undertaken and appropriate records of measurements kept.
- The local community will be informed of the level and duration of noise to be expected during specific activities and phases of development when necessary. Communication of concerns to the Environmental Manager will be invited.

Air Quality and Greenhouse Gas Emissions

- Ambient air quality monitoring will be conducted at identified sites.
- Dust suppression equipment will be fitted to all processing plant on the site. This will be regularly inspected and maintained in good working order at all times.
- Trafficable areas will be defined to prevent unnecessary vehicle movement into other parts of the site.
- All unsealed trafficable areas and working areas will be kept damp by spraying regularly with a water cart, water sprays or sprinklers to minimise dust emissions. Frequency of spraying to be determined based on weather conditions, soil erodibility and the observation of any visible dust.
- Speed controls will be applied to all unsealed areas (maximum speed of 20 km/h) and signposted accordingly.
- All semi-permanent stockpiles will be vegetated with suitable groundcover and regularly watered until the vegetation is well established.

- Work on any extraction activity producing dust will cease due to high winds if control cannot be achieved by watering or other means. Work will not resume until the wind velocity decreases and any dust generation can be controlled by normal means.
- All loaded trucks leaving the central processing plant on Lot 198 DP 752025 will have their payloads fully covered by a suitable material to prevent spillage.
- No fires will be permitted on-site without a permit.
- A mechanical road sweeping unit and water cart will be maintained for use as required to keep all roads including the intersection of the haul road and Wisemans Ferry Road free from deposited material.
- Exhausts from all vehicles and plant/equipment will be inspected to ensure that they are maintained at an acceptable level.
- All vehicles will be regularly serviced to ensure that exhaust emissions comply with the regulations. Appropriate service records will be maintained.
- Any opportunities to minimise machinery use and ensure that all equipment used on the site is energy efficient will be identified.

Access and Traffic

- If the sand slurry plant and transport system is unusable due to breakdown or during maintenance periods, trucks will be used for the transport of extractive material on a temporary basis. This will cease once the system is operating satisfactorily.
- The number of laden vehicle movements will not exceed a combined total of two hundred per day via the intersection of the haulage road and Wisemans Ferry Road. This is the total of laden vehicle movements allowed for PF Formation's combined extractive industry operations in Baulkham Hills Shire.
- Operations involving the transportation of material on the site will only be undertaken between 07.00 and 18.00 hours, Monday to Saturday, except a maximum of 10 laden vehicles will be allowed to enter and leave the site between 06.00 and 07.00 hours, Monday to Saturday only. Vehicles will not be allowed to arrive at the site prior to 05.45 hours on any day.

Erosion and Sediment Control

- Soil and Water Management Plan will be reviewed and revised, if required.
- Temporary erosion and sedimentation control structures such as detention basins and catch drains will be constructed as appropriate to collect runoff from cleared land including extraction areas and access roads.
- Silt traps and erosion control fencing will be erected as appropriate along extraction area boundaries and drainage lines.
- Sediment basins with a minimum storage capacity of 400 m³ per hectare of catchment will be constructed. Spillway capacity and stability will be designed as follows: – life of less than 5

years, adopt the 20 year tc event; – life between 5 and 10 years, adopt the 50 year tc event; and – life greater than 10 years, adopt the 100 year tc event.

- Stormwater control measures will be assessed and routine inspections conducted to ensure that compliance with best practice guidelines and relevant legislation is achieved.
- Locations for topsoil and material stockpiles will be selected on level ground and away from drainage lines. Diversion drains and sediment filter fences will be installed up slope as appropriate.
- Training will be provided to operational personnel on the importance of erosion control measures and drivers informed of the damage that can be caused to the environment by heavy vehicles.
- Areas of exposed land will be kept to a minimum compatible with operational requirements.
- Exposed areas not in use will be stabilized with an appropriate cover crop and watered until well established.
- Erosion and sediment controls will be monitored regularly and immediately following a rainfall event. Monitoring will take place initially on a weekly basis, then monthly once operating correctly. Sediment will be cleared when the traps have collected 60% of the capacity of the basin or where sediment build-up is less than 300 mm below the spillway crest. Sediment will be removed to a location where further pollution to downslope lands and waterways will not occur.
- Maintenance of erosion and sediment controls will be undertaken when any deterioration is identified or when replacement is necessary.
- Stored stormwater will be reused for dust control and the watering of site vegetation.
- Soil stockpiles will be seeded where these are to remain unused for a period in excess of four weeks. The area will be watered until the vegetation is well established.

Water Management

- Maximum depth of extraction will be restricted to not less than two metres above the wet weather high groundwater level. (nominally 181 m AHD).
- The groundwater will not be breached or contaminated. In the event that either should occur, operations will cease in the affected area and the Department of Environment and Climate Change consulted to determine the basis on which extraction may recommence.
- Retention basins will be designed to accommodate the 100-year tc event. The minimum basin capacities are:
 - Northern catchment 10,000 m³
 - Southern catchment 38,000 m³

The volume of these basins can be varied depending on the extent of the area exposed for extraction within each catchment.

- All retention basins will be regularly inspected and an annual report prepared on their effectiveness.
- A minimum of two groundwater monitoring bores will be installed. One will be located within or near the extraction area and another at some location within the site beyond the area of any direct extraction influence. The location of these bores will meet the requirements of the Department of Environment and Conservation and Baulkham Hills Shire Council.

Flora and Fauna

- All areas which are not to be disturbed will be clearly marked.
- Topsoil will be separated and stored or use in rehabilitation works.
- An area of not less than 12 hectares will be identified, and indicated on the site survey. This will be identified as a revegetation area and access controlled.
- Seed will be collected from the existing woodland communities (Sydney Hinterland Transition Woodland), stored under controlled conditions, made available for future broadcasting and a suitable proportion propagated to provide tubestock for revegetation.
- Stored topsoil and that derived from suitable areas adjacent to the woodland communities will be spread over the defined revegetation area and seed broadcast over the site to augment the soil-borne native seed bank. Tube stock suitably protected against animal predation will also be used in appropriate locations.
- Access to bushland will be restricted to minimise the potential for damage. These areas will be marked and signs erected to ensure that this prohibition is made clear. The boundary of the site will be fenced to prevent external access.

Rehabilitation

- The Rehabilitation Plan will be reviewed and amended as necessary to reflect changing operational conditions. This will include a revised phasing plan and implementation programme.
- Setbacks to all roads and adjacent properties will be defined taking account of existing trees and other features. Programmes of mound construction and screen planting will be undertaken as required in the Rehabilitation Plan. All plant material used will reflect the species mix existing in the area.
- A staged seeding and planting programme will be undertaken as areas become available following completion of extraction and capping of sediment basins. This will be aimed at producing a dense plantation on the steeper slopes derived from the flora resources already established. The aim is to replicate as far as possible the mix and density of planting which is currently present.
- All suitable plant material will be used on the site as a seed and planting medium. Topsoil will be stored in appropriately marked low stockpiles for reuse in locations as close as possible to their source. Care will be taken to ensure that this does not become contaminated with the seeds of exotic species and weeds.

- The site will be rehabilitated in stages leaving areas exposed for as short a time as possible. This will be undertaken in conformity with the approved Rehabilitation Plan with maximum final batter grades of 4(H):1(V) on north and west facing slopes and 3(H):1(V) on those facing south and east. Final slopes will be as gentle as possible depending on the availability of fill material.
- All soil stockpiles and exposed areas will be seeded with an appropriate vegetation cover where no activity is to take place for more than four weeks.
- Revegetation of the site will be undertaken on the following basis:
 - as far as possible re-establish the Sydney Hinterland Transitional Woodland using seed and mulch collected from the area ;
 - rehabilitate other areas to native species with a light sowing of cereal and allowing natural regeneration;
 - rehabilitate the soil to achieve a full profile;
 - lime, fertilise and sow areas where improved grass cover is required; and
 - suitably turf surfaces expected to experience high surface flows leaving the site.
- A maintenance programme aimed at promoting and protecting the growth of the rehabilitated areas will be established.

Social Impact Management

- Material concerning activities at the site will be prepared and published on the company's website which will allow the community and others to be informed about current news on the site.
- Regular bi-annual meetings of community representatives will be established to discuss issues in relation to sand extraction on the site.
- A Complaints Register will be established incorporating date and time, type of communication, contact details of the complainant, nature of the complaint and response taken.

Heritage

- All work will cease in the area if an archaeological or heritage item is identified during extraction operations and the National Parks and Wildlife Service, the Deerubbin Aboriginal Land Council or the Heritage Office consulted to determine any appropriate course of action prior to recommencement of the work.
- Any additional survey work required for submittal of application to destroy artefact scatters located in the later stages of the development will be undertaken. Reasonable requirements of the National Parks and Wildlife Service (DECC), the Deerubbin Aboriginal Land Council and the Heritage Office arising out of any additional studies will be implemented.

Visual Amenity

- Peripheral bunds will be constructed within the established setbacks where necessary to screen extraction activities. These will be a minimum of three metres high with slopes ranging from 3(H):1(V) to 6(H):1(V) depending on the location using overburden stripped from the site.
- Screen planting works will be undertaken in the peripheral areas to an agreed specification using mulch to allow for native plant regeneration. This species mix will be reinforced using appropriate plantings at specified intervals.
- A tree planting programme will be undertaken within the ten metre buffer zones and in other defined parts of the site to establish a dense plantation using an appropriate mix of species reflecting that of the existing community.
- The final rehabilitated landform will be established in conformity with the Rehabilitation Plan.
- All temporary fencing will be removed when no longer required.
- Vegetation in areas suitable for agricultural/horticultural uses will be re-established.
- All site infrastructure including the slurry plant and its associated pipelines will be removed. Those areas affected by the plant will be restored and rehabilitated.
- All waste materials will be removed and disposed of in an appropriate manner.
- The final Rehabilitation Plan will be reviewed and proposals for future use of the site prepared.

Waste Management

- Waste handling areas will be clearly delineated.
- Specific areas for the collection of materials for reuse and recycling will be defined and clearly labelled.
- Cleared vegetation will be used within the landscape programme.
- All topsoil will be stored in stockpiles for later use in site rehabilitation.
- Bins or skips will be provided for the collection and storage of recyclable material and waste. General construction waste will be stored in a skip located at the workshop on Lot 198 DP752025. Waste food will be removed and stored in a vermin proof bin for collection by a waste contractor. Paper waste generated from site offices, plastics and glass will be collected separately for recycling.
- Hazardous wastes (including empty drums, rags, soil contaminated with oil) will be separated from nonhazardous wastes and managed in accordance with the relevant legislation.
- Liquid wastes (chemicals, oils and greases) will be temporarily stored in an appropriately bunded area and disposed of via a licensed contractor. Wash down water will be directed to an appropriate settlement basin if quality is acceptable.
- Copies of current licences of all waste removal contractors on site will be retained.
- All documentation relating to waste removal and disposal will be retained on file at the site. This documentation will include docketts for the removal and disposal of waste at a licensed facility.

- Waste material will be progressively separated and stockpiled in designated areas for collection. Adequately secure waste disposal areas to prevent access by wildlife.
- All waste licences will be reviewed and terms and conditions for compliance monitored.
- Any materials and waste remaining on the site following completion of extraction operations will be recycled or sent of disposal. This will be either recycled or disposed of in an appropriate manner.

Emergency Response

- All personnel on site during operations will be trained in appropriate procedures including site induction, materials handling and response procedures.
- Emergency response procedures will be developed and put in place. Appropriate individuals will be appointed as emergency services liaison officers.
- An emergency response table listing contact details of all relevant parties required in an environmental emergency will be prepared.
- A Register of Environmentally Hazardous Materials to be stored and used on site will be established.
- Appropriate safety and spill response equipment will be made available on site.
- All materials to be used and stored on site will be clearly labelled.
- Emergency response procedures will be reviewed and updated bi-annually.
- Appropriate safety and response equipment will be available at all times.

Hazard, Risk and Safety

- A licence to keep dangerous goods will be obtained from WorkCover NSW for all materials stored on site which require licensing.
- A Register of Hazardous Materials setting out details of quantities, storage and specific handling requirements for all relevant materials stored on site will be established.
- Material Safety Data Sheets for all hazardous materials stored on site will be obtained.
- Appropriate storage and secondary containment facilities for all hazardous materials stored on site will be provided. All bunded areas will be designed to contain at least 110% of the volume of materials stored within the area.
- A Safety Officer will be appointed for the development.
- All flammable material storage areas will be located at least ten metres from possible ignition sources.

- Contents of all above ground storage areas will be clearly labelled.
- All hazardous and dangerous goods storage areas will be secured and appropriate signage displayed. All incompatible material will be segregated.
- All personnel will be trained in the handling and safety procedures required for the hazardous materials stored and used on site.
- An Emergency Response Plan will be developed and put in place.
- A mobile spill control kit containing appropriate absorbent materials, neutralising chemicals and other spill containment equipment will be provided.
- Personal protective equipment will be provided and personnel instructed in its use.
- Any spills beyond the bunded area will be cleaned up immediately and the contaminated material disposed of in an appropriate manner.
- The relevant authorities will be contacted in the event of a leak or spill and any instructions followed. Any contamination will be remediated to the satisfaction of the regulatory authorities.
- Any spills or hazardous wastes that cannot be recycled will be collected and disposal by a licensed waste contractor arranged. All records of waste removal on site will be retained.



Figure 4.7
NOISE MONITORING AND ASSESSMENT LOCATIONS



APPENDIX 4 NOISE ASSESSMENT LOCATIONS

APPENDIX 5 VEGETATION OFFSET PLAN

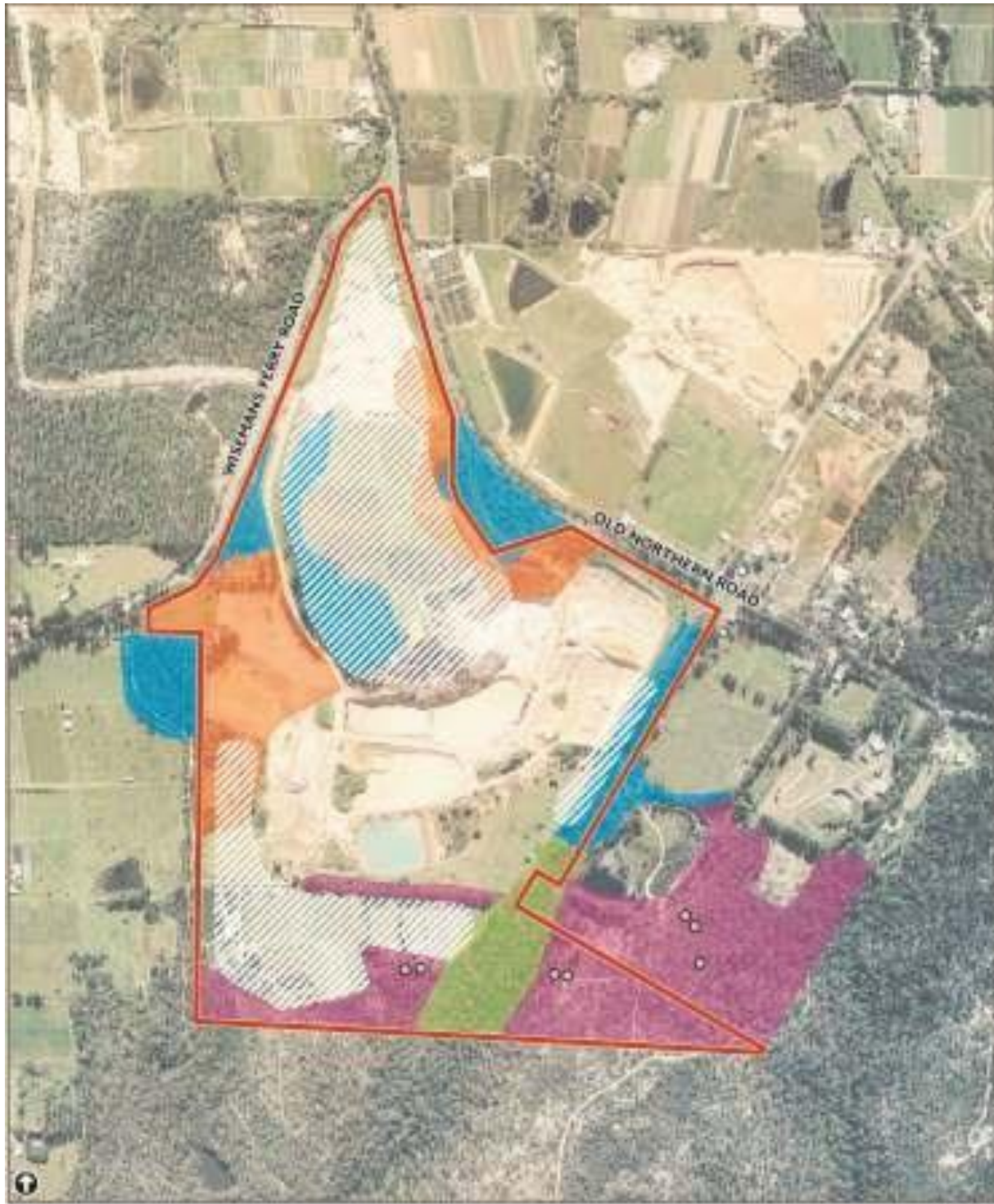


Figure 8

AREAS TO BE CLEARED AND NEW PLANTINGS (STRATEGY A)

- Hitchcock Road site
- Areas for new plantings
- *Tetradlea glandulosa*
- Sydney Sandstone Gully Forest
- Sydney Sandstone Ridgetop Woodland
- Sydney Hinterland Transition Woodland
- ▨ Areas to be cleared

Note: Sydney Hinterland Transition Woodland shown at time of photograph (2006)
Parts of this area can be cleared under the current consent

APPENDIX 6 CRITERIA TO MONITOR SUCCESS OF REVEGETATION



Natural Gas Pipeline Construction
Environmental Report

Table 3-1 Criteria to monitor success of revegetation

Category	Criteria	Target			Final condition of vegetation to be achieved
		1 year	10 years	15 years	
Native species	Native species diversity	20	25	30	40
	Average number of native species per 400m ² quadrat	15	20	25	34.9 ± 1.5 ^a
	Average number of native species per 400m ² quadrat	15	20	25	34.9 ± 1.5 ^a
Weeds	Native species cover	100	100	100	100
	% of vegetation cover in 400m ² quadrat	100	100	100	100
Weeds	Final abundance	Controlled	Controlled	Controlled	Restricted
	% of vegetation cover in 400m ² quadrat	Controlled	Controlled	Controlled	Restricted
Vegetation structure	Vegetation structure	Canopy, shrub layer and groundcover well established. However, shrubs are sparse, generally consisting of low canopy and ground cover.	Canopy, shrub layer and groundcover well established. Structure beginning to develop.	Well established and includes herbaceous, shrub and ground cover.	Well established and includes canopy, shrub layer and ground cover.
Canopy	Average canopy height (m)	4	8	12	12-10
	Native canopy cover (minimum % cover)	5	5	5	5
Shrub layer	Imported species (per quadrat scale)	1	1	1	1
	Native shrub cover (minimum % cover)	10	10	10	29.5 ± 1.5 ^a
	Imported species (per quadrat scale)	1	1	1	1
Ground cover	Average shrub layer height (m)	0.5	1	1	1.25
	Native ground cover (minimum % cover)	5	10	10	15 ± 0.5 ^a
Ground cover	Imported species (per quadrat scale) ^b	1	1	1	1
	Native ground cover (minimum % cover)	5	10	10	15 ± 0.5 ^a

Category	Criteria	Target			Long-term vision of vegetation to be restored
		3 years	10 years	15 years	
Ecosystem function	Forest structure beginning to develop	Woodland structure beginning to develop	Woodland structure mature	Woodland structure mature	Provides minimal habitat for fauna however many woodland birds are present
	Native vegetation indicating dispersal of seed into soil and/or presence of native seed bank	Yes	Yes	Yes	Yes
Notes: A score of 0 means vegetation is not present or is barely present. A score of 1 means vegetation is present but does not meet the target. A score of 2 means vegetation is present and meets the target. A score of 3 means vegetation is present and meets the target. A score of 4 means vegetation is present and meets the target. A score of 5 means vegetation is present and meets the target.					
2. Multi-criteria assessment table					
1. 0 - 100% (no vegetation)					
2. 1 - 20% (barely present)					
3. 21 - 40%					
4. 41 - 60%					
5. 61 - 80%					
6. 81 - 100%					

APPENDIX 7 FINAL LANDFORM PLANS



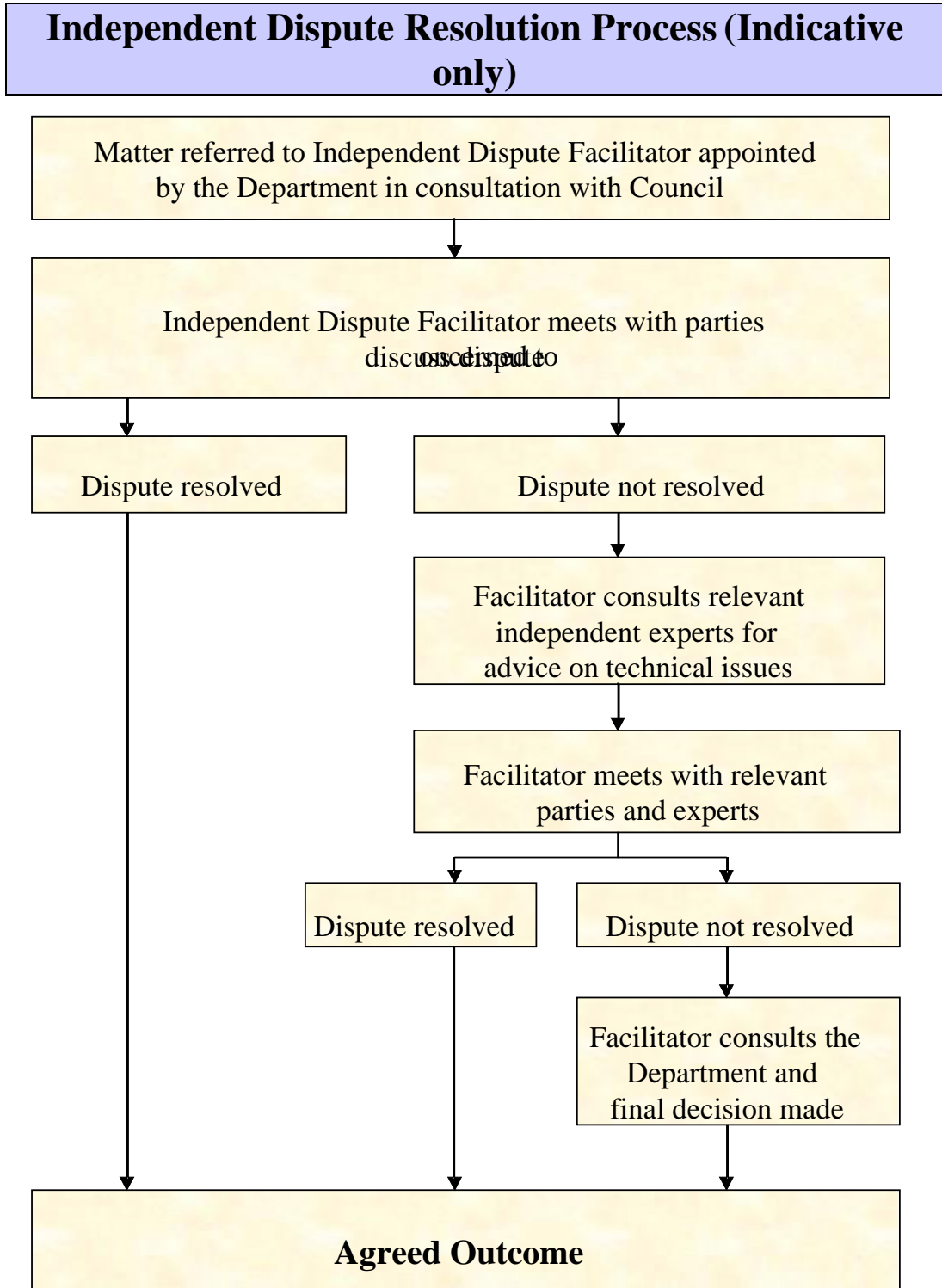


Scale
 0 200 Feet

Map Symbols & Feature Details
 Green Shaded Area: Contour Lines
 Blue Shaded Area: Contour Area
 Brown Outline: Site Boundary

Figure 18
 FINAL LANDFORM STRATEGY

APPENDIX 8 INDEPENDENT DISPUTE RESOLUTION PROCESS



ATTACHMENT 2

NOTICE OF MODIFICATION

Notice of Modification

Section 4.55(2) of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning, I modify the development consent referred to in Schedule 1, as set out in Schedule 2.



