

ENVIRONMENTAL MANAGEMENT STRATEGY

LOT 218 AND LOT 220,
SALT ASH, NSW

FINAL

July 2016



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SALT ASH, NSW

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Prepared by
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on behalf of
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1.0 Introduction

Mackas Sand operations on Lot 218 and Lot 220 are located approximately 25 kilometres north east of Newcastle near Salt Ash in the Port Stephens local government area (LGA), New South Wales (refer to **Figure 1.1**). Mackas Sand directors have operated sand extraction operations in the area since 1992. Lot 218 and Lot 220 are owned by the Worimi Local Aboriginal Lands Council.

Mackas Sand was granted Project Approval No. 08_0142 (PA 08_0142) on 20 September 2009 by the Minister for Planning under Part 3A of the Environmental Planning and Assessment Act 1979 to operate sand extraction operations at Lot 220 and Lot 218. It is estimated that in excess of 21 million tonnes of sand resource will be extracted from Lot 218 and Lot 220, with Lot 218 having an indefinite extraction life due to the ongoing movement of sand from the adjoining mobile dunes.

A modification to PA 08_0142 (MOD1) was approved on 30 September 2013 by the NSW Planning Assessment Commission (PAC) under delegation of the Minister for Planning and Infrastructure. The modification includes a temporary reduction in extraction level and the approval of an alternate route to access Lot 218. The alternate route connects directly from Lot 218, northward to Nelson Bay Road, as depicted within **Figure 1.1**.

The Environmental Management Strategy (EMS) for Mackas Sand was originally submitted to the then Department of Planning (now Department of Planning & Environment – DPE) on 23 December 2009 and was approved on 6 December 2011. The current EMS and corresponding management plans and programs include updates to reflect changes as a result of MOD 2. MOD2 was approved by the PAC on 16 March 2016. The modification allows for an increase in maximum hourly truck movements (in and out) of Lot 218 via the approved alternate access road.

1.1 Regional Setting