Jessie Evans
Director Resource Assessments

Sydney

3 December 2021

SCHEDULE 1

The development consent (06_0104) for the Hitchcock Road Sand Project granted by the Minister for Planning on 14 February 2009

SCHEDULE 2

1. In Schedule 1 in the term "Approval Authority" delete the word "Approval" and replace with "Consent".
2. Update the page numbers in the Table of Contents, as required.
3. In the list of definitions, delete the terms AEMR, DECC, Department, Director-General, DPI, DWE, Minister, Project, RTA and VENM and insert the following in alphabetical order:

Applicant PF Formation, or any person carrying out any development under this consent

Annual Review Required by condition 5 of Schedule 5 that is prepared with regard for the *Annual Review Guideline (2015)* or its latest version

BCD Biodiversity and Conservation Sciences Directorate

DAWE Commonwealth Department of Agriculture, Water and the Environment

Department NSW Department of Planning, Industry and Environment

Development	The development as described in the documents listed in condition 2 of Schedule 2
DPI Agriculture	Department of Primary Industries - Agriculture
DPIE Water	Water Group within the Department
DPIE Crown Lands	Crown Lands Group within the Department
ENM	Excavated Natural Material, as defined in the Resource Recovery Order and Exemption, issued in accordance with Clauses 91 and 92 of the <i>Protection of the Environment Operations (Waste) Regulation 2014</i>
EPA	NSW Environment Protection Authority
Heritage NSW	Heritage NSW within the Department of Premier and Cabinet
Incident	An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance
Material harm	Is harm to the environment that: <ul style="list-style-type: none"> • involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial; or • results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment) <p>This definition excludes “harm” that is authorised under either this consent or any other statutory approval</p>
MEG	Regional NSW - Mining, Exploration and Geoscience
Minister	NSW Minister for Planning and Public Spaces, or delegate
Modification Report	Modification Report for the development titled <i>Statement of Environmental</i>
MOD 1	<i>Effects for the modification of Hitchcock Road Sand Extraction and Rehabilitation Project Environmental Assessment and, Appendices</i> , dated June 2020, prepared by R.W. Corkery & Co. Pty. Limited, including the Submissions Report dated September 2020, and letters dated 3 and 22 November 2021
Non-compliance	An occurrence, set of circumstances or development that is a breach of this consent

NRAR	Natural Resources Access Regulator
Planning Secretary	Planning Secretary under the EP&A Act, or nominee
Resources Regulator	NSW Resources Regulator
TfNSW	Transport for NSW
VENM	Virgin Excavated Natural Material, as defined in clause 50 of Schedule 1 of the <i>Protection of the Environment Operations Act 1997</i>

4. Delete all references to “DRG” and replace with “MEG”.
5. Delete all references to “DWE” and replace with “DPIE Water”.
6. Delete all references to “Department of Lands” and replace with “DPIE Crown Lands”.
7. In Delete all references to “this approval” and replace with “this consent”, except in condition 10 of Schedule 2.
8. Delete all references to “Proponent” and replace with “Applicant”.
9. Delete all references to “shall” and replace with “must”, except in condition 3 of Schedule 2.
10. Delete all references to “Director-General” and replace with “Planning Secretary”.
11. Delete all references to “project” and replace with “development”, excluding in:
 - a) the term “Hitchcock Road Sand Project” in Schedule 1;
 - b) the definitions of “EA” and “Modification Report MOD 1” in the definitions table;
 - c) the phrase “preferred project report”; and
 - d) conditions, 3, 4 and 9 on Schedule 5.
12. Delete all references to “AEMR” and replace with “Annual Review”.
13. In condition 2 of Schedule 2:
 - a) in the first sentence delete the words “generally in accordance with”;
 - b) in paragraph (a), prior to the term “EA”, insert the words “generally in accordance with the” and after the term “EA”, insert “and Modification Report MOD 1”;
 - c) in paragraph (b) prior to the term “preferred project report” insert the words “generally in accordance with the”;
 - d) in paragraph (c) prior to the words “statement of commitments” insert the words “generally in accordance with the”; and
 - e) in paragraph (d) prior to the words “conditions of this” insert the words “in accordance with the”.
14. In condition 6 of Schedule 2, delete “2028” and replace with “2038”.

15. After condition 7 of Schedule 2, insert the following:

7A. The Applicant must not import more than 250,000 tonnes of VENM or ENM per calendar year.

16. In condition 8 of Schedule 2, delete the first sentence and paragraphs (a) and (b) and replace with the following:

8. The Applicant must not:

- (a) receive more than 200 heavy vehicles at the site per day;
- (b) dispatch more than 200 laden heavy vehicles associated with the Applicant's combined operations at Maroota and the Central Wash Plant site (Lot 198 DP 752025); and

17. In condition 8(c) of Schedule 2:

- a) prior to the number "10" insert "allow more than";
- b) after the number "10" insert "heavy vehicles";
- c) delete the words "for trucks"; and
- d) prior to the words "entering/exiting" insert the word "from".

18. Delete the note in condition 8 of Schedule 2.

19. In the notes to condition 7 of Schedule 3, delete "DECC" and replace with "the EPA and the Department".

20. In conditions 8(b), 12(b) and 16(b) of Schedule 3 delete "DECC" and replace with "the EPA".

21. In condition 24(a) of Schedule 3, delete "DECC" and replace with "BCD".

22. In condition 28 of Schedule 3, delete both references to "DECC" and replace with "Heritage NSW".

23. After condition 31, insert the following:

Traffic Management Plan

31A. The Applicant must prepare a Traffic Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:

- (a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;
- (b) be prepared in consultation with TfNSW and Council;
- (c) include details of all haulage transport routes within the Council local government area and vehicle types to be used for development-related traffic;
- (d) include details of the measures to be implemented to minimise traffic safety issues and disruption to local road users, including minimising potential for conflict with school buses;

- (e) include a Drivers' Code of Conduct that includes procedures requiring that drivers:
 - (i) adhere to posted speed limits or other required travelling speeds;
 - (ii) adhere to designated transport routes; and
 - (iii) implement safe and quiet driving practices;
- (f) describe the measures to be put in place to ensure compliance with the Drivers' Code of Conduct; and
- (g) propose measures to minimise the transmission of dust and tracking of material onto the surface of public roads from vehicles exiting the site.

The Applicant must implement the Traffic Management Plan as approved by the Planning Secretary.

24. Delete condition 35 of Schedule 3 and replace with:

35. The Applicant can import:

- (a) VENM to the site;
- (b) ENM to the site only for the purpose of engineering fill or use in earthworks; and
- (c) materials permitted by an EPL, where an applicable Resource Recovery Order and Exemption, issued in accordance with Clauses 91 and 92 of the *Protection of the Environment Operations (Waste) Regulation 2014* (or its latest amendment), is in place and which allows the material to be received for processing with extractive materials or application to land.

Note: No other materials classified as waste under the Protection of the Environment Operations (Waste) Regulation 2014 (or its latest amendment) are to be received or processed on the site.

35A. The Applicant must:

- (a) verify any VENM and ENM received has appropriate documentation demonstrating that it is VENM and ENM;
- (b) maintain accurate records of all VENM and ENM received at the site (including the date, time, quantity received and verification documentation (refer 35A(a)));
- (c) include a summary of these records in the Annual Review;
- (d) minimise the amount of waste generated by the development;
- (e) ensure that the waste generated by the development is appropriately stored, handled, and disposed of; and
- (f) report on waste minimisation and management in the Annual Review.

25. In condition 39 of Schedule 3, replace "DPI" with "MEG".

26. Delete conditions 3 and 4 of Schedule 5 and replace with:

REPORTING AND AUDITING

Incident Notification

3. The Applicant must notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing via the Department's Major Projects Website and identify the development (including the development application number and name) and set out the location and nature of the incident.

Non-Compliance Notification

4. Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing via the Department's Major Projects Website and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

27. After condition 11 of Schedule 5, insert the following:

MANAGEMENT PLAN REQUIREMENTS

12. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:

- (a) a summary of relevant background or baseline data; (b) details of:
 - (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - (ii) any relevant limits or performance measures and criteria; and
 - (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
- (c) any relevant commitments or recommendations identified in the document/s listed in condition 2 of Schedule 2;
- (d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;
- (e) a program to monitor and report on the:
 - (i) impacts and environmental performance of the development; and
 - (ii) effectiveness of the management measures set out pursuant to condition 12(c) of Schedule 5;
- (f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;
- (g) a program to investigate and implement ways to improve the environmental performance of the development over time;
- (h) a protocol for managing and reporting any:
 - (i) incident, non-compliance or exceedance of the impact assessment criteria or performance criteria; (ii) complaint; or

- (iii) failure to comply with statutory requirements;
- (i) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and
- (j) a protocol for periodic review of the plan.

Note: The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.

13. The Applicant must ensure that management plans prepared for the development are consistent with the conditions of this consent and any EPL issued for the site.

REVISION OF STRATEGIES, PLANS AND PROGRAMS

14. Within three months of:
- (a) the submission of an incident report under condition 3 of Schedule 5;
 - (b) the submission of an Annual Review under condition 5 of Schedule 5;
 - (c) the submission of an Independent Environmental Audit under condition 6 of Schedule 5; or
 - (d) the approval of any modification of the conditions of this consent,
- the suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.

15. If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary and submitted to the Planning Secretary for approval within six weeks of the review.

Note: This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.

28. In Appendix 3 make the following changes:
- a) Under the heading 'Noise and Vibration', in the first dot point after the words "any necessary" insert the words "activities with potential for".
 - b) Under the heading 'Noise and Vibration', in the 3rd dot point after the words "will be" delete the words "certified in relation to noise performance" and insert "properly maintained to ensure the noise emissions generated either meet or are below the sound power level detailed in the manufacturer's specification."
 - c) Under the heading 'Noise and Vibration', in the 5th dot point after the words "will be silenced" insert the following ", where reasonable and feasible,".
 - d) Under the heading 'Noise and Vibration', in the 7th dot point delete the following where first occurring:
 - i) "L₁₀"
 - ii) "the boundary of"
 - iii) "where baseline data has been obtained"
 - iv) "normally"
 - v) "background level by more than 5 dB(A)",
 - e) Under the heading 'Noise and Vibration', in the 7th dot point after the words "exceed the" insert "noise criteria specified within the development consent" and add a "s" to the word "level".

- f) Under the heading 'Noise and Vibration', in the 8th dot point after the words "measurements kept" insert the words "in accordance with the Noise Management Plan".
- g) Under the heading "Air Quality and Greenhouse Gas Emissions", in the first dot point delete the words "at identified site" and after the words "be conducted", insert the words "in accordance with the Air Quality Monitoring Program".
- h) Under the heading "Air Quality and Greenhouse Gas Emissions", in the second dot point after the words "will be fitted" insert the following ",where required,"
- i) Under the heading "Erosion and Sediment Control ", delete the 9th dot point, and replace with the following:
- Rehabilitation and revegetation will commence as soon as practicable to minimise risk of erosion and sedimentation.
- j) Under the heading "Erosion and Sediment Control ", in the 10th dot point:
- after the words "regularly and" insert the words "as soon as practicable";
 - delete the word "immediately" where first occurring;
 - after the words "following a" insert the word "significant"; and
 - after the words "rainfall event" insert the following "(>25mm/day)".
- k) Under the heading "Erosion and Sediment Control ", delete the 11th dot point and replace with the following "Monitoring and maintenance of erosion and sediment control structures will be undertaken in accordance with the Water Management Plan."
- l) Under the heading "Erosion and Sediment Control ", in the 13th dot point, after the words "four weeks" insert "(if vegetation has not yet established from the natural seedbank)".
- m) Under the heading Water Management, in the first dot point delete "(nominally 181 m AHD)".
- n) Under the heading Water Management, in the second dot point, after the words "Department of" insert "Planning, Industry and" and after the word "Environment" insert "- Water", and delete the words "and Climate Change".
- o) Under the heading Water Management, in the 4th dot point, delete words "an annual report prepared on" and after the words "their effectiveness" insert "reported as part of the Annual Review Process".
- p) Under the heading Water Management, delete the 5th dot point and replace with the following:
- Groundwater monitoring will be undertaken in accordance with the Water Management Plan.


- q) Under the heading Flora and Fauna, in the 4th dot point after the words “for revegetation” insert “of areas being revegetated to woodland”.
- r) Under the heading Flora and Fauna, in the 5th dot point after the words “the defined” insert the word “woodland”.
- s) Under the heading “Rehabilitation” in the 6th dot point after the words “four weeks” insert the following “(if vegetation has not yet established from the natural seedbank).”
- t) Under the heading “Rehabilitation” in the 7th dot point after the words “be undertaken” insert the words “in accordance with the Landscape Management Plan and”.
- u) Under the heading “Social Impact Management” in the second dot point, delete the words “Regular bi annual meetings of community representatives” and replace with “A Community Consultative Committee”.
- v) Under the heading “Visual Amenity” in the 4th dot point delete the word “Rehabilitation” and replace with “Landscape Management”.
- w) Under the heading “Visual Amenity” delete the 9th dot point.
- x) Under the heading “Waste Management” delete the 8th dot point.
- y) Under the heading “Waste Management” in the now 10th dot point, ○ delete the word “waste” where first occurring;
- after the word “licences” where first occurring insert the words “for waste contractors”;
 - delete the word “and” where first occurring’
 - after the word “reviewed” insert the words “to ensure appropriate licences are held”
 - delete the words “terms and conditions for compliance monitored”
- z) Under the heading “Emergency Response” in the 6th dot point after the words “clearly labelled” insert the words “in accordance with relevant work health safety requirements”.
- aa) Under the heading “Emergency Response” in the 7th dot point after the words “reviewed and” insert the following “, if required,”.
- bb) Under the heading “Hazard, Risk and Safety” delete the first and second dot points and replace it with the following:
- All hazardous, dangerous and flammable materials will be used, stored and recorded in accordance with the relevant workplace health and safety requirements and regulations.
- cc) Under the heading “Hazard, Risk and Safety” in the second dot point delete the word “Material” where first occurring.
- dd) Under the heading “Hazard, Risk and Safety” delete the 4th, 5th and 9th dot points.
-

ATTACHMENT 3

EPA LICENCE ANNUAL RETURN

From: econnect.epa@epa.nsw.gov.au
To: [Josh](#)
Subject: eConnect EPA: Annual Return submitted
Date: Tuesday, 22 November 2022 2:37:28 PM
Attachments: [ATT00001.tif](#)

eConnect EPA Annual Return submitted

[EPA Logo](#)


PF FORMATION PTY LTD Environment Protection Licence 3407 Annual Return due 28-11-2022

Dear Joshua Graham,

Thank you for submitting your annual return for the reporting period 30-09-2021 to 29-09-2022 for Environment Protection Licence 3407

The information provided in the annual return, in addition to records held by the NSW Environment Protection Authority will be used to calculate the annual licence administrative fee and any applicable load based licence fee. An invoice for any applicable fees will be issued shortly.

If you have any queries about your annual return, please contact EPA on (02) 9995 5700 or via email at peeo.licensing@epa.nsw.gov.au.

Your sincerely

Head of Regulatory and Compliance Support Unit

Environment Protection Authority

This email is intended for the addressee(s) named and may contain confidential and/or privileged information.

If you are not the intended recipient, please notify the sender and then delete it immediately.

Any views expressed in this email are those of the individual sender except where the sender expressly and with authority states them to be the views of the Environment Protection Authority.

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

A. Statement of Compliance - Licence Details

ALL Licence holders must check that the Licence details in Section A are correct.

If there are changes to any of these details, you must advise Environment Protection Authority (EPA) and apply as soon as possible for a variation to your Licence or for a Licence transfer.

Licence variation and transfer application forms are available on the EPA website at: <http://www.epa.nsw.gov.au/licensing-and-regulation/licensing> or from regional offices of the EPA, or by contacting by telephone 02 9995 5700.

If you are applying to vary or transfer your Licence, you must still complete and submit this Annual Return.

A1. Licence holder

Licence number : 3407
Licence holder : PF FORMATION PTY LTD
Trading name (if applicable) :
ABN : 30 003 178 318
ACN : 003 178 318
Reporting period : From: 30-9-2021 To: 29-9-2022

A2. Premises to which Licence Applies (if applicable)

Common name (if any) : PF Formation Pty Ltd
Premises : 1774 WISEMANS FERRY ROAD MAROOKA 2756 NSW

A3. Activities to which Licence Applies

Extractive activities

A4. Other Activities (if applicable)

Concrete Works

A5. Fee-Based Activity Classifications

Note that the fee based activity classification is used to calculate the administrative fee.

Fee-based activity	Activity scale	Unit of measure
Extractive activities	> 100,000.00 - 500,000.00	T annually extracted or processed

A6. Assessable Pollutants (if applicable)

Note that the identification of assessable pollutants is used to calculate the load-based fee. The following assessable pollutants are identified for the fee-based activity classifications in the licence:

B. Monitoring and Complaints Summary

B1. Number of Pollution Complaints

Pollution Complaint Category	Complaints
Air	0
Water	0
Noise	0
Waste	0
Other	0
Total complaints recorded by the licensee during the reporting period	0

B2. Concentration Monitoring Summary

For each concentration monitoring point identified in your licence, details are displayed below. If concentration monitoring is not required by your licence, no data will appear below. If data was provided from an uploaded file, the file name will be displayed below instead of any data. Note that this does not exclude the need to conduct appropriate concentration monitoring of assessable pollutants as required by load-based licensing (if applicable).

Monitoring Point 1

Dust monitoring, Dust gauge labelled "1- School" on the Map faxed to the EPA on 5 August 2002

Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Particulates - Deposited Matter	grams per square metre per month	12	12	0.30	0.91	2.12

Monitoring Point 2

Dust monitoring, Dust gauge labelled 2 - intersection of Hitchcock and Wisemans Ferry Road

Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Particulates - Deposited Matter	grams per square metre per month	12	12	0.31	1.40	3.28

Monitoring Point 3

Dust monitoring, Dust gauge labelled as "Jurds Paddock - 3 Por168" on the map faxed to the EPA on 5 August 2002

Pollutant	Unit of measure	No. of samples required	No. of samples collected and analysed	Lowest sample value	Mean of sample	Highest sample value
Particulates - Deposited Matter	grams per square metre per month	12	12	1.01	2.14	3.80

B3. Volume or Mass Monitoring Summary

For each volume or mass monitoring point identified in your licence, details are displayed below. If volume or mass monitoring is not required by your licence, no data will appear below.

If data was provided from an uploaded file, the file name will be displayed below instead of any data.

Note that this does not exclude the need to conduct appropriate volume or mass monitoring of assessable pollutants are required by load-based licensing (if applicable).

C. Statement of Compliance - Licence Conditions

C1. Compliance with Licence Conditions

Were all conditions of the licence complied with (including monitoring and reporting requirements)?	Yes
---	-----

D. Statement of Compliance - Load Based Fee Calculation

If you are not required to monitor assessable pollutants by your licence, no data will appear below.

If assessable pollutants have been identified on your licence, the following worksheets for each assessable pollutant will determine your load based fee for the licence fee period to which this Annual Return relates.

Loads of assessable pollutants must be calculated using any of the methods provided in EPA's Load Calculation Protocol for the relevant activity. A Load Calculation Protocol would have been already sent to you with your licence. If you require additional copies, you can download the Protocol from the EPA's website or you can contact us on telephone 02 9995 5700.

You are required to keep all records used to calculate licence fees for four years after the licence fee was paid or became payable, whichever is the later date.

E. Statement of Compliance - Requirement to Prepare PIRMP

Have you prepared a Pollution Incident Response Management Plan (PIRMP) as required under section 153A of the Protection of the Environment Operations (POEO) Act 1997?		Yes
Is the PIRMP available at the premises?		Yes
Is the PIRMP available in a prominent position on a publicly accessible website?		Yes
Address of the web page where the PIRMP can be accessed ▼		
www.pfformation.com.au		
Has the PIRMP been tested?		Yes
The PIRMP was last tested on	3-11-2022	
Has the PIRMP been updated?		Yes
The PIRMP was last updated on	3-11-2022	
Number of times the PIRMP was activated in this reporting period?		0
The PIRMP was activated on		

F. Statement of Compliance - Requirement to Publish Pollution Monitoring Data

Are there any conditions attached to your licence that require pollution monitoring to be undertaken as required under section 66(6) of the Protection of the Environment Operations (POEO) Act 1997?		Yes
Do you operate a website?		Yes
Is the pollution monitoring data published on your website in accordance with the EPA's written requirements for publishing pollution monitoring data?		Yes
Address of the web page where the pollution monitoring data can be accessed ▼		

www.pfformation.com.au

G. Statement of Compliance - Environment Management System and Practices

Do you have an ISO 14001 certified Environmental Management System (EMS) OR any other system that EPA considers is equivalent to the accountability, procedures, documentation and record keeping requirements of an ISO 14001 certified EMS?	No
Have you conducted an assessment of your activities and operations to identify the aspects that have a potential to cause environmental impacts and implemented operational controls to address these aspects?	Yes
Have you established and implemented an operational maintenance program, including preventative maintenance?	Yes
Do you keep records of regular inspections and maintenance of plant and equipment?	Yes
Do you conduct regular (at least yearly) environmental audits at the premises that are conducted by a competent and independent person?	Yes
Have you undertaken an independent environmental audit covering documented environmental practices, procedures and systems in place during the annual return period?	Yes
Have you established and implemented an environmental improvement or management plan?	Yes
Do you train staff in environmental issues that may arise from your activities and operations at the premises and keep records of this?	Yes

H. Signature and Certification

This Annual Return may only be signed by person(s) with legal authority to sign it as set out in following categories: an Individual, a Company, a Public authority or a Local council.

It is an offence under section 66 of the Protection of the Environment Operations Act 1997 to supply any information in this form that is false or misleading in a material respect, or to certify a statement that is false or misleading in a material respect. There is a maximum penalty of \$250,000 for a corporation and \$120,000 for an individual.

I/We

- declare that the information in the Monitoring and Complaints Summary in Section B of this Annual Return application is correct and not false or misleading in a material respect, and
- certify that the information in the Statement and Compliance in sections A, C, D, E, F, G and H and any other pages attached to Section C is correct and not false or misleading in a material respect.

ATTACHMENT 4

VARIATION TO LICENCE NO. 3407

Licence Variation



Licence - 3407

PF FORMATION PTY LTD
ABN 30 003 178 318 ACN 003 178 318
1774 WISEMANS FERRY ROAD
MAROOKA NSW 2756

Attention: Josh Graham

Notice Number 1608406
File Number EF18/45413
Date 15-May-2021

NOTICE OF VARIATION OF LICENCE NO. 3407

BACKGROUND

- A. PF FORMATION PTY LTD ("the licensee") is the holder of Environment Protection Licence No. 3407 ("the licence") issued under the *Protection of the Environment Operations Act 1997* ("the Act"). The licence authorises the carrying out of activities at 1774 WISEMANS FERRY ROAD, MAROOKA, NSW, 2756 ("the premises").
- B. On 21 April 2021, in response to the licence review, the licensee advised that the premises name on the licence should be changed from Etra Pty Ltd to PF Formation Pty Ltd.
- C. On 26 April 2021, the licensee further advised that three listed Lot/DPs on the licence could be removed, as they do not form part of the licensed premises.
- D. This variation was instigated by the EPA as an outcome of the 2021 Licence Review.
- E. The EPA has considered matters under section 45 of the Act in issuing this licence variation including but not limited to:
 - any environmental impacts associated with the proposed variation;
 - taken into account the objective of the Act to protect the environment, reduce the risks to human health and prevent the degradation of the environment and improve the efficiency of administration of
 - the environment protection legislation.

VARIATION OF LICENCE NO. 3407

1. By this notice the EPA varies licence No. 3407. The attached licence document contains all variations that are made to the licence by this notice.
2. The following variations have been made to the licence:

Licence Variation



- Condition A2.1 Premises Details updated:
from: Etra Pty Ltd
to: PF Formation Pty Ltd; and

The following Lot and DP's were removed:

- Lot 1 DP 588936;
 - Lot 2 DP 703821; and
 - Lot 1 DP 595538.
- Condition A2.2 - Updated Map to reflect amended Lot and DP's.

A handwritten signature in cursive script, appearing to read 'Ruth Oowler', is positioned above the printed name.

RUTH OWLER
A/Unit Head
Regulatory Operations Metro West
Environment Protection Authority
(by Delegation)

INFORMATION ABOUT THIS NOTICE

- This notice is issued under section 58(5) of the Act.
- Details provided in this notice, along with an updated version of the licence, will be available on the EPA's Public Register (<http://www.epa.nsw.gov.au/prpoeo/index.htm>) in accordance with section 308 of the Act.

Appeals against this decision

- You can appeal to the Land and Environment Court against this decision. The deadline for lodging the appeal is 21 days after you were given notice of this decision.

When this notice begins to operate

- The variations to the licence specified in this notice begin to operate immediately from the date of this notice, unless another date is specified in this notice.
- If an appeal is made against this decision to vary the licence and the Land and Environment Court directs that the decision is stayed the decision does not operate until the stay ceases to have effect or

Licence Variation



the Land and Environment Court confirms the decision or the appeal is withdrawn (whichever occurs first).

Licence Variation Summary



Licence - 3407

This Summary serves merely to highlight changes made to areas of this licence. Changes made to tables within the licence are indicated using underline (for additions) and Strikethrough (for deletions). While changes to conditions are indicated under subheadings such as 'New condition', 'Old condition', 'Replaced by', and 'Removed condition'.

The attached licence document contains all the changes made to this licence by the attached variation notice.

1 Administrative Conditions

Premises or plant to which this licence applies

PF FORMATION PTY LTD

1774 WISEMANS FERRY ROAD

MARROTA

NSW 2756

LOT 1 DP 34599, LOT 1 DP 223323, LOT 2 DP 233818, LOT 2 DP 555184, LOT 1 DP 570966, LOT 2 DP 570966, LOT 198 DP 752025, LOT 167 DP 752039, LOT 214 DP 752039, LOT 1 DP 1013943, LOT 1 DP 1063296, LOT 2 DP 1063296, LOT 1 DP 1091018

~~ETRA PTY LTD~~

~~WISEMANS FERRY ROAD~~

~~MARROTA~~

~~NSW 2756~~

~~LOT 1 DP 34599, LOT 1 DP 223323, LOT 2 DP 233818, LOT 2 DP 555184, LOT 1 DP 570966, LOT 2 DP 570966, LOT 1 DP 588936, LOT 1 DP 595538, LOT 2 DP 703821, LOT 198 DP 752025, LOT 167 DP 752039, LOT 214 DP 752039, LOT 1 DP 1013943, LOT 1 DP 1063296, LOT 2 DP 1063296, LOT 1 DP 1091018~~



Environment Protection Licence

Licence - 3407

Licence Details

Number:	3407
Anniversary Date:	30-September

Licensee

PF FORMATION PTY LTD
 1774 WISEMANS FERRY ROAD
 MAROOKA NSW 2756

Premises

PF FORMATION PTY LTD
 1774 WISEMANS FERRY ROAD
 MAROOKA NSW 2756

Scheduled Activity

Extractive activities

Fee Based Activity

Scale

Land-based extractive activity	> 100000-500000 T annual capacity to extract, process or store
--------------------------------	--

Contact Us

NSW EPA
 4 Parramatta Square
 12 Darcy Street
 PARRAMATTA NSW 2150
 Phone: 131 555
 Email: info@epa.nsw.gov.au

Locked Bag 5022
 PARRAMATTA NSW 2124



Environment Protection Licence

Licence - 3407

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Environment Protection Licence

Licence - 3407

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Environment Protection Licence

Licence - 3407

Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).



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The EPA publication "A Guide to Licensing" contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

PF FORMATION PTY LTD
1774 WISEMANS FERRY ROAD
MARROTA NSW 2756

subject to the conditions which follow.



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1 Administrative Conditions

A1 What the licence authorises and regulates

- A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Extractive activities	Land-based extractive activity	> 100000 - 500000 T annual capacity to extract, process or store

A2 Premises or plant to which this licence applies

- A2.1 The licence applies to the following premises:

Premises Details
PF FORMATION PTY LTD
1774 WISEMANS FERRY ROAD
MARROOTA
NSW 2756
LOT 1 DP 34599, LOT 1 DP 223323, LOT 2 DP 233818, LOT 2 DP 555184, LOT 1 DP 570966, LOT 2 DP 570966, LOT 198 DP 752025, LOT 167 DP 752039, LOT 214 DP 752039, LOT 1 DP 1013943, LOT 1 DP 1063296, LOT 2 DP 1063296, LOT 1 DP 1091018

- A2.2 The premises location is shown on the map below.

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A3 Other activities

A3.1 This licence applies to all other activities carried on at the premises, including:

Ancillary Activity
Concrete Works

A4 Information supplied to the EPA

A4.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

- a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
- b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

Air



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EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
1	Dust monitoring		Dust gauge labelled "1- School" on the Map faxed to the EPA on 5 August 2002
2	Dust monitoring		Dust gauge labelled 2 - intersection of Hitchcock and Wisemans Ferry Road
3	Dust monitoring		Dust gauge labelled as "Jurds Paddock - 3 Por168" on the map faxed to the EPA on 5 August 2002

- P1.2 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

3 Limit Conditions

L1 Pollution of waters

- L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Waste

- L2.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.
- L2.2 This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if those activities require an environment protection licence.

L3 Noise limits

- L3.1 Noise generated at the premises must not exceed the noise limits presented in the table below. Note that the noise limits represent the noise contribution from the activity on the premise.

Location	Day	Night	Night
	LAeq(15 minute)	LAeq(15 minute)	LA1(1 minute)
Maroota Public School	40	NA	NA
Pignataro	40	37	52
Tornatola	39	38	52

Note: The Locations are as described in the *Maroota Sand Extraction Project Noise Impact Assessment Report 10-3138-R1, 13 April 2005*, for Lot 198 DP 752025 Old Northern Road, by Richard Heggie Associates Pty Ltd.



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L3.2 For the purposes of condition L2.1:

- a) Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public holidays.
- b) Evening is defined as the period 6pm to 10pm.
- c) Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays.

L3.3 Noise from the premises is to be measured at the most affected point or within the residential boundary or at the most affected point within 30m of the dwelling (rural situations) where the dwelling is more than 30m from the boundary to determine compliance with the noise LAeq,(15min) limits in condition L2.1.

Noise from the premises is to be measured at 1m from the dwelling façade to determine compliance with the LA1(1 minute) noise limits in condition L2.1.

Where it can be demonstrated that direct measurement of noise from the premises is impractical, the EPA may accept alternative means of determining compliance. See Chapter 11 of the NSW Industrial Noise Policy.

The modification factors presented in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.

Definition

LAeq(15 minute) represents the equivalent continuous noise level- the level of noise equivalent to energy average of noise levels of the source when measured over a 15 minute period.

LA1(1 minute) represents sound pressure level that is exceeded for 1% of the time over a 1 minute measurement period.

Where A-weighting is an adjustment made to sound pressure level measurements to approximate the response of the human ear.

Note:

Noise measurement

For the purpose of noise measurements required for this condition, the LAeq(15 minute) noise level must be measured or computed at any point specified in L2.3 over a period of 15 minutes using "FAST" response on the sound level meter.

For the purpose of the noise criteria for this condition, 5dBA must be added to the measured level if the noise is substantially tonal or impulsive in character. The location or point of impact can be different for each development, for example, at the closest residential receiver or at the closest boundary of the development. Measurement locations can be:

- a) 1 metre from the facade of the residence for night time assessment.
- b) At the residential boundary.
- c) 30 metres from the residence (rural situations) where the boundary is more than 30 metres from residence.

L3.4

The noise emission limits identified in L2.1 apply for prevailing meteorological conditions (winds up to 3m/s at 10 metres above ground level), temperature inversion conditions of up to 3°C/100m and wind



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speed up to 2m/s at 10 metres above the ground. Noise impacts that may be enhanced by temperature inversions must be addressed by:

- a) Documenting noise complaints received to identify any higher level of impacts or patterns of temperature inversions.
- b) Where levels of noise complaints indicate a higher level of impact then actions to quantify and ameliorate any enhanced impacts under temperature inversion conditions should be developed and implemented.

L3.5 The proponent shall prepare and implement a Noise Management Plan (NMP). The NMP must include but need not be limited to:

- a) The primary objective of minimising noise emissions from the premises.
- b) A system that allows for periodic assessment of Best Management Practice (BMP) and Best Available Technology Economically Achievable (BATEA) to minimise noise emissions at all times and to seek achieving noise contributions not exceeding the Project Specific Noise Levels at all receiver locations.
- c) Measures to monitor noise performance and respond to complaints.

L4 Hours of operation

L4.1 Activities covered by this licence must only be carried out between the hours of 0600 and 1800 Monday to Friday, and 0600 and 1800 Saturday, and at no time on Sundays and Public Holidays.

L5 Potentially offensive odour

L5.1 The licensee must not cause or permit the emission of offensive odour beyond the boundary of the premises.

Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

4 Operating Conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:



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

O3 Dust

- O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.
- O3.2 All loaded trucks entering or leaving the premises must have their loads covered.

O4 Other operating conditions

- O4.1 The licensee must prevent any tracking of mud on to public roads by vehicles leaving the premises.

5 Monitoring and Recording Conditions

M1 Monitoring records

- M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.
- M1.2 All records required to be kept by this licence must be:
 - a) in a legible form, or in a form that can readily be reduced to a legible form;
 - b) kept for at least 4 years after the monitoring or event to which they relate took place; and
 - c) produced in a legible form to any authorised officer of the EPA who asks to see them.
- M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
 - a) the date(s) on which the sample was taken;
 - b) the time(s) at which the sample was collected;
 - c) the point at which the sample was taken; and
 - d) the name of the person who collected the sample.

M2 Requirement to monitor concentration of pollutants discharged

- M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:
- M2.2 Air Monitoring Requirements

POINT 1



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Pollutant	Units of measure	Frequency	Sampling Method
Particulates - Deposited Matter	grams per square metre per month	Monthly	AM-19

POINT 2

Pollutant	Units of measure	Frequency	Sampling Method
Particulates - Deposited Matter	grams per square metre per month	Monthly	AM-19

POINT 3

Pollutant	Units of measure	Frequency	Sampling Method
Particulates - Deposited Matter	grams per square metre per month	Monthly	AM-19

M3 Testing methods - concentration limits

- M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:
- any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
 - if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
 - if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

Note: The *Protection of the Environment Operations (Clean Air) Regulation 2010* requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

M4 Recording of pollution complaints

- M4.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.
- M4.2 The record must include details of the following:
- the date and time of the complaint;
 - the method by which the complaint was made;
 - any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
 - the nature of the complaint;
 - the action taken by the licensee in relation to the complaint, including any follow-up contact with the



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- complainant; and
- f) if no action was taken by the licensee, the reasons why no action was taken.

M4.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M4.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M5 Telephone complaints line

M5.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M5.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M5.3 The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.

6 Reporting Conditions

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

1. a Statement of Compliance,
2. a Monitoring and Complaints Summary,
3. a Statement of Compliance - Licence Conditions,
4. a Statement of Compliance - Load based Fee,
5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee notification that the Annual Return is due.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

R1.3 Where this licence is transferred from the licensee to a new licensee:
a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and



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ending on:

- a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
- b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

- R1.5 The Annual Return for the reporting period must be supplied to the EPA via eConnect *EPA* or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').
- R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.
- R1.7 Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
- a) the licence holder; or
 - b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R2 Notification of environmental harm

- R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.
- R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R3 Written report

- R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
- a) where this licence applies to premises, an event has occurred at the premises; or
 - b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.
- R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.
- R3.3 The request may require a report which includes any or all of the following information:
- a) the cause, time and duration of the event;
 - b) the type, volume and concentration of every pollutant discharged as a result of the event;



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- c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
- d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
- e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
- f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
- g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

7 General Conditions

G1 Copy of licence kept at the premises or plant

- G1.1 A copy of this licence must be kept at the premises to which the licence applies.
- G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.
- G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.



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Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997



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flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .



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TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste

Mr Nigel Sargent

Environment Protection Authority

(By Delegation)

Date of this edition: 18-November-1999



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End Notes

- 1 Licence varied by notice V/M Upgrade, issued on 06-Jul-2000, which came into effect on 06-Jul-2000.
- 2 Licence varied by notice 1007929, issued on 02-Jul-2001, which came into effect on 27-Jul-2001.
- 3 Licence varied by notice 1010310, issued on 23-Aug-2002, which came into effect on 17-Sep-2002.
- 4 Licence varied by notice 1024315, issued on 16-Jan-2003, which came into effect on 10-Feb-2003.
- 5 Licence varied by notice 1076205, issued on 29-Feb-2008, which came into effect on 29-Feb-2008.
- 6 Licence varied by Change to Schedule 1 , issued on 02-May-2008, which came into effect on 02-May-2008.
- 7 Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
- 8 Licence varied by notice 1099065, issued on 18-May-2009, which came into effect on 18-May-2009.
- 9 Licence varied by notice 1111706, issued on 31-Mar-2010, which came into effect on 31-Mar-2010.
- 10 Licence varied by notice 1124599, issued on 08-Feb-2011, which came into effect on 08-Feb-2011.
- 11 Licence varied by notice 1527553 issued on 16-Feb-2015
- 12 Licence transferred through application 1571428 approved on 30-Oct-2018 , which came into effect on 30-Oct-2018

ATTACHMENT 5

MONTHLY ENVIRONMENTAL OPERATIONAL PROCEDURES CHECKLIST

**PF FORMATION – ENVIRONMENTAL OPERATIONAL PROCEDURES
Hitchcock Road Sand Extraction and Rehabilitation Project, Maroota**

The chapter, page number and strategy point number are references to the approved Environmental Strategy Appendix A – Environmental Operational Procedures.

CHAPTER Page No.	STRATEGY Point No.	MANAGEMENT CONTROLS	STATUS ✓ or ✗	COMPLAINTS RECEIVED	COMMENTS
<u>A2</u> 33-35	2.1	Noise Management	✓	Nil	Noise monitored 4 times annually. All results found within annual noise management report.
<u>A3</u> 36-39	3.1, 3.2	Air Quality Management	✓	Nil	Deposited dust results for July 2022 showed low levels at all locations.
<u>A4</u> 40-41	4.1	Access and Traffic	✓	Nil	Truck movements were not exceeded. Weighbridge records are available to view.
<u>A5</u> 42-45	5.1, 5.2, 5.3	Erosion & Sediment Control	✓	Nil	Despite high rainfall, erosion and sediment movement within the quarry has been minimal. All water has been retained onsite.
<u>A6</u> 46-49	6.1	Water Management	✓	Nil	Ground water monitored monthly. Surface water quality monitored 4 times a year, last in June 2022 next in Sept 2022. Ground water quality monitored annually. All results found within annual water management report.
<u>A7</u> 50-54	7.1, 7.2	Rehabilitation & Vegetation Offset Management	✓	Nil	Rehabilitation work undertaken. Weed removal and habitat enhancement ongoing. All results found within bi-annual rehabilitation management report.
<u>A8</u> 55-56	8.1	Social Impact Management	✓	Nil	CCC meeting each 6 months. Last met May 2022, next meet Nov 2022.
<u>A9</u> 57-58	9.1	Heritage Management	✓	Nil	No heritage matters arising this period.
<u>A10</u> 59-61	10.1	Visual Amenity Management	✓	Nil	Earth bunds in place
<u>A11</u> 62-64	11.1	Waste Management	✓	Nil	Waste managed in accordance with DA and local council requirements.
<u>A12</u> 65-66	12.1	Emergency Response Management	✓	Nil	No emergency response matters arising this period.
<u>A13</u> 67-71	13.1, 13.2	Hazard, Risk and Safety Management	✓	Nil	All staff and contractors inducted before entering site. Training provided where required.
Completed by Environmental Contractor (South East Environmental)				Signed: <i>Melissa Mass</i>	Date: 31/7/2022

PF FORMATION – ENVIRONMENTAL OPERATIONAL PROCEDURES
Hitchcock Road Sand Extraction and Rehabilitation Project, Maroota

The chapter, page number and strategy point number are references to the approved Environmental Strategy Appendix A – Environmental Operational Procedures.

CHAPTER Page No.	STRATEGY Point No.	MANAGEMENT CONTROLS	STATUS ✓ or ✗	COMPLAINTS RECEIVED	COMMENTS
<u>A2</u> 33-35	2.1	Noise Management	✓	Nil	Noise monitored 4 times annually. All results found within annual noise management report.
<u>A3</u> 36-39	3.1, 3.2	Air Quality Management	✓	Nil	Deposited dust results for August 2022 showed higher than usual levels at Maroota Public School. This is concluded due to an annual event held at the school during August. Low levels recorded at all other sites.
<u>A4</u> 40-41	4.1	Access and Traffic	✓	Nil	Truck movements were not exceeded. Weighbridge records are available to view.
<u>A5</u> 42-45	5.1, 5.2, 5.3	Erosion & Sediment Control	✓	Nil	No erosion or sediment control issues this period.
<u>A6</u> 46-49	6.1	Water Management	✓	Nil	Ground water monitored monthly. Surface water quality monitored 4 times a year, last in June 2022 next in Sept 2022. Ground water quality monitored annually. All results found within annual water management report.
<u>A7</u> 50-54	7.1, 7.2	Rehabilitation & Vegetation Offset Management	✓	Nil	Rehabilitation work undertaken. Weed removal and habitat enhancement ongoing. All results found within bi-annual rehabilitation management report.
<u>A8</u> 55-56	8.1	Social Impact Management	✓	Nil	CCC meeting each 6 months. Last met May 2022, next meet Nov 2022.
<u>A9</u> 57-58	9.1	Heritage Management	✓	Nil	No heritage matters arising this period.
<u>A10</u> 59-61	10.1	Visual Amenity Management	✓	Nil	Earth bunds in place
<u>A11</u> 62-64	11.1	Waste Management	✓	Nil	Waste managed in accordance with DA and local council requirements
<u>A12</u> 65-66	12.1	Emergency Response Management	✓	Nil	No emergency response matters arising this period.
<u>A13</u> 67-71	13.1, 13.2	Hazard, Risk and Safety Management	✓	Nil	All staff and contractors inducted before entering site. Training provided where required.
Completed by Environmental Contractor (South East Environmental)				Signed: <i>Melissa Mass</i>	Date: 31/8/2022

**PF FORMATION – ENVIRONMENTAL OPERATIONAL PROCEDURES
Hitchcock Road Sand Extraction and Rehabilitation Project, Maroota**

The chapter, page number and strategy point number are references to the approved Environmental Strategy Appendix A – Environmental Operational Procedures.

CHAPTER Page No.	STRATEGY Point No.	MANAGEMENT CONTROLS	STATUS ✓ ✗ ✕	COMPLAINTS RECEIVED	COMMENTS
<u>A2</u> 33-35	2.1	Noise Management	✓	Nil	Noise monitored 4 times annually. All results found within annual noise management report.
<u>A3</u> 36-39	3.1, 3.2	Air Quality Management	✓	Nil	Deposited dust results for August 2022 showed higher than usual levels at Maroota Public School. This is concluded due to an annual event held at the school during August. Low levels recorded at all other sites.
<u>A4</u> 40-41	4.1	Access and Traffic	✓	Nil	Truck movements were not exceeded. Weighbridge records are available to view.
<u>A5</u> 42-45	5.1, 5.2, 5.3	Erosion & Sediment Control	✓	Nil	No erosion or sediment control issues this period.
<u>A6</u> 46-49	6.1	Water Management	✓	Nil	Ground water monitored monthly. Surface water quality monitored 4 times a year, last in June 2022 next in Sept 2022. Ground water quality monitored annually. All results found within annual water management report.
<u>A7</u> 50-54	7.1, 7.2	Rehabilitation & Vegetation Offset Management	✓	Nil	Rehabilitation work undertaken. Weed removal and habitat enhancement ongoing. All results found within bi-annual rehabilitation management report.
<u>A8</u> 55-56	8.1	Social Impact Management	✓	Nil	CCC meeting each 6 months. Last met May 2022, next meet Nov 2022.
<u>A9</u> 57-58	9.1	Heritage Management	✓	Nil	No heritage matters arising this period.
<u>A10</u> 59-61	10.1	Visual Amenity Management	✓	Nil	Earth bunds in place
<u>A11</u> 62-64	11.1	Waste Management	✓	Nil	Waste managed in accordance with DA and local council requirements
<u>A12</u> 65-66	12.1	Emergency Response Management	✓	Nil	No emergency response matters arising this period.
<u>A13</u> 67-71	13.1, 13.2	Hazard, Risk and Safety Management	✓	Nil	All staff and contractors inducted before entering site. Training provided where required.
Completed by Environmental Contractor (South East Environmental)				Signed: <i>Melissa Mass</i>	Date: 31/8/2022

**PF FORMATION – ENVIRONMENTAL OPERATIONAL PROCEDURES
Hitchcock Road Sand Extraction and Rehabilitation Project, Maroota**

The chapter, page number and strategy point number are references to the approved Environmental Strategy Appendix A – Environmental Operational Procedures.

CHAPTER Page No.	STRATEGY Point No.	MANAGEMENT CONTROLS	STATUS ✓ or ✗	COMPLAINTS RECEIVED	COMMENTS
<u>A2</u> 33-35	2.1	Noise Management	✓	Nil	Noise monitored 4 times annually. All results found within annual noise management report.
<u>A3</u> 36-39	3.1, 3.2	Air Quality Management	✓	Nil	Deposited dust results for October 2022 showed low levels at all locations.
<u>A4</u> 40-41	4.1	Access and Traffic	✓	Nil	Truck movements were not exceeded. Weighbridge records are available to view.
<u>A5</u> 42-45	5.1, 5.2, 5.3	Erosion & Sediment Control	✓	Nil	No erosion or sediment control issues this period
<u>A6</u> 46-49	6.1	Water Management	✓	Nil	Ground water monitored monthly. Surface water quality monitored 4 times a year, last in Sept 2022 next in Dec 2022. Ground water quality monitored annually. All results found within annual water management report.
<u>A7</u> 50-54	7.1, 7.2	Rehabilitation & Vegetation Offset Management	✓	Nil	Rehabilitation work undertaken. Weed removal and habitat enhancement ongoing. All results found within bi-annual rehabilitation management report.
<u>A8</u> 55-56	8.1	Social Impact Management	✓	Nil	CCC meeting each 6 months. Last met May 2022, next meet Nov 2022.
<u>A9</u> 57-58	9.1	Heritage Management	✓	Nil	No heritage matters arising this period.
<u>A10</u> 59-61	10.1	Visual Amenity Management	✓	Nil	Earth bunds in place
<u>A11</u> 62-64	11.1	Waste Management	✓	Nil	Waste managed in accordance with DA and local council requirements.
<u>A12</u> 65-66	12.1	Emergency Response Management	✓	Nil	No emergency response matters arising this period.
<u>A13</u> 67-71	13.1, 13.2	Hazard, Risk and Safety Management	✓	Nil	All staff and contractors inducted before entering site. Training provided where required.
Completed by Environmental Contractor (South East Environmental)				Signed: <i>Melissa Mass</i>	Date: 31/10/2022

PF FORMATION – ENVIRONMENTAL OPERATIONAL PROCEDURES
Hitchcock Road Sand Extraction and Rehabilitation Project, Maroota

The chapter, page number and strategy point number are references to the approved Environmental Strategy Appendix A – Environmental Operational Procedures.

CHAPTER Page No.	STRATEGY Point No.	MANAGEMENT CONTROLS	STATUS ✓ or ✗	COMPLAINTS RECEIVED	COMMENTS
<u>A2</u> 33-35	2.1	Noise Management	✓	Nil	Noise monitored 4 times annually. All results found within annual noise management report.
<u>A3</u> 36-39	3.1, 3.2	Air Quality Management	✓	Nil	Deposited dust results for November 2022 showed low levels at all locations.
<u>A4</u> 40-41	4.1	Access and Traffic	✓	Nil	Truck movements were not exceeded. Weighbridge records are available to view.
<u>A5</u> 42-45	5.1, 5.2, 5.3	Erosion & Sediment Control	✓	Nil	No erosion or sediment control issues this period
<u>A6</u> 46-49	6.1	Water Management	✓	Nil	Ground water monitored monthly. Surface water quality monitored 4 times a year, last in Sept 2022 next in Dec 2022. Ground water quality monitored annually. All results found within annual water management report.
<u>A7</u> 50-54	7.1, 7.2	Rehabilitation & Vegetation Offset Management	✓	Nil	Rehabilitation work undertaken. Weed removal and habitat enhancement ongoing. All results found within bi-annual rehabilitation management report.
<u>A8</u> 55-56	8.1	Social Impact Management	✓	Nil	CCC meeting each 6 months. Met this month Nov 2022, next meet May 2023
<u>A9</u> 57-58	9.1	Heritage Management	✓	Nil	No heritage matters arising this period.
<u>A10</u> 59-61	10.1	Visual Amenity Management	✓	Nil	Earth bunds in place
<u>A11</u> 62-64	11.1	Waste Management	✓	Nil	Waste managed in accordance with DA and local council requirements.
<u>A12</u> 65-66	12.1	Emergency Response Management	✓	Nil	No emergency response matters arising this period
<u>A13</u> 67-71	13.1, 13.2	Hazard, Risk and Safety Management	✓	Nil	All staff and contractors inducted before entering site. Training provided where required.
Completed by Environmental Contractor (South East Environmental)				Signed: <i>Melissa Mass</i>	Date: 30/11/2022

PF FORMATION – ENVIRONMENTAL OPERATIONAL PROCEDURES
Hitchcock Road Sand Extraction and Rehabilitation Project, Maroota

The chapter, page number and strategy point number are references to the approved Environmental Strategy Appendix A – Environmental Operational Procedures.

CHAPTER Page No.	STRATEGY Point No.	MANAGEMENT CONTROLS	STATUS ✓ or ✗	COMPLAINTS RECEIVED	COMMENTS
<u>A2</u> 33-35	2.1	Noise Management	✓	Nil	Noise monitored 4 times annually. All results found within annual noise management report.
<u>A3</u> 36-39	3.1, 3.2	Air Quality Management	✓	Nil	Deposited dust results for December 2022 showed low levels at all locations.
<u>A4</u> 40-41	4.1	Access and Traffic	✓	Nil	Truck movements were not exceeded. Weighbridge records are available to view.
<u>A5</u> 42-45	5.1, 5.2, 5.3	Erosion & Sediment Control	✓	Nil	No erosion or sediment control issues this period
<u>A6</u> 46-49	6.1	Water Management	✓	Nil	Ground water monitored monthly. Surface water quality monitored 4 times a year, last in Dec 2022 next in Mar 2023. Ground water quality monitored annually. All results found within annual water management report.
<u>A7</u> 50-54	7.1, 7.2	Rehabilitation & Vegetation Offset Management	✓	Nil	Rehabilitation work undertaken. Weed removal and habitat enhancement ongoing. All results found within bi-annual rehabilitation management report.
<u>A8</u> 55-56	8.1	Social Impact Management	✓	Nil	CCC meeting each 6 months. Last met Nov 2022, next meet May 2023.
<u>A9</u> 57-58	9.1	Heritage Management	✓	Nil	No heritage matters arising this period.
<u>A10</u> 59-61	10.1	Visual Amenity Management	✓	Nil	Earth bunds in place
<u>A11</u> 62-64	11.1	Waste Management	✓	Nil	Waste managed in accordance with DA and local council requirements.
<u>A12</u> 65-66	12.1	Emergency Response Management	✓	Nil	No emergency response matters arising this period.
<u>A13</u> 67-71	13.1, 13.2	Hazard, Risk and Safety Management	✓	Nil	All staff and contractors inducted before entering site. Training provided where required.
Completed by Environmental Contractor (South East Environmental)				Signed: <i>Melissa Mass</i>	Date: 31/12/2022

PF FORMATION – ENVIRONMENTAL OPERATIONAL PROCEDURES
Hitchcock Road Sand Extraction and Rehabilitation Project, Maroota

The chapter, page number and strategy point number are references to the approved Environmental Strategy Appendix A – Environmental Operational Procedures.

<u>CHAPTER</u> Page No.	<u>STRATEGY</u> Point No.	<u>MANAGEMENT CONTROLS</u>	<u>STATUS</u> ✓ or ✗	<u>COMPLAINTS</u> RECEIVED	<u>COMMENTS</u>
<u>A2</u> 33-35	2.1	Noise Management	✓	Nil	Noise monitored 4 times annually. All results found within annual noise management report.
<u>A3</u> 36-39	3.1, 3.2	Air Quality Management	✓	Nil	Deposited dust results for January 2023 showed low levels at all locations.
<u>A4</u> 40-41	4.1	Access and Traffic	✓	Nil	Truck movements were not exceeded. Weighbridge records are available to view.
<u>A5</u> 42-45	5.1, 5.2, 5.3	Erosion & Sediment Control	✓	Nil	No erosion or sediment control issues this period
<u>A6</u> 46-49	6.1	Water Management	✓	Nil	Ground water monitored monthly. Surface water quality monitored 4 times a year, last in Dec 2022 next in Mar 2023. Ground water quality monitored annually. All results found within annual water management report.
<u>A7</u> 50-54	7.1, 7.2	Rehabilitation & Vegetation Offset Management	✓	Nil	Rehabilitation work undertaken. Weed removal and habitat enhancement ongoing. All results found within bi-annual rehabilitation management report.
<u>A8</u> 55-56	8.1	Social Impact Management	✓	Nil	CCC meeting each 6 months. Last met Nov 2022, next meet May 2023.
<u>A9</u> 57-58	9.1	Heritage Management	✓	Nil	No heritage matters arising this period.
<u>A10</u> 59-61	10.1	Visual Amenity Management	✓	Nil	Earth bunds in place
<u>A11</u> 62-64	11.1	Waste Management	✓	Nil	Waste managed in accordance with DA and local council requirements.
<u>A12</u> 65-66	12.1	Emergency Response Management	✓	Nil	No emergency response matters arising this period.
<u>A13</u> 67-71	13.1, 13.2	Hazard, Risk and Safety Management	✓	Nil	All staff and contractors inducted before entering site. Training provided where required.
Completed by Environmental Contractor (South East Environmental)				Signed: <i>Melissa Mass</i>	Date: 31/01/2023

PF FORMATION – ENVIRONMENTAL OPERATIONAL PROCEDURES
Hitchcock Road Sand Extraction and Rehabilitation Project, Marroota

The chapter, page number and strategy point number are references to the approved Environmental Strategy Appendix A – Environmental Operational Procedures.

CHAPTER Page No.	STRATEGY Point No.	MANAGEMENT CONTROLS	STATUS ✓ or ✗	COMPLAINTS RECEIVED	COMMENTS
<u>A2</u> 33-35	2.1	Noise Management	✓	Nil	Noise monitored 4 times annually. All results found within annual noise management report.
<u>A3</u> 36-39	3.1, 3.2	Air Quality Management	✓	Nil	Deposited dust results for February 2023 showed low levels at all locations.
<u>A4</u> 40-41	4.1	Access and Traffic	✓	Nil	Truck movements were not exceeded. Weighbridge records are available to view.
<u>A5</u> 42-45	5.1, 5.2, 5.3	Erosion & Sediment Control	✓	Nil	No erosion or sediment control issues this period
<u>A6</u> 46-49	6.1	Water Management	✓	Nil	Ground water monitored monthly. Surface water quality monitored 4 times a year, last in Dec 2022 next in Mar 2023. Ground water quality monitored annually. All results found within annual water management report.
<u>A7</u> 50-54	7.1, 7.2	Rehabilitation & Vegetation Offset Management	✓	Nil	Rehabilitation work undertaken. Weed removal and habitat enhancement ongoing. All results found within bi-annual rehabilitation management report.
<u>A8</u> 55-56	8.1	Social Impact Management	✓	Nil	CCC meeting each 6 months. Last met Nov 2022, next meet May 2023.
<u>A9</u> 57-58	9.1	Heritage Management	✓	Nil	No heritage matters arising this period.
<u>A10</u> 59-61	10.1	Visual Amenity Management	✓	Nil	Earth bunds in place
<u>A11</u> 62-64	11.1	Waste Management	✓	Nil	Waste managed in accordance with DA and local council requirements.
<u>A12</u> 65-66	12.1	Emergency Response Management	✓	Nil	No emergency response matters arising this period.
<u>A13</u> 67-71	13.1, 13.2	Hazard, Risk and Safety Management	✓	Nil	All staff and contractors inducted before entering site. Training provided where required.
Completed by Environmental Contractor (South East Environmental)				Signed: <i>Melissa Mass</i>	Date: 28/02/2023

PF FORMATION – ENVIRONMENTAL OPERATIONAL PROCEDURES
Hitchcock Road Sand Extraction and Rehabilitation Project, Maroota

The chapter, page number and strategy point number are references to the approved Environmental Strategy Appendix A – Environmental Operational Procedures.

<u>CHAPTER</u> Page No.	<u>STRATEGY</u> Point No.	<u>MANAGEMENT CONTROLS</u>	<u>STATUS</u> ✓ or ✗	<u>COMPLAINTS</u> RECEIVED	<u>COMMENTS</u>
<u>A2</u> 33-35	2.1	Noise Management	✓	Nil	Noise monitored 4 times annually. All results found within annual noise management report.
<u>A3</u> 36-39	3.1, 3.2	Air Quality Management	✓	Nil	Deposited dust results for March 2023 showed low levels at all locations.
<u>A4</u> 40-41	4.1	Access and Traffic	✓	Nil	Truck movements were not exceeded. Weighbridge records are available to view.
<u>A5</u> 42-45	5.1, 5.2, 5.3	Erosion & Sediment Control	✓	Nil	No erosion or sediment control issues this period
<u>A6</u> 46-49	6.1	Water Management	✓	Nil	Ground water monitored monthly. Surface water quality monitored 4 times a year, last in Mar 2023 next in Jul 2023. Ground water quality monitored annually. All results found within annual water management report.
<u>A7</u> 50-54	7.1, 7.2	Rehabilitation & Vegetation Offset Management	✓	Nil	Rehabilitation work undertaken. Weed removal and habitat enhancement ongoing. All results found within bi-annual rehabilitation management report.
<u>A8</u> 55-56	8.1	Social Impact Management	✓	Nil	CCC meeting each 6 months. Last met Nov 2022, next meet May 2023
<u>A9</u> 57-58	9.1	Heritage Management	✓	Nil	No heritage matters arising this period.
<u>A10</u> 59-61	10.1	Visual Amenity Management	✓	Nil	Earth bunds in place
<u>A11</u> 62-64	11.1	Waste Management	✓	Nil	Waste managed in accordance with DA and local council requirements.
<u>A12</u> 65-66	12.1	Emergency Response Management	✓	Nil	No emergency response matters arising this period.
<u>A13</u> 67-71	13.1, 13.2	Hazard, Risk and Safety Management	✓	Nil	All staff and contractors inducted before entering site. Training provided where required.

Completed by Environmental Contractor (South East Environmental)

Signed: *Melissa Mass*

Date: 31/03/2023

**PF FORMATION – ENVIRONMENTAL OPERATIONAL PROCEDURES
Hitchcock Road Sand Extraction and Rehabilitation Project, Maroota**

The chapter, page number and strategy point number are references to the approved Environmental Strategy Appendix A – Environmental Operational Procedures.

<u>CHAPTER</u> Page No.	<u>STRATEGY</u> Point No.	<u>MANAGEMENT CONTROLS</u>	<u>STATUS</u> ✓ or ✗	<u>COMPLAINTS</u> RECEIVED	<u>COMMENTS</u>
<u>A2</u> 33-35	2.1	Noise Management	✓	Nil	Noise monitored 4 times annually. All results found within annual noise management report.
<u>A3</u> 36-39	3.1, 3.2	Air Quality Management	✓	Nil	Deposited dust results for April 2023 showed low levels at all locations.
<u>A4</u> 40-41	4.1	Access and Traffic	✓	Nil	Truck movements were not exceeded. Weighbridge records are available to view.
<u>A5</u> 42-45	5.1, 5.2, 5.3	Erosion & Sediment Control	✓	Nil	No erosion or sediment control issues this period
<u>A6</u> 46-49	6.1	Water Management	✓	Nil	Ground water monitored monthly. Surface water quality monitored 4 times a year, last in Mar 2023 next in Jul 2023. Ground water quality monitored annually. All results found within annual water management report.
<u>A7</u> 50-54	7.1, 7.2	Rehabilitation & Vegetation Offset Management	✓	Nil	Rehabilitation work undertaken. Weed removal and habitat enhancement ongoing. All results found within bi-annual rehabilitation management report.
<u>A8</u> 55-56	8.1	Social Impact Management	✓	Nil	CCC meeting each 6 months. Last met Nov 2022, next meet May 2023
<u>A9</u> 57-58	9.1	Heritage Management	✓	Nil	No heritage matters arising this period.
<u>A10</u> 59-61	10.1	Visual Amenity Management	✓	Nil	Earth bunds in place
<u>A11</u> 62-64	11.1	Waste Management	✓	Nil	Waste managed in accordance with DA and local council requirements.
<u>A12</u> 65-66	12.1	Emergency Response Management	✓	Nil	No emergency response matters arising this period.
<u>A13</u> 67-71	13.1, 13.2	Hazard, Risk and Safety Management	✓	Nil	All staff and contractors inducted before entering site. Training provided where required.
Completed by Environmental Contractor (South East Environmental)				Signed: <i>Melissa Mass</i>	Date: 30/04/2023

**PF FORMATION – ENVIRONMENTAL OPERATIONAL PROCEDURES
Hitchcock Road Sand Extraction and Rehabilitation Project, Maroota**

The chapter, page number and strategy point number are references to the approved Environmental Strategy Appendix A – Environmental Operational Procedures.

<u>CHAPTER</u> Page No.	<u>STRATEGY</u> Point No.	<u>MANAGEMENT CONTROLS</u>	<u>STATUS</u> ✓ or ✗	<u>COMPLAINTS</u> RECEIVED	<u>COMMENTS</u>
<u>A2</u> 33-35	2.1	Noise Management	✓	Nil	Noise monitored 4 times annually. All results found within annual noise management report.
<u>A3</u> 36-39	3.1, 3.2	Air Quality Management	✓	Nil	Deposited dust results for May 2023 showed low levels at all locations.
<u>A4</u> 40-41	4.1	Access and Traffic	✓	Nil	Truck movements were not exceeded. Weighbridge records were reviewed.
<u>A5</u> 42-45	5.1, 5.2, 5.3	Erosion & Sediment Control	✓	Nil	No erosion or sediment control issues this period
<u>A6</u> 46-49	6.1	Water Management	✓	Nil	Ground water monitored monthly. Surface water quality monitored 4 times a year, last in Mar 2023 next in Jul 2023. Ground water quality monitored annually. All results found within annual water management report.
<u>A7</u> 50-54	7.1, 7.2	Rehabilitation & Vegetation Offset Management	✓	Nil	Rehabilitation work undertaken. Weed removal and habitat enhancement ongoing. All results found within bi-annual rehabilitation management report.
<u>A8</u> 55-56	8.1	Social Impact Management	✓	Nil	CCC meeting each 6 months. Last met May 2023, next meet Nov 2023. No issues raised by the community. Meeting notes can be found in the AEMR.
<u>A9</u> 57-58	9.1	Heritage Management	✓	Nil	No heritage matters arising this period.
<u>A10</u> 59-61	10.1	Visual Amenity Management	✓	Nil	Earth bunds in place
<u>A11</u> 62-64	11.1	Waste Management	✓	Nil	Waste managed in accordance with DA and local council requirements.
<u>A12</u> 65-66	12.1	Emergency Response Management	✓	Nil	No emergency response matters arising this period.
<u>A13</u> 67-71	13.1, 13.2	Hazard, Risk and Safety Management	✓	Nil	All staff and contractors inducted before entering site. Training provided where required.
Completed by Environmental Contractor (South East Environmental)				Signed: <i>Melissa Mass</i>	Date: 31/05/2023

**PF FORMATION – ENVIRONMENTAL OPERATIONAL PROCEDURES
Hitchcock Road Sand Extraction and Rehabilitation Project, Maroota**

The chapter, page number and strategy point number are references to the approved Environmental Strategy Appendix A – Environmental Operational Procedures.

<u>CHAPTER</u> Page No.	<u>STRATEGY</u> Point No.	<u>MANAGEMENT CONTROLS</u>	<u>STATUS</u> ✓ or ✗	<u>COMPLAINTS</u> RECEIVED	<u>COMMENTS</u>
<u>A2</u> 33-35	2.1	Noise Management	✓	Nil	Noise monitored 4 times annually. All results found within annual noise management report.
<u>A3</u> 36-39	3.1, 3.2	Air Quality Management	✓	Nil	Deposited dust results for June 2023 showed low levels at all locations.
<u>A4</u> 40-41	4.1	Access and Traffic	✓	Nil	Truck movements were not exceeded. Weighbridge records are available to view.
<u>A5</u> 42-45	5.1, 5.2, 5.3	Erosion & Sediment Control	✓	Nil	No erosion or sediment control issues this period
<u>A6</u> 46-49	6.1	Water Management	✓	Nil	Ground water monitored monthly. Surface water quality monitored 4 times a year, last in Mar 2023 next in Jul 2023. Ground water quality monitored annually. All results found within annual water management report.
<u>A7</u> 50-54	7.1, 7.2	Rehabilitation & Vegetation Offset Management	✓	Nil	Rehabilitation work undertaken. Weed removal and habitat enhancement ongoing. All results found within bi-annual rehabilitation management report.
<u>A8</u> 55-56	8.1	Social Impact Management	✓	Nil	CCC meeting each 6 months. Last met May 2023, next meet Nov 2023
<u>A9</u> 57-58	9.1	Heritage Management	✓	Nil	No heritage matters arising this period.
<u>A10</u> 59-61	10.1	Visual Amenity Management	✓	Nil	Earth bunds in place
<u>A11</u> 62-64	11.1	Waste Management	✓	Nil	Waste managed in accordance with DA and local council requirements.
<u>A12</u> 65-66	12.1	Emergency Response Management	✓	Nil	No emergency response matters arising this period.
<u>A13</u> 67-71	13.1, 13.2	Hazard, Risk and Safety Management	✓	Nil	All staff and contractors inducted before entering site. Training provided where required.
Completed by Environmental Contractor (South East Environmental)				Signed: <i>Melissa Mass</i>	Date: 30/06/2023

ATTACHMENT 6

LOCATION WEATHER CHART

Month	BOM Maroota (Old Telegraph Rd) Rainfall (mm)
July 2022	242.2
August	20.4
September	65.8
October	79.2
November	15.2
December	30.4
January 2021	148
February	126.4
March	24.8
April	28.4
May	16.6
June 2023	8.8
Total (yr)	1127.4

JULY 2022
LOCAL CLIMATOLOGICAL DATA

DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
PF Formation - Maroota

Lat: -33.4656 Long: 150.9905 Elev (ground): 0 m Time Zone: Australia/Sydney



Date	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (mb)		WIND SPEED = m/s DIR = DEGREES							Date
	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	WIND MAX				
														INSTANT		ARCHIVE		
														SPEED	DIR	SPEED	DIR	
01	11	9	10	8	9	8.424	0.000	4.0	1003.8	1003.8	0	82	0	4	360	1	22	01
02	14	10	12	11	11	6.606	0.000	10.2	999.5	999.5	1	64	0	5	22	2	45	02
03	14	13	14	13	13	4.752	0.000	62.2	995.8	995.8	3	17	3	13	22	5	360	03
04	15	12	13	13	13	4.954	0.000	62.6	994.5	994.5	2	55	2	10	22	4	22	04
05	14	12	13	13	13	5.023	0.000	31.2	999.2	999.2	3	27	3	14	22	5	22	05
06	14	12	13	12	12	5.676	0.000	25.8	996.8	996.8	2	60	2	9	45	3	45	06
07	18	9	13	11	12	5.126	0.000	0.8	990.5	990.5	1	82	1	8	45	2	90	07
08	15	5	9	5	7	9.169	0.000	0.0	991.5	991.5	1	161	1	12	158	4	158	08
09	15	5	10	5	7	8.608	0.000	0.0	996.4	996.4	1	104	0	5	135	2	135	09
10	14	6	10	8	9	8.757	0.000	15.6	1002.2	1002.2	1	68	1	8	22	3	68	10
11	16	9	11	9	10	7.756	0.000	0.6	1002.4	1002.4	0	51	0	5	68	1	45	11
12	16	6	10	8	8	8.517	0.000	1.2	995.4	995.4	1	223	0	6	225	2	225	12
13	14	6	9	6	7	8.994	0.000	0.0	992.9	992.9	1	93	0	7	68	3	90	13
14	14	6	10	6	7	8.471	0.000	0.0	1000.9	1000.9	2	74	1	10	68	4	68	14
15	16	3	9	5	6	9.638	0.000	0.0	1005.5	1005.5	0	205	0	4	135	2	158	15
16	16	5	10	4	7	8.160	0.000	0.0	1002.0	1002.0	1	225	1	7	248	3	225	16
17	19	9	15	5	9	3.759	0.155	0.0	994.4	994.4	3	213	3	19	158	6	180	17
18	15	6	11	4	7	7.050	0.000	0.0	996.5	996.5	1	144	1	13	180	4	158	18
19	12	5	8	6	7	9.897	0.000	1.6	1006.3	1006.3	1	60	1	8	45	3	22	19
20	14	7	10	9	9	8.550	0.000	1.0	1010.0	1010.0	0	80	0	4	90	1	68	20
21	13	9	11	10	10	7.693	0.000	17.6	1010.4	1010.4	0	26	0	5	68	2	360	21
22	15	10	12	11	11	6.624	0.000	3.8	1007.7	1007.7	1	19	0	7	360	3	315	22
23	16	10	12	11	11	6.517	0.000	1.8	1003.8	1003.8	0	64	0	4	90	1	68	23
24	17	10	12	11	11	6.023	0.000	0.2	1001.4	1001.4	0	329	0	3	315	2	315	24
25	17	7	12	10	11	6.147	0.000	0.0	997.7	997.7	1	231	0	7	225	3	225	25
26	18	8	12	8	10	6.003	0.000	2.0	991.1	991.1	2	179	2	14	158	5	158	26
27	17	5	10	5	7	8.053	0.000	0.0	996.4	996.4	1	114	0	8	158	3	90	27
28	18	6	12	7	9	6.719	0.000	0.0	1001.4	1001.4	0	153	0	7	68	2	158	28
29	15	6	11	5	7	7.750	0.000	0.0	1002.8	1002.8	1	54	1	7	68	3	68	29
30	15	3	9	4	6	9.378	0.000	0.0	1006.1	1006.1	0	254	0	5	158	2	112	30
31	16	5	11	6	8	7.473	0.000	0.0	1001.6	1001.6	2	227	1	11	225	4	225	31
	15	7	11	8	9	7.299	0.155		999.9	999.9	1	120	1	< Monthly Avg				
NUMBER OF DAYS WITH:		>		Maximum Temp ≥ 32.2: 0		Minimum Temp ≤ 0: 0		Precipitation ≥ 0.2 mm: 16		Greatest 24 - hr precipitation: 37.2 Date: 3-4		Monthly Total Precipitation: 242.2						
SEA LEVEL PRESSURE:		>		MAXIMUM: 1011.9		DATE TIME: 21 10:00		DEGREE DAYS: >		MONTHLY TOTAL: 226.269		SEASON TO DATE TOTAL: 651.410						
				MINIMUM: 988.1		DATE TIME: 26 14:00				COOLING: 0.155		0.155						

JULY 2022
Maroota, NSW AUS

AUGUST 2022
LOCAL CLIMATOLOGICAL DATA

DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
PF Formation - Maroota



Lat: -33.4656 Long: 150.9905 Elev (ground): 0 m Time Zone: Australia/Sydney

TEMPERATURE °C						DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (mb)		WIND SPEED = m/s DIR = DEGREES							
Date	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	WIND MAX				Date
														INSTANT		ARCHIVE		
														SPEED	DIR	SPEED	DIR	
01	19	8	14	7	10	4.389	0.058	0.0	995.9	995.9	2	215	2	9	225	4	248	01
02	18	6	12	5	8	6.247	0.000	0.0	997.9	997.9	1	228	1	6	225	3	225	02
03	22	10	16	10	12	3.014	0.779	0.0	993.5	993.5	3	225	2	11	225	4	225	03
04	21	16	18	14	15	0.753	0.441	5.2	987.4	987.4	3	226	3	14	225	5	225	04
05	20	14	17	11	13	1.809	0.281	0.2	984.8	984.8	2	219	2	11	225	4	225	05
06	18	10	14	7	9	4.325	0.000	0.0	988.8	988.8	2	185	2	11	158	4	158	06
07	17	8	11	7	9	6.914	0.000	0.0	995.2	995.2	0	74	0	7	22	3	22	07
08	17	7	11	7	8	7.602	0.000	0.0	1001.0	1001.0	1	48	1	6	90	3	68	08
09	14	7	10	7	8	8.514	0.000	0.2	1003.7	1003.7	1	76	1	8	68	2	90	09
10	16	8	11	8	9	7.281	0.000	0.4	1006.5	1006.5	1	17	0	6	360	3	338	10
11	15	7	12	9	10	6.758	0.000	0.0	1002.1	1002.1	1	236	0	7	225	2	225	11
12	15	12	13	10	11	5.201	0.000	1.0	996.7	996.7	2	229	2	8	225	3	225	12
13	18	10	13	9	10	5.685	0.000	4.6	991.4	991.4	1	201	1	10	248	3	225	13
14	16	9	12	6	8	6.716	0.000	0.0	988.8	988.8	2	210	2	12	180	4	180	14
15	17	9	12	6	9	6.116	0.000	0.0	988.4	988.4	2	198	2	11	158	3	180	15
16	18	7	12	6	8	6.220	0.000	0.0	990.4	990.4	1	168	0	7	225	2	180	16
17	19	6	12	7	9	6.745	0.027	0.0	997.5	997.5	0	5	0	6	112	2	315	17
18	20	8	14	8	10	4.755	0.176	0.0	994.0	994.0	1	225	1	6	225	2	225	18
19	20	8	15	8	10	3.723	0.042	0.0	993.1	993.1	1	179	1	11	158	4	135	19
20	19	6	12	6	8	6.742	0.000	0.0	999.5	999.5	1	189	1	8	158	4	158	20
21	18	9	13	7	9	5.683	0.000	0.0	1004.4	1004.4	1	235	1	6	225	2	225	21
22	20	8	14	7	9	4.707	0.164	0.0	997.9	997.9	2	201	2	13	158	5	225	22
23	21	6	13	7	9	5.993	0.194	7.2	991.5	991.5	1	189	2	13	22	4	22	23
24	16	5	10	4	6	8.291	0.000	0.0	999.2	999.2	1	101	1	9	68	3	90	24
25	18	5	11	6	8	7.399	0.000	0.0	1001.6	1001.6	0	67	0	6	90	2	90	25
26	16	9	12	9	10	6.137	0.000	0.0	1006.1	1006.1	1	35	1	7	68	3	45	26
27	16	8	12	10	11	6.635	0.000	1.0	1007.8	1007.8	1	57	0	5	315	2	315	27
28	20	9	13	11	12	5.015	0.139	0.2	1006.8	1006.8	1	310	0	6	360	3	338	28
29	19	10	14	12	13	4.378	0.014	0.2	1003.0	1003.0	0	278	0	5	248	2	248	29
30	21	14	17	12	13	1.721	0.441	0.0	996.9	996.9	2	219	2	14	225	5	225	30
31	20	8	14	10	11	4.649	0.030	0.2	1002.7	1002.7	1	348	1	8	315	4	315	31
	18	9	13	8	10	5.488	0.214		997.2	997.2	1	174	1	< Monthly Avg				
NUMBER OF DAYS WITH: >						Maximum Temp ≥ 32.2: 0 Minimum Temp ≤ 0: 0		Minimum Temp ≤ 0: 0 Minimum Temp ≤ -17.7: 0		Precipitation ≥ 0.2 mm: 6 Precipitation ≥ 2.0 mm: 3			Greatest 24 - hr precipitation: 36.8 Date: 3-4 Monthly Total Precipitation: 20.4					
SEA LEVEL PRESSURE: >						MAXIMUM: 1009.4 MINIMUM: 982.8		DATE: 27 TIME: 09:00 14:30		DEGREE DAYS: >			HEATING: 170.119 COOLING: 2.786		MONTHLY TOTAL: 821.529 SEASON TO DATE TOTAL: 2.941			

AUGUST 2022
Maroota, NSW AUS

SEPTEMBER 2022
LOCAL CLIMATOLOGICAL DATA

DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
PF Formation - Maroota



Lat: -33.4656 Long: 150.9905 Elev (ground): 0 m Time Zone: Australia/Sydney

Date	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (mb)		WIND SPEED = m/s DIR = DEGREES							Date
	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	WIND MAX				
														INSTANT		ARCHIVE		
														SPEED	DIR	SPEED	DIR	
01	21	12	15	13	13	3.613	0.288	0.4	1001.7	1001.7	1	280	1	7	315	3	315	01
02	17	11	13	11	12	5.391	0.000	1.0	1001.4	1001.4	1	41	1	8	22	4	360	02
03	13	8	10	8	9	8.559	0.000	9.0	1003.3	1003.3	1	52	1	11	22	4	22	03
04	16	9	11	9	10	7.218	0.000	3.6	1003.7	1003.7	2	45	1	10	315	4	45	04
05	18	7	11	8	9	6.964	0.000	0.2	1002.8	1002.8	1	32	0	8	360	4	360	05
06	16	8	11	8	9	7.131	0.000	0.0	1003.9	1003.9	1	26	0	8	360	3	360	06
07	18	7	12	10	11	5.917	0.000	0.0	1003.0	1003.0	1	289	0	7	315	2	315	07
08	20	9	15	11	12	3.704	0.244	0.0	997.8	997.8	1	286	1	7	338	3	315	08
09	21	13	15	12	13	3.028	0.175	1.4	991.6	991.6	1	231	1	9	225	4	225	09
10	21	12	16	11	12	2.766	0.399	0.0	989.1	989.1	2	201	1	9	225	3	225	10
11	21	9	15	7	9	4.120	0.376	0.0	993.6	993.6	1	191	1	6	225	2	158	11
12	19	6	13	6	8	5.713	0.010	0.0	997.5	997.5	1	98	0	6	158	2	158	12
13	16	8	11	7	9	6.904	0.000	0.0	1004.7	1004.7	1	359	1	9	360	4	360	13
14	17	7	12	8	9	6.116	0.000	0.0	1005.0	1005.0	1	321	1	7	338	3	315	14
15	13	9	12	11	11	6.664	0.000	16.4	994.0	994.0	1	243	1	7	135	2	225	15
16	23	12	17	10	12	2.340	0.934	0.0	985.4	985.4	2	210	2	11	158	4	158	16
17	21	13	17	8	11	1.962	0.406	0.0	986.2	986.2	2	200	2	13	158	4	225	17
18	21	11	16	7	10	2.822	0.498	0.0	990.0	990.0	2	175	2	13	158	4	158	18
19	22	11	15	7	10	3.659	0.524	0.0	994.5	994.5	1	153	1	9	180	3	158	19
20	21	7	14	9	11	4.605	0.181	0.0	1000.7	1000.7	1	290	1	8	292	4	315	20
21	19	11	15	13	13	3.471	0.035	0.8	997.9	997.9	0	255	0	5	248	2	180	21
22	18	14	15	13	14	3.061	0.000	8.4	997.0	997.0	2	302	2	14	248	4	270	22
23	19	14	16	14	15	2.155	0.020	1.4	994.8	994.8	1	292	1	7	248	3	338	23
24	21	11	15	13	14	3.340	0.220	10.2	990.9	990.9	0	297	0	8	68	3	68	24
25	22	9	15	10	12	4.170	0.641	0.2	994.8	994.8	1	288	1	7	338	4	315	25
26	20	10	14	12	13	3.928	0.073	0.0	995.8	995.8	1	300	0	6	315	3	315	26
27	22	12	16	13	14	2.924	0.373	1.0	992.4	992.4	1	266	1	7	225	3	225	27
28	23	12	16	11	13	3.422	0.656	2.2	991.2	991.2	0	178	1	10	22	3	22	28
29	19	11	14	12	13	4.286	0.001	3.0	997.3	997.3	2	60	2	13	45	5	45	29
30	17	12	14	11	12	4.791	0.000	6.6	1002.9	1002.9	2	47	2	12	22	4	45	30
	19	10	14	10	11	4.491	0.319		996.8	996.8	1	200	1	< Monthly Avg				
NUMBER OF DAYS WITH:		>		Maximum Temp ≥ 32.2: 0		Minimum Temp ≤ 0: 0		Precipitation ≥ 0.2 mm: 14		Greatest 24 - hr precipitation: 36.6		Date: 2-3		Monthly Total Precipitation: 65.8				
SEA LEVEL PRESSURE:		>		MAXIMUM: 1008.1		DATE: 14		TIME: 08:30		DEGREEE DAYS: >		MONTHLY TOTAL: 134.744		SEASON TO DATE TOTAL: 956.273				
				MINIMUM: 983.6		DATE: 16		TIME: 14:00				COOLING: 6.054		8.995				

SEPTEMBER 2022
Maroota, NSW AUS

OCTOBER 2022
LOCAL CLIMATOLOGICAL DATA
 DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
PF Formation - Maroota



Lat: -33.4656 Long: 150.9905 Elev (ground): 0 m Time Zone: Australia/Sydney

Date	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (mb)		RESULTANT SPEED	RES DIR	AVERAGE SPEED	WIND SPEED = m/s DIR = DEGREES				Date	
	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL				WIND MAX					
														INSTANT		ARCHIVE			
														SPEED	DIR	SPEED	DIR		
01	16	9	12	10	11	6.272	0.000	0.6	1002.0	1002.0	1	18	1	9	360	4	338	01	
02	19	9	12	9	10	5.737	0.000	0.4	998.7	998.7	1	356	1	8	360	4	338	02	
03	20	7	13	9	10	5.440	0.038	0.2	1000.5	1000.5	1	293	0	5	248	2	315	03	
04	24	9	16	11	12	3.336	0.965	0.0	1001.4	1001.4	1	319	0	6	338	3	338	04	
05	15	13	14	12	13	4.601	0.000	10.2	1004.8	1004.8	1	327	1	7	315	3	360	05	
06	18	13	15	14	14	3.182	0.000	0.6	1001.5	1001.5	1	272	0	7	225	2	225	06	
07	20	13	16	15	15	2.459	0.172	8.6	995.4	995.4	1	238	1	8	248	4	248	07	
08	21	13	17	15	16	1.965	0.472	33.0	993.7	993.7	0	341	1	8	225	3	360	08	
09	16	9	12	9	11	5.876	0.000	3.8	999.4	999.4	2	58	2	10	68	4	45	09	
10	16	8	13	9	11	5.778	0.000	0.0	1005.1	1005.1	1	342	1	8	338	4	338	10	
11	18	11	14	11	12	4.304	0.000	0.0	1003.6	1003.6	1	311	1	8	338	4	315	11	
12	19	10	15	12	13	3.784	0.010	0.0	1002.7	1002.7	1	296	1	8	315	4	315	12	
13	20	11	16	13	14	2.181	0.278	0.0	997.3	997.3	1	284	1	8	248	4	315	13	
14	23	13	18	11	13	1.284	1.340	0.0	991.3	991.3	2	170	2	12	180	5	180	14	
15	25	10	16	10	12	2.949	0.892	0.0	997.6	997.6	1	319	1	9	315	4	315	15	
16	22	11	16	13	14	2.587	0.510	0.0	998.1	998.1	1	344	1	9	338	4	338	16	
17	18	12	15	12	13	3.499	0.000	0.4	1000.6	1000.6	1	23	1	8	45	3	22	17	
18	20	12	16	14	14	2.765	0.044	0.0	999.5	999.5	1	329	1	7	315	3	338	18	
19	26	15	19	16	17	1.149	1.432	0.4	996.9	996.9	0	323	1	7	315	3	315	19	
20	20	16	18	17	17	0.846	0.256	2.4	995.8	995.8	1	351	0	6	338	2	315	20	
21	23	17	19	17	18	0.444	1.236	0.8	993.2	993.2	1	264	1	7	248	2	225	21	
22	25	16	20	17	18	0.416	2.175	0.2	991.8	991.8	2	258	2	9	225	4	225	22	
23	23	17	19	17	17	0.291	0.558	5.2	992.8	992.8	1	290	1	6	338	3	338	23	
24	22	16	18	17	17	0.927	0.514	8.0	989.7	989.7	1	72	1	8	112	3	135	24	
25	27	17	20	16	18	0.420	2.425	0.2	984.3	984.3	1	216	1	14	158	4	202	25	
26	28	17	22	15	17	0.164	3.813	0.0	982.0	982.0	1	181	1	11	180	4	158	26	
27	26	17	20	14	16	0.124	2.147	4.2	982.2	982.2	1	192	1	11	158	4	180	27	
28	23	16	19	8	11	0.726	1.447	0.0	983.6	983.6	3	160	3	16	158	5	158	28	
29	25	15	19	7	11	1.006	1.766	0.0	985.7	985.7	3	158	3	13	180	5	135	29	
30	24	12	17	9	12	1.853	0.961	0.0	989.3	989.3	1	309	1	8	338	4	315	30	
31	28	16	22	15	17	0.453	3.743	0.0	979.5	979.5	3	224	3	22	225	8	225	31	
	22	13	17	13	14	2.478	1.182		994.8	994.8	1	246	1	< Monthly Avg					
NUMBER OF DAYS WITH:		> Maximum Temp ≥ 32.2: 0		Minimum Temp ≤ 0: 0		Precipitation ≥ 0.2 mm: 14		Greatest 24 - hr precipitation: 36.8 Date: 7-8		Monthly Total Precipitation: 79.2									
		> Maximum Temp ≤ 0: 0		Minimum Temp ≤ -17.7: 0		Precipitation ≥ 2.0 mm: 7													
SEA LEVEL PRESSURE:		> MAXIMUM: 1007.0		DATE: 5		TIME: 08:30		MONTHLY TOTAL: 76.816		HEATING: 1033.089		SEASON TO DATE TOTAL: 36.190							
		MINIMUM: 970.8		DATE: 1		TIME: 00:00		DEGREEE DAYS: >		HEATING: 27.194		COOLING: 36.190							

OCTOBER 2022
Maroota, NSW AUS

NOVEMBER 2022
LOCAL CLIMATOLOGICAL DATA

DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
PF Formation - Maroota

Lat: -33.4656 Long: 150.9905 Elev (ground): 0 m Time Zone: Australia/Sydney



Date	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (mb)		RESULTANT SPEED	RES DIR	AVERAGE SPEED	WIND SPEED = m/s DIR = DEGREES				Date
	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING		AVERAGE STATION	AVERAGE SEA LEVEL				WIND MAX				
														INSTANT		ARCHIVE		
														SPEED	DIR	SPEED	DIR	
01	22	11	18	10	13	1.334	1.229	0.4	973.4	973.4	4	189	4	19	158	6	158	01
02	18	9	13	4	7	5.325	0.000	0.0	985.1	985.1	3	154	3	15	158	5	135	02
03	21	8	14	8	10	4.285	0.233	3.6	996.1	996.1	0	350	1	8	202	4	338	03
04	18	11	15	12	13	3.441	0.000	0.0	1005.8	1005.8	1	307	1	7	292	3	315	04
05	22	11	16	12	13	3.006	0.647	0.0	1007.1	1007.1	2	308	1	8	338	4	338	05
06	25	11	17	13	14	2.495	1.400	0.0	1003.9	1003.9	2	302	1	10	315	5	338	06
07	23	12	17	13	15	2.008	1.154	0.0	1001.3	1001.3	1	315	1	9	338	4	315	07
08	22	12	17	13	14	1.891	1.000	0.0	1000.4	1000.4	1	317	1	11	292	5	338	08
09	22	12	17	12	14	2.174	1.067	0.0	1001.4	1001.4	2	318	1	9	315	5	338	09
10	23	10	17	12	14	2.392	1.260	0.0	999.7	999.7	2	294	1	9	338	4	338	10
11	25	12	18	13	15	1.772	1.519	0.0	993.4	993.4	1	222	1	9	158	3	225	11
12	27	14	20	16	17	0.832	2.784	0.6	991.6	991.6	1	324	1	8	360	4	338	12
13	22	17	19	18	18	0.431	1.289	3.2	988.1	988.1	2	227	2	13	225	5	225	13
14	27	18	22	14	16	0.005	3.602	2.8	982.4	982.4	3	178	3	17	158	7	158	14
15	25	15	19	11	13	0.824	1.988	0.0	987.2	987.2	1	143	1	8	158	3	158	15
16	18	9	13	6	9	5.179	0.000	2.6	990.1	990.1	1	117	1	13	90	4	68	16
17	20	7	13	8	10	5.017	0.043	0.2	993.6	993.6	1	14	1	8	338	4	338	17
18	21	10	15	10	12	3.365	0.358	0.0	994.3	994.3	1	0	1	9	360	4	315	18
19	27	11	19	13	15	2.315	2.544	0.0	987.6	987.6	2	260	1	9	225	4	338	19
20	26	17	22	10	13	0.109	3.475	0.6	979.4	979.4	3	162	3	20	158	7	135	20
21	23	13	18	6	10	1.209	1.286	0.0	984.7	984.7	4	158	4	20	158	8	158	21
22	22	11	16	5	9	3.010	0.663	0.0	991.7	991.7	3	146	3	15	180	4	135	22
23	27	11	19	10	12	2.159	2.782	0.0	993.7	993.7	2	150	1	10	158	4	158	23
24	27	13	19	12	14	1.263	2.044	0.0	996.9	996.9	1	329	1	10	338	5	338	24
25	28	14	20	14	16	1.145	2.502	0.0	995.9	995.9	1	313	1	10	338	5	338	25
26	23	14	18	14	15	1.394	1.083	0.0	992.5	992.5	1	329	1	9	338	4	315	26
27	30	15	21	15	17	0.925	4.021	0.4	983.9	983.9	1	248	2	12	112	4	225	27
28	23	16	19	16	17	0.676	1.116	0.8	986.0	986.0	2	333	1	9	338	4	338	28
29	25	13	18	12	14	1.590	1.310	0.0	992.3	992.3	2	360	2	10	315	5	315	29
30	20	13	17	12	14	1.434	0.363	0.0	997.1	997.1	1	291	1	9	225	3	270	30
	23	12	18	11	13	2.100	1.584		992.6	992.6	2	238	2	< Monthly Avg				
NUMBER OF DAYS WITH:		> Maximum Temp ≥ 32.2: 0 Maximum Temp ≤ 0: 0		Minimum Temp ≤ 0: 0 Minimum Temp ≤ -17.7: 0		Precipitation ≥ 0.2 mm: 9 Precipitation ≥ 2.0 mm: 4		Greatest 24 - hr precipitation: 36.6 Date: 2-3 Monthly Total Precipitation: 15.2										
SEA LEVEL PRESSURE:		> MAXIMUM: 1009.0 MINIMUM: 967.7		DATE: 5 TIME: 09:00 1 03:00		DEGREEE DAYS: > HEATING: 63.005 COOLING: 42.763		MONTHLY TOTAL: 1096.094 SEASON TO DATE TOTAL: 78.953										

NOVEMBER 2022
Maroota, NSW AUS

DECEMBER 2022
LOCAL CLIMATOLOGICAL DATA

DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
PF Formation - Maroota

Lat: -33.4656 Long: 150.9905 Elev (ground): 0 m Time Zone: Australia/Sydney



TEMPERATURE °C						DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (mb)		WIND SPEED = m/s DIR = DEGREES								
Date	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	WIND MAX				Date	
														INSTANT		ARCHIVE			
														SPEED	DIR	SPEED	DIR		
01	20	14	17	12	14	1.995	0.288	0.0	995.4	995.4	2	337	1	8	338	4	338	01	
02	22	12	16	12	13	2.763	0.588	0.2	996.3	996.3	2	348	1	9	338	4	338	02	
03	24	12	18	13	14	2.106	1.473	0.0	997.1	997.1	1	334	1	8	22	4	338	03	
04	26	13	19	14	15	1.450	2.019	0.0	995.1	995.1	1	286	1	10	315	4	338	04	
05	33	15	23	16	18	0.804	5.279	0.0	986.9	986.9	1	271	1	9	90	4	315	05	
06	24	15	19	15	16	0.462	1.463	0.0	986.9	986.9	1	346	2	10	315	4	338	06	
07	27	14	20	13	15	0.927	2.944	0.0	985.0	985.0	1	219	1	10	158	3	158	07	
08	25	12	19	10	13	0.921	1.337	0.0	986.3	986.3	0	345	2	10	315	4	338	08	
09	21	11	16	10	12	2.881	0.135	0.0	993.4	993.4	2	341	1	8	338	4	360	09	
10	21	14	17	12	13	1.829	0.389	0.0	996.4	996.4	1	311	1	7	315	3	315	10	
11	32	12	21	15	16	1.693	4.848	0.0	990.3	990.3	2	265	1	9	248	4	315	11	
12	27	17	23	13	16	0.097	5.034	18.8	982.8	982.8	3	187	4	16	248	6	225	12	
13	27	12	19	8	12	1.590	2.647	0.0	988.2	988.2	0	160	1	9	158	3	158	13	
14	23	12	18	7	10	1.512	0.979	0.0	987.6	987.6	2	144	2	13	158	4	158	14	
15	24	10	17	8	11	2.469	0.959	0.0	988.5	988.5	1	31	1	9	338	4	338	15	
16	20	11	15	9	11	3.147	0.140	1.0	994.1	994.1	1	26	1	9	338	4	22	16	
17	20	10	16	10	12	2.701	0.127	0.0	999.4	999.4	2	34	2	11	360	5	22	17	
18	20	12	15	11	13	3.249	0.028	0.8	1001.2	1001.2	2	35	2	12	360	5	360	18	
19	20	12	15	10	12	3.038	0.087	0.6	1002.5	1002.5	2	29	2	10	360	5	22	19	
20	20	11	15	10	12	3.194	0.167	0.0	1000.6	1000.6	1	359	1	7	315	3	315	20	
21	22	11	17	11	13	2.571	0.801	0.0	997.1	997.1	1	343	1	8	315	4	315	21	
22	24	12	17	13	14	2.331	1.132	0.6	994.3	994.3	1	296	1	6	292	3	338	22	
23	31	16	21	17	18	0.763	3.869	6.2	990.3	990.3	1	323	1	9	360	5	338	23	
24	33	19	25	17	19	0.000	6.579	0.0	989.9	989.9	1	282	1	9	338	4	315	24	
25	31	19	23	19	20	0.000	4.995	0.0	995.3	995.3	1	328	1	8	270	4	315	25	
26	32	17	24	17	18	0.100	5.802	0.0	999.8	999.8	2	315	1	9	315	4	338	26	
27	29	17	23	17	19	0.153	4.630	0.0	1000.9	1000.9	2	321	2	9	338	4	338	27	
28	32	18	24	18	19	0.046	5.713	0.0	994.3	994.3	1	295	1	9	338	4	315	28	
29	22	18	20	18	19	0.007	1.925	0.4	995.4	995.4	1	356	1	5	68	3	315	29	
30	25	17	20	17	18	0.363	2.022	1.8	997.0	997.0	1	338	1	9	338	4	338	30	
31	25	16	20	18	18	0.484	2.630	0.0	995.2	995.2	1	323	1	8	338	4	338	31	
														< Monthly Avg					
NUMBER OF DAYS WITH: >						Maximum Temp ≥ 32.2: 3		Minimum Temp ≤ 0: 0		Precipitation ≥ 0.2 mm: 8			Greatest 24 - hr precipitation: 37.6 Date: 11-12						
						Maximum Temp ≤ 0: 0		Minimum Temp ≤ -17.7: 0		Precipitation ≥ 2.0 mm: 2			Monthly Total Precipitation: 30.4						
SEA LEVEL PRESSURE: >						MAXIMUM: 1003.9		DATE: 19		TIME: 10:00		DEGREEE DAYS: >		MONTHLY TOTAL: 45.647		HEATING: 1141.741		SEASON TO DATE TOTAL: 149.981	
						MINIMUM: 979.4		DATE: 12		TIME: 14:00				MONTHLY TOTAL: 71.029		HEATING: 1141.741		SEASON TO DATE TOTAL: 149.981	

DECEMBER 2022
Maroota, NSW AUS

JANUARY 2023
LOCAL CLIMATOLOGICAL DATA

DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
PF Formation - Maroota

Lat: -33.4656 Long: 150.9905 Elev (ground): 0 m Time Zone: Australia/Sydney



Date	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (mb)		RESULTANT SPEED	RES DIR	AVERAGE SPEED	WIND SPEED = m/s DIR = DEGREES				Date	
	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING		AVERAGE STATION	AVERAGE SEA LEVEL				WIND MAX					
														INSTANT		ARCHIVE			
														SPEED	DIR	SPEED	DIR		
01	26	17	22	18	19	0.140	3.413	0.0	994.8	994.8	2	312	1	10	315	4	338	01	
02	29	17	23	17	19	0.120	4.344	0.0	991.4	991.4	1	288	1	9	338	4	338	02	
03	30	18	23	18	20	0.001	5.131	2.4	985.5	985.5	1	318	1	11	315	5	315	03	
04	26	17	21	19	19	0.034	2.450	1.0	984.2	984.2	1	353	1	8	338	4	315	04	
05	20	15	17	14	15	1.597	0.197	2.0	989.6	989.6	2	49	2	8	22	4	22	05	
06	17	14	15	13	14	3.051	0.000	16.8	992.5	992.5	2	71	2	10	90	4	68	06	
07	21	14	17	15	15	1.914	0.367	2.0	994.1	994.1	1	45	1	8	68	4	360	07	
08	26	15	19	14	16	1.118	1.850	0.4	993.4	993.4	1	4	1	8	338	4	315	08	
09	29	14	21	16	17	1.154	3.545	0.0	992.3	992.3	1	320	1	8	338	4	338	09	
10	27	14	20	16	17	0.942	2.944	0.0	993.8	993.8	2	353	1	8	338	4	338	10	
11	25	17	21	17	18	0.025	2.527	0.0	994.6	994.6	1	323	1	6	338	3	338	11	
12	28	18	22	17	19	0.001	3.543	0.0	995.6	995.6	1	321	1	9	338	4	338	12	
13	27	16	21	18	19	0.374	3.398	0.0	997.8	997.8	2	310	1	9	360	4	315	13	
14	26	17	22	18	19	0.101	3.672	0.0	997.5	997.5	2	291	1	9	315	4	270	14	
15	33	17	24	18	19	0.177	5.699	0.0	996.1	996.1	1	320	1	9	360	4	338	15	
16	27	18	23	18	19	0.000	4.612	0.0	1000.6	1000.6	2	324	2	10	360	4	338	16	
17	27	17	22	18	19	0.137	3.630	0.0	998.5	998.5	1	305	1	9	338	4	338	17	
18	34	17	24	18	20	0.087	5.958	14.6	990.4	990.4	1	295	1	12	90	5	68	18	
19	21	16	18	16	17	1.083	0.529	3.8	990.8	990.8	1	36	1	8	45	3	360	19	
20	20	16	17	15	16	1.177	0.125	0.0	995.8	995.8	1	32	1	8	45	3	68	20	
21	25	15	19	15	16	0.966	1.692	0.0	995.9	995.9	1	334	1	9	338	4	338	21	
22	20	16	17	16	17	1.116	0.140	15.4	995.0	995.0	0	32	0	4	22	1	360	22	
23	26	15	19	17	17	0.922	1.881	0.0	992.6	992.6	1	337	1	7	360	3	338	23	
24	29	17	22	18	19	0.212	3.513	0.2	991.4	991.4	1	302	1	8	315	4	338	24	
25	29	16	22	18	19	0.595	4.237	0.0	992.1	992.1	1	321	1	8	360	4	315	25	
26	36	18	24	19	20	0.000	6.045	5.0	992.3	992.3	1	316	1	8	68	4	22	26	
27	28	20	23	20	21	0.000	4.612	10.6	994.5	994.5	1	13	1	7	315	3	338	27	
28	33	21	26	22	23	0.000	7.333	0.0	992.5	992.5	1	297	1	9	338	4	338	28	
29	34	21	24	22	22	0.000	5.590	51.0	992.7	992.7	0	319	1	11	90	4	45	29	
30	23	19	21	20	20	0.000	2.688	22.6	989.4	989.4	1	223	1	9	225	3	225	30	
31	28	19	22	18	19	0.000	3.792	0.2	984.6	984.6	1	66	1	7	68	3	90	31	
	27	17	21	17	18	0.710	3.315		993.0	993.0	1	233	1	< Monthly Avg					
NUMBER OF DAYS WITH:		>		Maximum Temp ≥ 32.2: 5		Minimum Temp ≤ 0: 0		Precipitation ≥ 0.2 mm: 13		Precipitation ≥ 2.0 mm: 8		Greatest 24 - hr precipitation: 37.4		Date: 29-30		Monthly Total Precipitation: 148.0			
SEA LEVEL PRESSURE:		>		MAXIMUM: 1002.1		MINIMUM: 981.7		DATE: 16		TIME: 22:30		DEGREEE DAYS: >		MONTHLY TOTAL: 17.045		HEATING: 17.045		SEASON TO DATE TOTAL: 249.439	
								DATE: 4		TIME: 17:30									

JANUARY 2023
Maroota, NSW AUS

FEBRUARY 2023
LOCAL CLIMATOLOGICAL DATA
 DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
PF Formation - Maroota



Lat: -33.4656 Long: 150.9905 Elev (ground): 0 m Time Zone: Australia/Sydney

TEMPERATURE °C						DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (mb)		WIND SPEED = m/s DIR = DEGREES							
Date	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	WIND MAX				Date
														INSTANT		ARCHIVE		
														SPEED	DIR	SPEED	DIR	
01	29	18	22	18	19	0.042	4.152	0.0	982.9	982.9	1	338	1	9	338	4	315	01
02	33	19	26	17	19	0.000	7.453	0.0	977.7	977.7	1	225	1	11	225	3	225	02
03	30	18	24	14	16	0.000	5.211	0.0	975.8	975.8	1	216	1	11	225	4	338	03
04	26	16	21	8	12	0.475	2.999	0.0	985.5	985.5	2	160	1	11	158	4	180	04
05	30	14	21	12	14	0.678	3.639	0.0	994.3	994.3	1	323	1	9	315	4	315	05
06	30	16	22	18	19	0.325	4.282	0.0	996.4	996.4	2	301	1	10	338	4	338	06
07	28	19	23	19	20	0.000	4.932	0.0	995.1	995.1	1	326	1	10	315	4	338	07
08	28	18	22	18	19	0.014	3.997	0.0	994.4	994.4	2	316	1	10	315	4	315	08
09	25	18	21	18	19	0.060	2.259	3.8	991.6	991.6	0	272	0	8	22	3	45	09
10	32	17	22	18	19	0.422	4.307	0.2	987.7	987.7	1	295	1	7	315	3	315	10
11	37	18	27	18	20	0.003	8.378	0.0	984.3	984.3	1	245	1	10	225	3	225	11
12	29	20	24	18	19	0.000	5.477	0.0	984.7	984.7	2	29	1	10	360	5	360	12
13	23	19	21	17	18	0.000	2.277	0.0	990.1	990.1	1	6	1	8	360	3	22	13
14	22	18	19	17	18	0.122	0.853	0.8	992.5	992.5	1	43	1	5	135	3	360	14
15	26	17	21	17	18	0.394	2.727	0.8	995.9	995.9	1	299	1	8	315	4	338	15
16	31	16	23	17	18	0.485	4.905	0.0	996.4	996.4	1	292	1	7	315	4	315	16
17	33	17	24	18	20	0.147	5.495	0.0	995.4	995.4	1	313	1	8	338	4	315	17
18	37	18	25	19	20	0.000	6.459	18.4	993.4	993.4	1	263	1	17	45	6	248	18
19	28	18	22	19	20	0.010	3.948	0.0	998.3	998.3	1	356	1	6	315	4	315	19
20	32	21	25	21	22	0.000	6.491	0.0	999.0	999.0	1	306	1	7	315	4	338	20
21	30	19	23	20	20	0.000	4.358	61.6	1001.3	1001.3	1	18	1	10	360	4	360	21
22	20	17	18	16	17	0.333	0.211	36.4	1004.7	1004.7	2	38	1	11	45	4	45	22
23	22	15	18	16	16	0.912	0.743	2.0	1003.0	1003.0	1	340	1	9	360	4	315	23
24	24	14	19	15	17	1.063	2.022	0.0	1000.5	1000.5	1	318	1	8	338	4	338	24
25	27	15	20	16	17	0.885	2.892	0.0	996.8	996.8	1	269	1	7	338	3	315	25
26	34	17	24	17	19	0.287	6.312	0.0	991.5	991.5	1	247	1	7	225	2	225	26
27	28	19	22	19	20	0.000	4.140	2.4	991.7	991.7	1	344	1	8	360	4	360	27
28	26	19	22	19	20	0.000	3.660	0.0	990.9	990.9	1	307	1	8	338	4	315	28
	29	17	22	17	18	0.370	4.092		992.6	992.6	1	243	1	< Monthly Avg				
NUMBER OF DAYS WITH:		> Maximum Temp ≥ 32.2: 5		Minimum Temp ≤ 0: 0		Precipitation ≥ 0.2 mm: 8		Greatest 24 – hr precipitation: 37.0 Date: 20-21										
		Maximum Temp ≤ 0: 0		Minimum Temp ≤ -17.7: 0		Precipitation ≥ 2.0 mm: 4		Monthly Total Precipitation: 126.4										
SEA LEVEL PRESSURE:		> MAXIMUM: 1005.9		DATE: 22		TIME: 11:30		MONTHLY TOTAL		SEASON TO DATE TOTAL								
		MINIMUM: 972.4		DATE: 2		TIME: 18:00		DEGREEE DAYS: >		HEATING: 6.657		23.703						
								COOLING: 114.578		364.016								

FEBRUARY 2023
Maroota, NSW AUS

MARCH 2023
LOCAL CLIMATOLOGICAL DATA

DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
PF Formation - Maroota

Lat: -33.4656 Long: 150.9905 Elev (ground): 0 m Time Zone: Australia/Sydney



Date	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (mb)		WIND SPEED = m/s DIR = DEGREES				Date			
	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	WIND MAX				
														INSTANT		ARCHIVE		
														SPEED		DIR	SPEED	DIR
01	29	18	23	18	19	0.000	4.486	0.0	988.0	988.0	1	34	1	10	360	5	360	01
02	27	17	21	18	19	0.103	3.148	0.0	992.5	992.5	1	315	1	7	360	4	315	02
03	27	17	21	18	19	0.238	2.752	1.6	995.4	995.4	1	335	1	9	338	4	338	03
04	25	17	21	18	19	0.059	2.438	0.0	996.0	996.0	1	345	0	7	360	3	360	04
05	31	16	22	18	19	0.574	4.657	0.0	991.0	991.0	1	252	1	7	248	3	225	05
06	38	20	29	16	18	0.000	10.515	0.0	984.3	984.3	2	215	1	13	158	4	225	06
07	34	21	26	17	19	0.000	7.968	0.0	985.2	985.2	0	264	1	10	135	4	315	07
08	32	17	24	10	13	0.015	5.771	0.0	985.4	985.4	1	149	1	9	158	4	158	08
09	29	15	21	12	14	0.523	3.051	0.0	990.0	990.0	0	148	1	10	292	4	338	09
10	26	14	20	16	17	1.102	2.766	0.0	995.0	995.0	1	316	1	9	338	4	338	10
11	33	16	24	18	19	0.451	5.622	0.0	992.0	992.0	1	245	1	8	248	3	338	11
12	26	20	22	19	20	0.000	3.650	0.4	991.0	991.0	2	9	1	9	22	4	360	12
13	21	18	19	17	18	0.093	0.913	2.0	995.8	995.8	1	359	1	6	292	3	338	13
14	22	17	19	18	18	0.417	1.395	3.2	996.6	996.6	0	310	0	7	338	3	315	14
15	30	18	23	19	20	0.000	4.222	0.2	992.7	992.7	0	320	0	6	360	3	338	15
16	36	19	27	16	18	0.000	8.505	0.0	990.1	990.1	1	195	1	11	158	4	158	16
17	33	20	25	15	18	0.000	6.865	0.0	994.2	994.2	1	345	1	11	338	5	315	17
18	33	18	24	20	21	0.000	5.544	0.0	998.1	998.1	1	301	1	7	360	4	315	18
19	39	19	27	19	21	0.000	8.876	0.0	997.3	997.3	1	292	0	6	338	3	315	19
20	22	17	20	19	19	0.126	2.205	0.2	1003.7	1003.7	1	23	1	10	360	4	360	20
21	21	16	18	16	16	0.763	0.477	1.2	1007.4	1007.4	1	358	1	6	338	3	315	21
22	25	15	20	17	18	0.737	1.925	0.4	1001.6	1001.6	0	206	0	4	248	1	338	22
23	30	18	21	19	20	0.000	2.936	3.0	996.8	996.8	0	215	1	9	158	3	292	23
24	25	17	20	18	19	0.294	1.941	1.0	996.7	996.7	1	1	1	7	315	3	338	24
25	21	18	19	18	18	0.080	0.517	3.6	997.8	997.8	0	355	0	4	338	2	338	25
26	22	17	19	18	18	0.439	1.509	1.6	996.5	996.5	0	278	0	4	360	2	315	26
27	23	18	20	19	19	0.079	1.516	1.8	992.8	992.8	1	233	0	6	225	2	225	27
28	23	18	20	18	19	0.000	1.422	2.0	993.2	993.2	1	217	0	6	225	2	225	28
29	26	17	21	17	18	0.097	2.888	1.6	986.0	986.0	2	207	2	10	225	4	225	29
30	23	13	18	11	13	1.534	1.252	0.8	987.1	987.1	1	160	1	8	135	3	158	30
31	25	11	17	11	13	2.351	1.485	0.2	991.1	991.1	0	151	0	5	68	2	315	31
	28	17	22	17	18	0.504	3.652		993.6	993.6	1	230	1	< Monthly Avg				
NUMBER OF DAYS WITH:		> Maximum Temp ≥ 32.2: 7		Minimum Temp ≤ 0: 0		Precipitation ≥ 0.2 mm: 14		Greatest 24 - hr precipitation: 36.4 Date: 0-1										
		> Maximum Temp ≤ 0: 0		Minimum Temp ≤ -17.7: 0		Precipitation ≥ 2.0 mm: 3		Monthly Total Precipitation: 24.8										
SEA LEVEL PRESSURE:		> MAXIMUM: 1009.4		DATE: 21		TIME: 10:30		MONTHLY TOTAL: 10.074										
		MINIMUM: 981.6		6		16:30		SEASON TO DATE TOTAL: 33.777										
						DEGREEE DAYS: >		HEATING: 113.218										
								COOLING: 477.234										

MARCH 2023
Maroota, NSW AUS

APRIL 2023
LOCAL CLIMATOLOGICAL DATA

DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
PF Formation - Maroota



Lat: -33.4656 Long: 150.9905 Elev (ground): 0 m Time Zone: Australia/Sydney

Date	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (mb)		WIND SPEED = m/s DIR = DEGREES							Date
	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	WIND MAX				
														INSTANT		ARCHIVE		
														SPEED	DIR	SPEED	DIR	
01	21	12	15	12	13	3.058	0.079	0.4	994.6	994.6	1	49	0	8	45	4	22	01
02	18	13	15	14	14	3.109	0.000	0.2	998.3	998.3	1	33	1	8	22	3	338	02
03	23	14	17	15	16	1.981	0.230	0.4	1000.2	1000.2	0	22	0	8	315	2	270	03
04	24	14	17	15	16	1.895	1.038	0.4	998.7	998.7	1	21	0	6	22	3	22	04
05	24	14	18	15	16	1.801	0.995	0.4	995.7	995.7	1	43	0	6	360	3	22	05
06	22	14	17	15	16	1.639	0.647	0.4	993.6	993.6	0	18	0	4	338	2	315	06
07	24	14	17	15	16	2.058	1.105	0.6	983.9	983.9	1	227	1	11	248	4	225	07
08	23	14	18	12	14	1.061	1.183	0.2	980.9	980.9	2	160	2	11	158	5	158	08
09	20	12	16	8	11	2.425	0.228	0.2	985.5	985.5	2	155	2	11	135	4	158	09
10	20	9	14	6	9	4.433	0.149	0.2	988.6	988.6	1	128	0	7	45	3	158	10
11	22	8	14	9	11	4.590	0.366	0.0	991.0	991.0	0	101	0	6	45	2	135	11
12	20	12	16	12	13	2.736	0.139	0.8	987.7	987.7	1	225	0	8	158	2	225	12
13	22	12	16	14	15	2.628	0.328	1.6	989.2	989.2	1	72	0	6	90	2	90	13
14	21	13	16	14	15	2.524	0.074	3.0	992.6	992.6	1	70	0	7	68	3	360	14
15	24	11	18	13	15	2.196	1.817	1.0	988.4	988.4	2	241	1	7	225	3	225	15
16	25	13	20	12	15	0.697	1.883	0.0	987.0	987.0	1	195	1	12	135	4	158	16
17	23	10	15	11	12	3.628	0.365	0.0	1001.2	1001.2	1	356	0	8	338	3	338	17
18	21	11	16	13	14	2.909	0.425	0.0	1003.1	1003.1	1	330	0	6	315	2	360	18
19	24	12	17	14	15	2.282	1.308	0.0	998.4	998.4	1	289	0	4	225	2	315	19
20	16	14	15	14	15	3.091	0.000	7.2	1002.7	1002.7	1	70	0	5	68	2	68	20
21	21	12	16	12	14	2.873	0.306	0.8	1007.3	1007.3	1	28	1	7	360	3	360	21
22	19	12	15	13	14	3.443	0.005	0.2	1009.4	1009.4	1	50	0	4	68	1	22	22
23	22	13	17	15	16	2.117	0.565	1.2	1010.9	1010.9	1	26	0	6	45	3	360	23
24	22	15	17	15	16	1.521	0.550	2.8	1011.6	1011.6	1	339	0	6	338	3	338	24
25	24	14	18	14	15	1.784	1.050	0.4	1008.2	1008.2	1	293	0	6	315	3	315	25
26	21	12	16	14	15	2.426	0.438	0.2	1006.5	1006.5	1	333	0	4	22	2	338	26
27	24	13	18	14	15	1.543	1.360	0.0	1003.0	1003.0	1	254	0	6	225	2	225	27
28	27	12	19	15	16	1.579	2.637	0.0	995.4	995.4	1	233	1	7	225	2	225	28
29	20	13	16	14	15	2.068	0.066	3.2	989.9	989.9	0	137	0	5	248	2	225	29
30	19	11	15	13	13	3.847	0.069	2.6	990.5	990.5	1	133	0	5	45	2	68	30
	22	12	17	13	14	2.465	0.693		996.5	996.5	1	154	1	< Monthly Avg				
NUMBER OF DAYS WITH:		Maximum Temp ≥ 32.2: 0		Minimum Temp ≤ 0: 0		Precipitation ≥ 0.2 mm: 17		Greatest 24 - hr precipitation: 36.6 Date: 4-5										
		Maximum Temp ≤ 0: 0		Minimum Temp ≤ -17.7: 0		Precipitation ≥ 2.0 mm: 5		Monthly Total Precipitation: 28.4										
SEA LEVEL PRESSURE:		MAXIMUM: 1013.4		DATE: 24		TIME: 09:00		MONTHLY TOTAL: 73.942		SEASON TO DATE TOTAL: 107.719								
		MINIMUM: 978.3		8		05:00		DEGREEE DAYS: >		HEATING: 19.403		COOLING: 496.637						

APRIL 2023
Maroota, NSW AUS

MAY 2023
LOCAL CLIMATOLOGICAL DATA

DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
PF Formation - Maroota

Lat: -33.4656 Long: 150.9905 Elev (ground): 0 m Time Zone: Australia/Sydney



Date	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (mb)		RESULTANT SPEED	RES DIR	AVERAGE SPEED	WIND SPEED = m/s DIR = DEGREES				Date	
	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL				WIND MAX					
														INSTANT		ARCHIVE			
														SPEED	DIR	SPEED	DIR		
01	19	9	13	10	11	5.531	0.007	2.0	993.3	993.3	0	186	0	5	158	1	225	01	
02	21	9	15	10	12	3.635	0.376	1.2	995.1	995.1	1	165	0	8	158	2	180	02	
03	22	12	17	10	12	2.123	0.940	0.6	994.8	994.8	2	174	2	14	158	5	180	03	
04	19	8	14	7	10	4.712	0.032	0.0	998.4	998.4	0	106	0	7	112	2	68	04	
05	21	8	14	9	11	4.455	0.334	0.0	997.3	997.3	1	240	0	8	270	2	225	05	
06	21	7	14	8	10	4.844	0.289	0.0	996.6	996.6	0	284	0	4	158	2	338	06	
07	14	7	10	6	8	8.390	0.000	1.4	994.5	994.5	1	164	1	15	158	4	158	07	
08	16	7	11	4	7	7.319	0.000	1.2	995.4	995.4	2	138	2	11	90	4	112	08	
09	18	6	12	6	8	6.817	0.000	0.0	1000.9	1000.9	1	69	0	9	68	3	68	09	
10	19	6	12	8	9	6.080	0.005	0.0	1005.6	1005.6	1	32	0	6	45	2	45	10	
11	20	8	13	10	11	4.992	0.128	0.0	1008.1	1008.1	1	286	0	5	338	2	315	11	
12	23	9	15	12	13	3.861	0.855	0.0	1008.2	1008.2	1	283	0	4	338	2	315	12	
13	19	10	14	12	12	4.788	0.007	3.4	1009.8	1009.8	1	47	0	6	360	2	22	13	
14	19	10	13	12	13	4.905	0.010	4.6	1007.9	1007.9	0	65	0	5	22	2	22	14	
15	21	12	14	12	13	4.279	0.147	0.2	1003.6	1003.6	0	56	0	4	158	1	158	15	
16	20	10	14	10	12	4.753	0.134	0.2	998.8	998.8	1	45	0	5	90	2	68	16	
17	16	9	12	9	10	6.113	0.000	0.6	1001.8	1001.8	1	56	1	8	22	3	68	17	
18	16	7	11	8	9	7.441	0.000	0.8	999.2	999.2	1	59	0	6	45	2	90	18	
19	18	6	10	7	8	7.900	0.000	0.2	996.6	996.6	0	178	0	5	158	1	158	19	
20	17	5	11	6	8	7.660	0.000	0.0	995.2	995.2	1	180	0	8	158	4	158	20	
21	18	9	13	7	9	5.407	0.000	0.0	995.7	995.7	2	165	2	13	158	5	158	21	
22	19	6	12	6	8	6.769	0.056	0.0	1004.5	1004.5	0	266	0	5	225	2	225	22	
23	20	5	11	6	8	6.933	0.073	0.0	1006.2	1006.2	0	308	0	4	315	2	338	23	
24	22	5	12	7	9	6.699	0.284	0.0	1004.5	1004.5	0	221	0	3	248	1	225	24	
25	21	10	16	5	9	2.977	0.242	0.0	997.6	997.6	1	225	1	7	225	3	225	25	
26	17	6	13	5	8	5.509	0.000	0.2	992.9	992.9	1	92	1	10	68	4	68	26	
27	18	4	9	5	6	8.914	0.000	0.0	996.6	996.6	0	163	0	7	158	2	68	27	
28	16	4	9	5	7	8.865	0.000	0.0	995.0	995.0	1	211	0	5	158	2	158	28	
29	19	9	13	7	9	5.115	0.081	0.0	996.9	996.9	1	174	1	11	158	4	158	29	
30	21	9	13	8	10	5.222	0.205	0.0	1001.1	1001.1	1	193	0	5	158	1	225	30	
31	20	9	15	10	12	3.733	0.154	0.0	998.5	998.5	1	222	0	5	225	2	225	31	
	19	8	13	8	10	5.701	0.218		999.7	999.7	1	163	1	< Monthly Avg					
NUMBER OF DAYS WITH:		>		Maximum Temp ≥ 32.2: 0		Minimum Temp ≤ 0: 0		Precipitation ≥ 0.2 mm: 9		Greatest 24 - hr precipitation: 36.4		Date: 0-1		Monthly Total Precipitation: 16.6					
				Maximum Temp ≤ 0: 0		Minimum Temp ≤ -17.7: 0		Precipitation ≥ 2.0 mm: 2											
SEA LEVEL PRESSURE:		>		MAXIMUM: 1011.3		DATE: 13		TIME: 09:00		MONTHLY TOTAL: 176.742		SEASON TO DATE TOTAL: 284.461							
				MINIMUM: 987.9		DATE: 26		TIME: 06:00		DEGREEE DAYS: >		HEATING: 4.360		COOLING: 500.997					

MAY 2023
Maroota, NSW AUS

JUNE 2023
LOCAL CLIMATOLOGICAL DATA

DAVIS INSTRUMENTS, WEATHERLINK NETWORK

Maroota, NSW AUS
PF Formation - Maroota



Lat: -33.4656 Long: 150.9905 Elev (ground): 0 m Time Zone: Australia/Sydney

Date	TEMPERATURE °C					DEG DAYS BASE 18.3°		PRECIP. (mm)	PRESSURE (mb)		WIND SPEED = m/s DIR = DEGREES								Date
	MAXIMUM	MINIMUM	AVERAGE	AVERAGE DEW PT	AVERAGE WETBULB	HEATING	COOLING	WATER EQUIV	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	WIND MAX					
														INSTANT		ARCHIVE			
														SPEED	DIR	SPEED	DIR		
01	21	12	16	12	13	2.187	0.235	0.4	997.9	997.9	0	224	0	5	225	2	225	01	
02	20	11	15	13	14	3.185	0.187	0.0	1003.4	1003.4	1	249	0	6	225	2	225	02	
03	24	13	17	14	15	2.709	0.929	0.2	1004.6	1004.6	0	298	0	8	360	3	360	03	
04	16	12	15	12	13	3.806	0.000	0.6	1011.2	1011.2	1	356	0	8	45	2	338	04	
05	16	11	13	11	12	5.302	0.000	0.4	1009.5	1009.5	1	342	0	6	360	2	338	05	
06	18	11	13	12	12	5.133	0.000	0.0	1007.4	1007.4	0	338	0	2	158	1	338	06	
07	20	10	14	12	13	4.374	0.153	0.2	1004.1	1004.1	0	248	0	5	225	2	225	07	
08	16	11	13	11	12	5.069	0.000	0.2	995.2	995.2	1	226	1	9	225	3	225	08	
09	18	8	13	7	9	5.807	0.000	0.0	996.1	996.1	1	178	0	8	158	3	158	09	
10	17	7	11	6	8	7.443	0.000	0.0	1001.6	1001.6	0	104	0	5	158	1	158	10	
11	18	4	10	7	8	8.112	0.000	0.0	1003.1	1003.1	0	273	0	6	225	2	225	11	
12	19	6	12	9	10	5.955	0.030	0.0	999.1	999.1	1	227	0	7	225	2	225	12	
13	19	10	14	10	12	4.557	0.014	0.4	993.1	993.1	1	224	1	10	158	3	225	13	
14	17	7	12	6	8	6.399	0.000	0.2	993.5	993.5	2	168	2	12	158	5	158	14	
15	17	6	10	5	7	8.017	0.000	0.0	996.6	996.6	0	187	0	5	158	1	180	15	
16	19	6	11	7	8	7.036	0.002	0.0	1000.2	1000.2	0	252	0	4	158	2	315	16	
17	18	6	12	7	9	6.662	0.000	0.0	998.8	998.8	1	226	0	6	248	2	225	17	
18	18	7	12	5	8	6.325	0.000	0.0	994.7	994.7	1	195	1	9	158	4	158	18	
19	16	5	10	3	6	8.310	0.000	0.0	994.2	994.2	1	203	1	10	158	3	202	19	
20	14	4	9	2	5	9.716	0.000	0.0	999.4	999.4	0	85	0	7	158	2	180	20	
21	15	2	7	2	5	10.873	0.000	0.0	1002.3	1002.3	0	162	0	4	90	1	135	21	
22	13	5	9	6	8	9.370	0.000	1.8	996.8	996.8	0	264	0	4	248	1	315	22	
23	17	9	13	8	10	5.794	0.000	2.8	989.1	989.1	2	194	2	14	158	4	180	23	
24	18	8	13	5	8	5.684	0.000	0.0	992.3	992.3	1	216	1	12	158	3	202	24	
25	19	10	14	4	8	4.572	0.059	0.0	991.7	991.7	2	203	2	14	180	4	180	25	
26	17	8	13	4	7	5.623	0.000	0.0	994.2	994.2	2	171	2	13	158	5	158	26	
27	17	7	12	6	8	6.645	0.000	0.0	998.9	998.9	1	217	0	4	158	1	180	27	
28	11	8	10	8	9	8.681	0.000	1.4	994.9	994.9	0	204	0	2	202	0	225	28	
29	15	4	9	5	7	9.281	0.000	0.2	995.5	995.5	0	121	0	5	158	2	158	29	
30	18	5	10	5	7	8.245	0.000	0.0	997.1	997.1	1	176	0	7	158	3	158	30	
	17	8	12	7	9	6.362	0.201		998.5	998.5	1	217	1	< Monthly Avg					
NUMBER OF DAYS WITH:		>		Maximum Temp ≥ 32.2: 0		Minimum Temp ≤ 0: 0		Precipitation ≥ 0.2 mm: 7		Precipitation ≥ 2.0 mm: 1		Greatest 24 - hr precipitation: 36.6 Date: 21-22						Monthly Total Precipitation: 8.8	
SEA LEVEL PRESSURE:		>		MAXIMUM: 1013.0		DATE: 4		TIME: 10:00		DEGREEE DAYS: >		HEATING: 190.874		MONTHLY TOTAL: 1.610		SEASON TO DATE TOTAL: 475.334		502.606	

JUNE 2023
Maroota, NSW AUS

ATTACHMENT 7

SITE CURRENT PHOTOS

Rehabilitation area



Silt pond 11. Extraction of Lot 1 DP1013943 in the back ground.



Tailings ponds in use 12, 13 and 14 with agricultural rehabilitation area and clean water dam in the foreground



Stockpile area



Backfilling the quarry void in Pit 11 with VENM, ENM and materials approved by the RRO/RRE



Extraction area Lot 2 DP570966










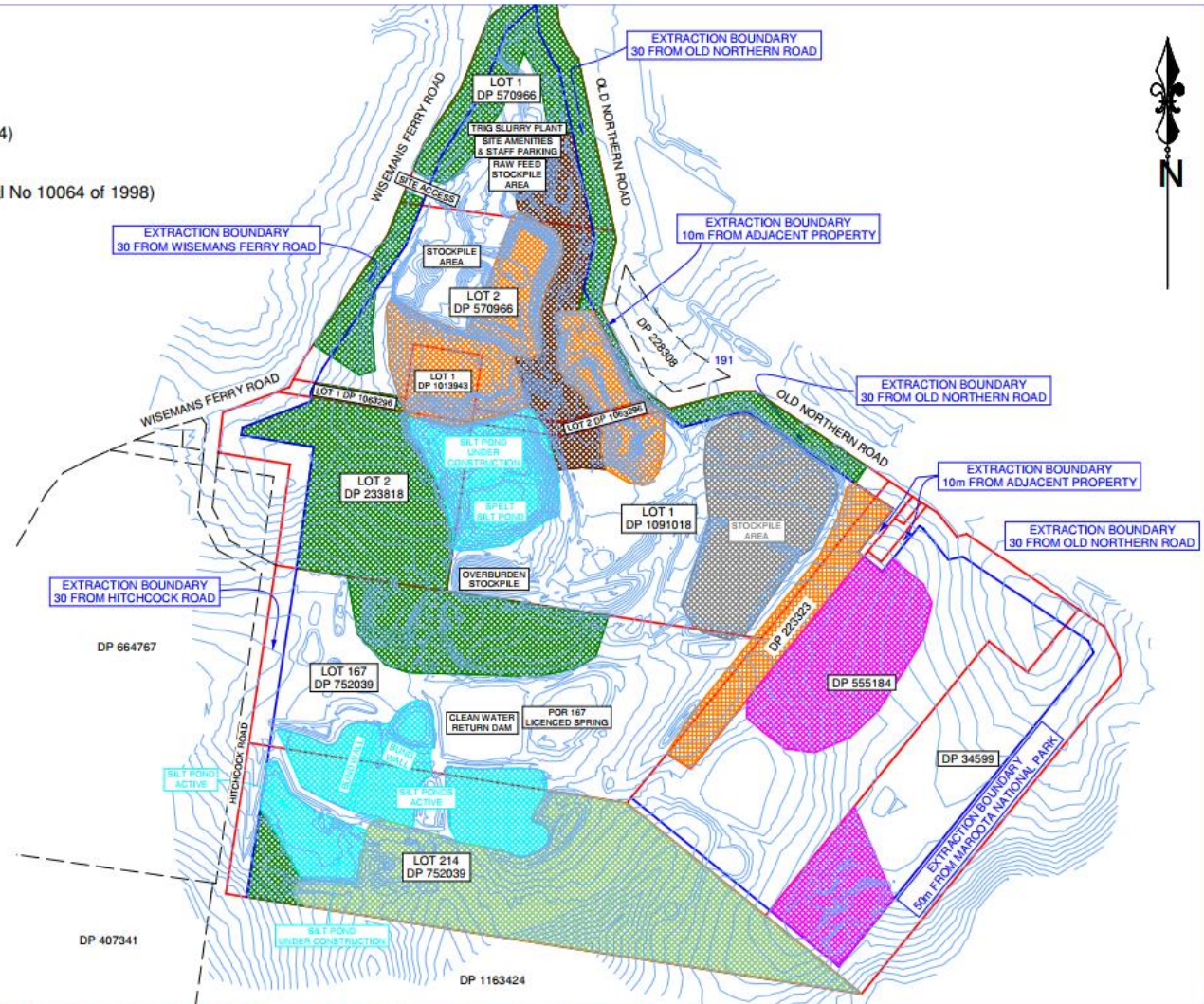
Extraction area Lot 198 DP752025



ATTACHMENT 8

CURRENT SITE SURVEY PLAN

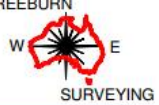
-  - Land under active rehabilitation
-  - Extraction areas approved under (PA 06_0104)
-  - Extraction areas approved under (LEC Appeal No 10064 of 1998)
-  - Area being prepared for extraction
-  - Proposed rehabilitation offset area
-  - Stockpile areas
-  - silt ponds



NOTES:

- Boundaries have been provided to Matthew Freeburn Surveyors from Landair Survey and are approximate only. No boundary investigation has been carried out for the purpose of this survey.
- Contours shown in blue have been provided to Matthew Freeburn Surveyors from Landair Surveys. Contours depict the general topography. They do not represent exact levels other than at spot levels shown. Survey date was 29/5/2017.
- The position of features are indicative only.
- 101.50 indicates natural surface level.
- No trees have been shown.

PROJECT: "PF FORMATION - SITE PLAN FOR HITCHCOCK ROAD SAND PROJECT 06_0104".

Client: PF FORMATION		MATTHEW FREEBURN LAND, ENGINEERING & MINING SURVEYOR SUITE 2, 1st FLOOR, "SURVEYOR HOUSE" 2 CASTLEREAGH STREET PENRITH 2750	Telephone 02 4721 2289	Date: 19/10/2020	Ref: 34279	Sheet 1 of 1
			Fax 02 4721 5646	Scale 1: 6000	Datum: AHD	Contour: 1.0m
			email matthew@freeburnsurveyors.com	Surveyor: N/A	Drawn By: CD	Checked: MF
				Stored: 34279 SITE PLAN 201019 A3		A3 SHEET

ATTACHMENT 9

WEIGHBRIDGE VERIFICATION CERTIFICATE

REPAIR AND VERIFICATION REPORT

Report Number	1364S 1713 189S
Scale Owners Name	PF Formation
Address	1 Patricia Fay Drive Maroota NSW 2756
Instrument Serial Number	IN0054217
Digital Summing Indicator	Make:WMS Model:3590EGT Serial No:15034999
Total Capacity / Resolution	60 x 0.02 t
Digital indicator	Make:WMS Model:3590EGT Serial No:15034999 Capacity 60 t
Platform	Make: Aws Model: AWS106 Serial No: IN0054217 Capacity 60 t
Location	Weighbridge
Plant Number	Nil
Date of Verification	24-May-2023
Next Verification	May-2024
Certified Masses Used	PCS2088 PCS1782

Report on Accuracy

Deck 1			
Mass Applied		Final Reading	
10.00 t		10.00 t	
20.00 t		20.00 t	
35.26 t		35.26 t	
47.04 t		47.04 t	
59.04 t		59.04 t	
Zero Test	Pass	Repeatability	Pass
Over Range	Pass	Eccentricity	Pass
Discrimination	Pass	Performance	Pass

Specification Of Test Using the guidelines of the Uniform Test Procedure for the Verification NITP 6.1 to 6.4

Service Report

Weighbridge calibration was adjusted during the performance test, initially 20.00t was 19.98t. Weighbridge was verified by SSS technician.

Compliance: "PASS" Indicates that the reported final readings are within the tolerances specified in the test specification.

For and on behalf of Standard Scales & Services Pty. Ltd.

Report Number: RHH001

Tested By Richard Hickey

Checked By Jodie Attard

ATTACHMENT 10

**COMMUNITY CONSULTATIVE
COMMITTEE**

MEETING MINUTES

Community Consultative Committee Hitchcock Road and Lot 198 Maroota Sand Extraction and Rehabilitation Projects

Minutes – 09 Nov 2021 2:00pm (via Zoom)

Attendance

Kristine McKenzie – The Hills Shire Council (THSC) – Chairperson

Robert Buckham – The Hills Shire Council (THSC)

Joshua Graham – PF Formation (PF)

Luke Graham – PF Formation (PF)

John Graham – PF Formation (PF)

Dianna Rea – PF Formation (PF)

Melissa Mass – South East Environmental (SEE)

Shaunagh Hitchcock - Resident

Marianne Sheumack - Resident

Apologies

Lisa Aylward – Maroota Public School

Minutes of Previous Meeting

Last meeting on 3rd May 2022

- Accepted

Matters Arising from Minutes

- None

Report on Current Status of Operations by Joshua Graham (PF)

- Work on the crown land access road have been completed, the pipelines were redirected to follow the haul road, and are now within the Lot 198 property boundary and the license area. The kerb and haul road encroachment near Wisemans Ferry Road has been rectified. DPE carried out a site inspection on 13th October 2022, PFF representatives were not present at the inspection and no correspondence in relation to the inspection has been received thus far.
- The heavy rainfall affecting parts of NSW over the last 6 months has not heavily impacted our site however there are areas of our site that are still not operational due to saturated ground conditions and inundated pits.

- Sand extraction has occurred predominantly on Lot 198 and the trig pumping station was temporarily decommissioned for maintenance.
- A large quarry void located behind the old trig reserve will be backfilled with validated imported materials. The haul road leading to the void from Wisemans Ferry Road will be sealed to allow road vehicle access to the area.
- No material was imported from Maroota Lodge Quarry as the site is currently not operational.
- No complaints were received since our last meeting.

Reporting

- The Environmental Management Strategy, Air Quality Monitoring Program, Landscape Management Plan and the Noise Management Plan have been approved by DPE.
- The Water Management Plan is yet to be approved by DPE, we are addressing the matters raised by DPE and will re submit the plan. The issues raised by DPE relate to the formatting of the document rather than the technical information provided.
- Transport for NSW (TfNSW) have not responded to our request for consultation in relation to the Traffic Management Plan, we cannot submit the plan to DPE until consultation with TfNSW is carried out.
- The Annual Review will be submitted in December, the review has been completed other than the noise report.
- The Independent Environmental Audit is due to occur next year.

Report on Environmental Matters by Melissa Mass (SEE)

- Groundwater monitoring results were presented and continue to show elevated groundwater levels across the site, this is not surprising given the amount of rainfall received in the past 12 months.
- Deposited dust monitoring results were presented and discussed; dust levels remain low in the area. A spike occurred in August 2021 at Site 1 and it was noted that the paddocks were slashed in the vicinity of the site. Dixons TEOM recorded a high reading also, it was on a Sunday, which was when the paddock was slashed.
- Ongoing weed management is required in the rehabilitation areas, the conditions have been ideal for weed growth so more work is required to keep on top of weeds.
- An inspection at Accurso's property was carried out following Kristine's request from the previous meeting, the rehabilitation area is looking good, the erosion control measures have stopped further erosion occurring in the rehabilitation area.

General

- Shaunagh asked Kristine if council can maintain the grass around the bus shelter on Wisemans Ferry Road. Kristine explained that TfNSW are responsible for maintaining the bus shelter but she will follow up for her.
- Marianne asked Josh about a tuck rollover on Wisemans Ferry Road, the truck was known to PF and was carrying our products, the cause of the accident was mainly attributed to the poor condition of the road.
- Josh asked Kristine if the S7.11 contributions will be used to fund road repairs from the floods. Kristine explained that the S7.11 funds are allocated by a works program only and are not used for significant road repairs.

Site Visit

- A Site inspection was carried out.

Next Meeting

- The next meeting will be held on the 2nd May 2023 at 2.00 pm

Community Consultative Committee Hitchcock Road and Lot 198 Maroota Sand Extraction and Rehabilitation Projects

Minutes – 02 May 2023 2:00pm

Attendance

Robert Buckham – The Hills Shire Council (THSC)

Joshua Graham – PF Formation (PF)

Luke Graham – PF Formation (PF)

Melissa Mass – South East Environmental (SEE) via zoom

Lisa Aylward – Maroota Public School

Marianne Sheumack - Resident

Apologies

Kristine McKenzie – The Hills Shire Council (THSC)

Shaunagh Hitchcock - Resident

Minutes of Previous Meeting

Last meeting on 8th November 2022

- Accepted

Matters Arising from Minutes

- None

Report on Current Status of Operations by Joshua Graham (PF)

- Sand extraction and overburden removal has continued on Trig Hill and also in Pit 8, which is the area to the south of the site behind the fire shed.
- Backfilling operations are underway in Pit 6, Josh explains this area is the large quarry void directly south of Trig Hill. The haul road running from the front gate to the quarry void has been upgraded using recycled bitumen clippings to allow road truck access to the tipping face.
- The allocation for importing material is 250,000 tonnes per calendar year, Josh explained that this allocation is likely to be fully utilized. Marianne asked what types of material are being used to fill the hole, Josh explains that VENM, ENM and Resource Recovery material are used.
- Marianne asked if clay material from the site is being used to backfill the void also, Josh explains that clay material is not currently being used for backfilling the Pit 6 void and is being used to raise dam walls and cap tailing ponds.
- We are seeing increased demand for coarse sand in the market, there are limited suppliers of the product and most deposits are located a long way from Sydney.

- Rainfall has been very persistent over the past 6 months and has made it difficult to operate the site.
- No material was imported from Maroota Lodge Quarry as the site is currently not operational.
- No complaints were received since our last meeting.

Reporting

- A rehabilitation plan was prepared and submitted to Crown Lands for approval, the plan was in relation to the disturbed areas along Patricia Fay Drive. The plan was approved by Crown Lands on 19th April 2023.
- We have an Independent Environmental Audit due this year, we will ask the same consultant (RPS) that did our last audit to give us a proposal and if acceptable request approval from the Planning Secretary for RPS to undertake the audit.
- We do not intend to make any changes to the approved offset strategy for the site, Melissa asks what type of rehabilitation will occur in the area that is being backfilled behind Trig Hill, Josh explains that the area will most likely be used for the remaining SHTW revegetation.

Report on Environmental Matters by Melissa Mass (SEE)

- Groundwater monitoring results were presented and continue to show elevated groundwater levels across the site. Rainfall has been persistent over the last 6 months and has restricted access to some of the monitoring wells.
- Deposited dust monitoring results were presented and discussed; dust levels are below the threshold criteria for the approval. No spikes in levels have occurred since August 2021 Site 1, which was attributed to slashing of paddocks in preparation for the Maroota Muster.
- Lisa explained that her father is the new groundskeeper for Maroota School and they are planning a few pile burns in preparation for the Maroota Muster this year, Lisa advises she will notify us when they are happening so we can cover the dust monitor to avoid a false reading.
- Noise monitoring results were presented and discussed, Location 2 which is located on the corner of Wisemans Ferry and Old Northern Roads is very noisy as it is heavily impacted by road traffic due to the operation of the intersection. All sites are below the quarry noise criteria.
- The bush regeneration crews have been actively undertaking weed management over the last 6 months, no other rehabilitation actions have occurred.

General

- Works have been carried out at the bus shelter on the corner of Wisemans Ferry and Old Northern Roads, a concrete slab has been placed under the shelter.
- Marianne reiterated general concerns about heavy vehicle driver conduct in the area and increasing truck and vehicle movements due to more development.
- The condition of Wisemans Ferry and Old Northern Roads in general is quite poor, the edges are washed away in sections and is quite dangerous.
- Other projects in the area and surrounding areas were discussed.

Site Visit

- A Site inspection was carried out with Robert and Lisa

Next Meeting

- The next meeting will be held on the 14th November 2023 at 2.00 pm

ATTACHMENT 11

VENM/ENM IMPORT SUMMARY

VENM Summary 2021-2022 for Pit 2

Date	Pit	Logbook Number	Name of Site material came from	Product	Total	Certificate Number Tonnes
3/07/2021	2	P346	Abbotsford	Sandstone	296	Visual VENM Report – 80 Wymston Parade Abbotsford NSW
5/07/2021	2	P345	Abbotsford	Sandstone	76.5	Visual VENM Report – 80 Wymston Parade Abbotsford NSW
23/03/2022	2	P467	Cammeray	Sandstone	930	E25253.E05.003.Rev0
17/03/2022	2	P461	Cammeray	Sandstone	23	E25253.E05.003.Rev0
22/03/2022	2	P466	Cammeray	Sandstone	10	E25253.E05.003.Rev0
25/11/2012	2	P442	Carlingford	Sandstone	320	E464
24/11/2021	2	P440	Carlingford	Sandstone	352	E464
26/11/2021	2	P443	Carlingford	Sandstone	416	E464
6/12/2021	2	P446	Carlingford	Sandstone	142	E464
10/12/2021	2	P447	Carlingford	Sandstone	320	E464
7/01/2022	2	P452	Carlingford	Sandstone	60	E464
24/02/2022	2	P453	Carlingford	Sandstone	416	E464
25/03/2022	2	P469	Carlingford	Sandstone	320	E464
26/03/2022	2	P470	Carlingford	Sandstone	32	E464
28/03/2022	2	P471	Carlingford	Sandstone	128	E464
29/03/2022	2	P473	Carlingford	Sandstone	157.5	E464
31/03/2022	2	P477	Carlingford	Sandstone	72	E464
1/04/2022	2	P482	Carlingford	Sandstone	91	E464
8/04/2022	2	P486	Carlingford	Sandstone	720	E464
11/04/2022	2	P489	Carlingford	Sandstone	60	E464
9/05/2022	2	P499	Carlingford	Sandstone	213.4	E464
12/10/2021	2	P421	Castle Crag	Sandstone	1333	CH1241_D9613_Soil Export Classification_VENM
9/11/2021	2	P437	Castle Crag	Sandstone	124	CH1241_D9613_Soil Export Classification_VENM
8/11/2021	2	P435	Castle Hill	Sandstone	1178	E25253.E05.003.Rev0
9/11/2021	2	P436	Castle Hill	Sandstone	372	E25253.E05.003.Rev0
22/11/2021	2	P439	Castle Hill	Sandstone	1178	E25253.E05.003.Rev0
25/11/2021	2	P441	Castle Hill	Sandstone	744	E25253.E05.003.Rev0
29/11/2021	2	P444	Castle Hill	Sandstone	1116	E25253.E05.003.Rev0
5/01/2022	2	P451	Castle Hill	Sandstone	825	E23738.E05.002.Rev0
29/03/2022	2	P472	Castle Hill	Sandstone	2088	E23738.E05.002.Rev0
31/03/2022	2	P480	Castle Hill	Sandstone	136	E23738.E05.002.Rev0
1/04/2022	2	P481	Castle Hill	Sandstone	1518	E23738.E05.002.Rev0
30/11/2021	2	P445	Clovelly	Sandstone	10.26	
12/07/2021	2	P355	Dilwich Hill	Sandstone	95	SMCSWLWCSYC-TDH-CE-DWG-400110
13/07/2021	2	P357	Dilwich Hill	Sandstone	199	SMCSWLWCSYC-TDH-CE-DWG-400110
15/07/2021	2	P360	Dilwich Hill	Sandstone	20	SMCSWLWCSYC-TDH-CE-DWG-400110
20/05/2022	2	P2010	Dover Heights	Sandstone	36	2019-161
24/05/2022	2	P2012	Dover Heights	Sandstone	36	2019-161
25/05/2022	2	P2014	Dover Heights	Sandstone	18	2019-161
7/06/2022	2	P2020	Dover Heights	Sandstone	76	2019-161
8/06/2022	2	P2021	Dover Heights	Sandstone	19	2019-161
20/06/2022	2	P2022	Dover Heights	Sandstone	19	2019-161
1/07/2021	2	P342	Dural	Sandstone	55	20200917SAA-01

30/03/2022	2	P475	East Hills	Sandstone	80	
20/05/2022	2	P2009	East Hills	Sandstone	60	
11/10/2021	2	P418	Gladesville	Sandstone	1140	CH1193_D9542_Soil Export Classification-V1.1
21/03/2022	2	P463	Glenorie	Sandstone	660	00007101.01 WCR
22/03/2022	2	P465	Glenorie	Sandstone	1080	00007101.01 WCR
20/04/2022	2	P491	Glenorie	Sandstone	841	00007101.01 WCR
21/04/2022	2	P492	Glenorie	Sandstone	2294	00007101.01 WCR
22/04/2022	2	P493	Glenorie	Sandstone	1981	00007101.01 WCR
23/04/2022	2	P494	Glenorie	Sandstone	477	00007101.01 WCR
26/04/2022	2	P495	Glenorie	Eum Clay	126	00007101.01 WCR
9/05/2022	2	P500	Glenorie	Sandstone	310	00007101.01 WCR
10/05/2022	2	P2001	Glenorie	Sandstone	2040	00007101.01 WCR
11/05/2022	2	P2002	Glenorie	Sandstone	2880	00007101.01 WCR
12/05/2022	2	P2004	Glenorie	Sandstone	480	00007101.01 WCR
12/05/2022	2	P2003	Glenorie	Sandstone	4080	00007101.01 WCR
13/05/2022	2	P2005	Glenorie	Sandstone	1860	00007101.01 WCR
18/05/2022	2	P2008	Glenorie	Sandstone	640	00007101.01 WCR
25/05/2022	2	P2013	Glenorie	Sandstone	2312	00007101.01 WCR
26/05/2022	2	P2015	Glenorie	Sandstone	3136	00007101.01 WCR
6/06/2022	2	P2018	Glenorie	Sandstone	124	00007101.01 WCR
6/08/2021	2	P361	Gordon	Sandstone	57	E142-VENM
26/08/2021	2	P380	Gordon	Sandstone	192	E142-VENM
3/11/2021	2	P432	Kenthurst	Sandstone	23	DE-704

VENM Summary 2021-2022 for Pit 2

Date	Pit	Logbook Number	Name of Site material came from	Product	Total	Certificate Number Tonnes
4/11/2021	2	P433	Kenthurst	Sandstone	23	DE-704
15/11/2021	2	P438	Kenthurst	Sandstone	72	DE-704
21/12/2021	2	P448	Kenthurst	Sandstone	36	DE-704
22/12/2021	2	P449	Kenthurst	Sandstone	216	DE-704
23/12/2021	2	P450	Kenthurst	Sandstone	72	DE-704
1/07/2021	2	P343	Macquaire Park	Sandstone	1474.9	33824-1a
2/07/2021	2	P340	Macquaire Park	Sandstone	1792	33824-1a
9/07/2021	2	P352	Macquaire Park	Sandstone	704	33824-1a
10/07/2021	2	P353	Macquaire Park	Sandstone	1364	33824-1a
9/08/2021	2	P363	Macquaire Park	Sandstone	1240	33824-1a
10/08/2021	2	P365	Macquaire Park	Sandstone	1166.4	33824-1a
11/08/2021	2	P367	Macquaire Park	Sandstone	832	33824-1a
17/08/2021	2	P371	Macquaire Park	Sandstone	1088	33824-1a
18/08/2021	2	P372	Macquaire Park	Sandstone	960	33824-1a
23/08/2021	2	P376	Macquaire Park	Sandstone	704	33824-1a
24/08/2021	2	P378	Macquaire Park	Sandstone	1856	33824-1a
25/08/2021	2	P379	Macquaire Park	Sandstone	1088	33824-1a
30/08/2021	2	P382	Macquaire Park	Sandstone	1550	33824-1a
6/09/2021	2	P389	Macquaire Park	Sandstone	1140	33824-1a
10/09/2021	2	P395	Macquaire Park	Sandstone	930	33824-1a
20/09/2021	2	P406	Macquaire Park	Sandstone	1064	33824-1a
11/10/2021	2	P419	Macquaire Park	Sandstone	228	33824-1a
07/09/201	2	P391	Macquaire Park	Sandstone	730.4	33824-1a

6/07/2021	2	P348	Neutral Bay	Sandstone	352.83	RVC-09-0111-WAC2
7/07/2021	2	P349	Neutral Bay	Sandstone	148	RVC-09-0111-WAC2
30/09/2021	2	P414	Neutral Bay	Sandstone	76	RVC-09-0111-WAC2
2/09/2021	2	P385	North Bridge	Sandstone	60	6 Boyra Crescent, Northbridge
3/09/2021	2	P387	North Bridge	Sandstone	48	6 Boyra Crescent, Northbridge
6/09/2021	2	P388	North Bridge	Sandstone	30	6 Boyra Crescent, Northbridge
7/09/2021	2	P390	North Bridge	Sandstone	36	6 Boyra Crescent, Northbridge
8/09/2021	2	P392	North Bridge	Sandstone	36	6 Boyra Crescent, Northbridge
9/09/2021	2	P393	North Bridge	Sandstone	54	6 Boyra Crescent, Northbridge
10/09/2021	2	P394	North Bridge	Sandstone	54	6 Boyra Crescent, Northbridge
13/09/2021	2	P396	North Bridge	Sandstone	54	6 Boyra Crescent, Northbridge
14/09/2021	2	P398	North Bridge	Sandstone	18	6 Boyra Crescent, Northbridge
15/09/2021	2	P400	North Bridge	Sandstone	36	6 Boyra Crescent, Northbridge
16/09/2021	2	P403	North Bridge	Sandstone	36	6 Boyra Crescent, Northbridge
17/09/2021	2	P404	North Bridge	Sandstone	36	6 Boyra Crescent, Northbridge
20/09/2021	2	P405	North Bridge	Sandstone	54	6 Boyra Crescent, Northbridge
21/09/2021	2	P407	North Bridge	Sandstone	36	6 Boyra Crescent, Northbridge
22/09/2021	2	P408	North Bridge	Sandstone	54	6 Boyra Crescent, Northbridge
24/09/2021	2	P410	North Bridge	Sandstone	18	6 Boyra Crescent, Northbridge
27/09/2021	2	P409	North Bridge	Sandstone	36	6 Boyra Crescent, Northbridge
28/09/2021	2	P411	North Bridge	Sandstone	18	6 Boyra Crescent, Northbridge
29/09/2021	2	P412	North Bridge	Sandstone	18	6 Boyra Crescent, Northbridge
30/09/2021	2	P413	North Bridge	Sandstone	36	6 Boyra Crescent, Northbridge
1/10/2021	2	P415	North Bridge	Sandstone	18	6 Boyra Crescent, Northbridge
6/10/2021	2	P416	North Bridge	Sandstone	18	6 Boyra Crescent, Northbridge
8/10/2021	2	P417	North Bridge	Sandstone	36	6 Boyra Crescent, Northbridge
11/10/2021	2	P420	North Bridge	Sandstone	18	6 Boyra Crescent, Northbridge
12/10/2021	2	P422	North Bridge	Sandstone	18	6 Boyra Crescent, Northbridge
19/10/2021	2	P423	North Bridge	Sandstone	36	6 Boyra Crescent, Northbridge
20/10/2021	2	P424	North Bridge	Sandstone	18	6 Boyra Crescent, Northbridge
21/10/2021	2	P425	North Bridge	Sandstone	36	6 Boyra Crescent, Northbridge
22/10/2021	2	P426	North Bridge	Sandstone	36	6 Boyra Crescent, Northbridge
25/10/2021	2	P427	North Bridge	Sandstone	54	6 Boyra Crescent, Northbridge
27/10/2021	2	P428	North Bridge	Sandstone	54	6 Boyra Crescent, Northbridge
28/10/2021	2	P429	North Bridge	Sandstone	54	6 Boyra Crescent, Northbridge
29/10/2021	2	P430	North Bridge	Sandstone	36	6 Boyra Crescent, Northbridge
30/10/2021	2	P431	North Bridge	Sandstone	18	6 Boyra Crescent, Northbridge
14/09/2021	2	P397	North Kellyville	Sandstone	858	
15/09/2021	2	P399	North Kellyville	Sandstone	852	
16/09/2021	2	P402A	North Kellyville	Sandstone	198	
2/03/2022	2	P455	Queenscliff	Sandstone	18	1372-WCA-02-151221-VIF
3/03/2022	2	P457	Queenscliff	Sandstone	60	1372-WCA-02-151221-VIF
14/03/2022	2	P458	Queenscliff	Sandstone	27	1372-WCA-02-151221-VIF

VENM Summary 2021-2022 for Pit 2

Date	Pit	Logbook Number	Name of Site material came from	Product	Total	Certificate Number Tonnes
15/03/2022	2	P459	Queenscliff	Sandstone	36	1372-WCA-02-151221-VIF
17/03/2022	2	P460	Queenscliff	Sandstone	20	1372-WCA-02-151221-VIF

18/03/2022	2	P462	Queenscliff	Sandstone	8	1372-WCA-02-151221-VIF
21/03/2022	2	P464	Queenscliff	Sandstone	16	1372-WCA-02-151221-VIF
25/03/2022	2	P468	Queenscliff	Sandstone	10	1372-WCA-02-151221-VIF
29/03/2022	2	P474	Queenscliff	Sandstone	10	1372-WCA-02-151221-VIF
30/03/2022	2	P476	Queenscliff	Sandstone	10	1372-WCA-02-151221-VIF
31/03/2022	2	P479	Queenscliff	Sandstone	24	1372-WCA-02-151221-VIF
1/04/2022	2	P484	Queenscliff	Sandstone	10	1372-WCA-02-151221-VIF
7/04/2022	2	P485	Queenscliff	Sandstone	24	1372-WCA-02-151221-VIF
11/04/2022	2	P490	Queenscliff	Sandstone	12	1372-WCA-02-151221-VIF
13/05/2022	2	P2006	Queenscliff	Sandstone	12	1372-WCA-02-151221-VIF
23/06/2022	2	P2023	Queenscliff	Sandstone	20	1372-WCA-02-151221-VIF
24/06/2022	2	P2024	Queenscliff	Sandstone	30	1372-WCA-02-151221-VIF
27/06/2022	2	P2025	Queenscliff	Sandstone	10	1372-WCA-02-151221-VIF
2/07/2021	2	P344	Queenscliff	Sandstone	90	Soil Classification – 5 Dalley Street, Queenscliff, NSW. 2096
5/07/2021	2	P347	Queenscliff	Sandstone	108	Soil Classification – 5 Dalley Street, Queenscliff, NSW. 2096
7/07/2021	2	P350	Queenscliff	Sandstone	108	Soil Classification – 5 Dalley Street, Queenscliff, NSW. 2096
9/07/2021	2	P351	Queenscliff	Sandstone	72	Soil Classification – 5 Dalley Street, Queenscliff, NSW. 2096
31/03/2022	2	P478	Revesby Heights	Sandstone	112	AG-659_1
1/04/2022	2	P483	Revesby Heights	Sandstone	120	AG-659_1
8/04/2022	2	P487	Revesby Heights	Sandstone	240	AG-659_1
11/04/2022	2	P488	Revesby Heights	Sandstone	160	AG-659_1
26/04/2022	2	P496	Revesby Heights	Sandstone	72	AG-659_1
12/07/2021	2	P354	Roseville	Sandstone	102	Visual VENM Report – 15 Glen St Roseville NSW
13/07/2021	2	P356	Roseville	Sandstone	108	Visual VENM Report – 15 Glen St Roseville NSW
14/07/2021	2	P358	Roseville	Sandstone	54.75	Visual VENM Report – 15 Glen St Roseville NSW
15/07/2021	2	P359	Roseville	Sandstone	36	Visual VENM Report – 15 Glen St Roseville NSW
7/08/2021	2	P362	Roseville	Sandstone	36	Visual VENM Report – 15 Glen St Roseville NSW
9/08/2021	2	P364	Roseville	Sandstone	18	Visual VENM Report – 15 Glen St Roseville NSW
11/08/2021	2	P366	Roseville	Sandstone	36	Visual VENM Report – 15 Glen St Roseville NSW
12/08/2021	2	P368	Roseville	Sandstone	57	Visual VENM Report – 15 Glen St Roseville NSW
13/08/2021	2	P369	Roseville	Sandstone	57	Visual VENM Report – 15 Glen St Roseville NSW
17/08/2021	2	P370	Roseville	Sandstone	57	Visual VENM Report – 15 Glen St Roseville NSW
18/08/2021	2	P373	Roseville	Sandstone	38	Visual VENM Report – 15 Glen St Roseville NSW
19/08/2021	2	P374	Roseville	Sandstone	38	Visual VENM Report – 15 Glen St Roseville NSW
20/08/2021	2	P375	Roseville	Sandstone	212.8	Visual VENM Report – 15 Glen St Roseville NSW
23/08/2021	2	P377	Roseville	Sandstone	12	Visual VENM Report – 15 Glen St Roseville NSW
26/08/2021	2	P386	Roseville	Sandstone	12	Visual VENM Report – 15 Glen St Roseville NSW
27/08/2021	2	P381	Roseville	Sandstone	207	Visual VENM Report – 15 Glen St Roseville NSW
30/08/2021	2	P383	Roseville	Sandstone	36	Visual VENM Report – 15 Glen St Roseville NSW
31/08/2021	2	P384	Roseville	Sandstone	18	Visual VENM Report – 15 Glen St Roseville NSW
15/09/2021	2	P401A	Vaucluse	Sandstone	121	
5/11/2021	2	P434	West Ryde	Sandstone	18	
27/05/2022	2	P2016	Willoughby	Sandstone	212.5	E491- VENM
31/05/2022	2	P2017	Willoughby	Sandstone	138	E491- VENM
6/06/2022	2	P2019	Willoughby	Sandstone	360	E491- VENM
2/03/2022	2	P454	Willoughby	Sandstone	108	E491- VENM
3/03/2022	2	P456	Willoughby	Sandstone	162	E491- VENM
				Total Tonnes	70951	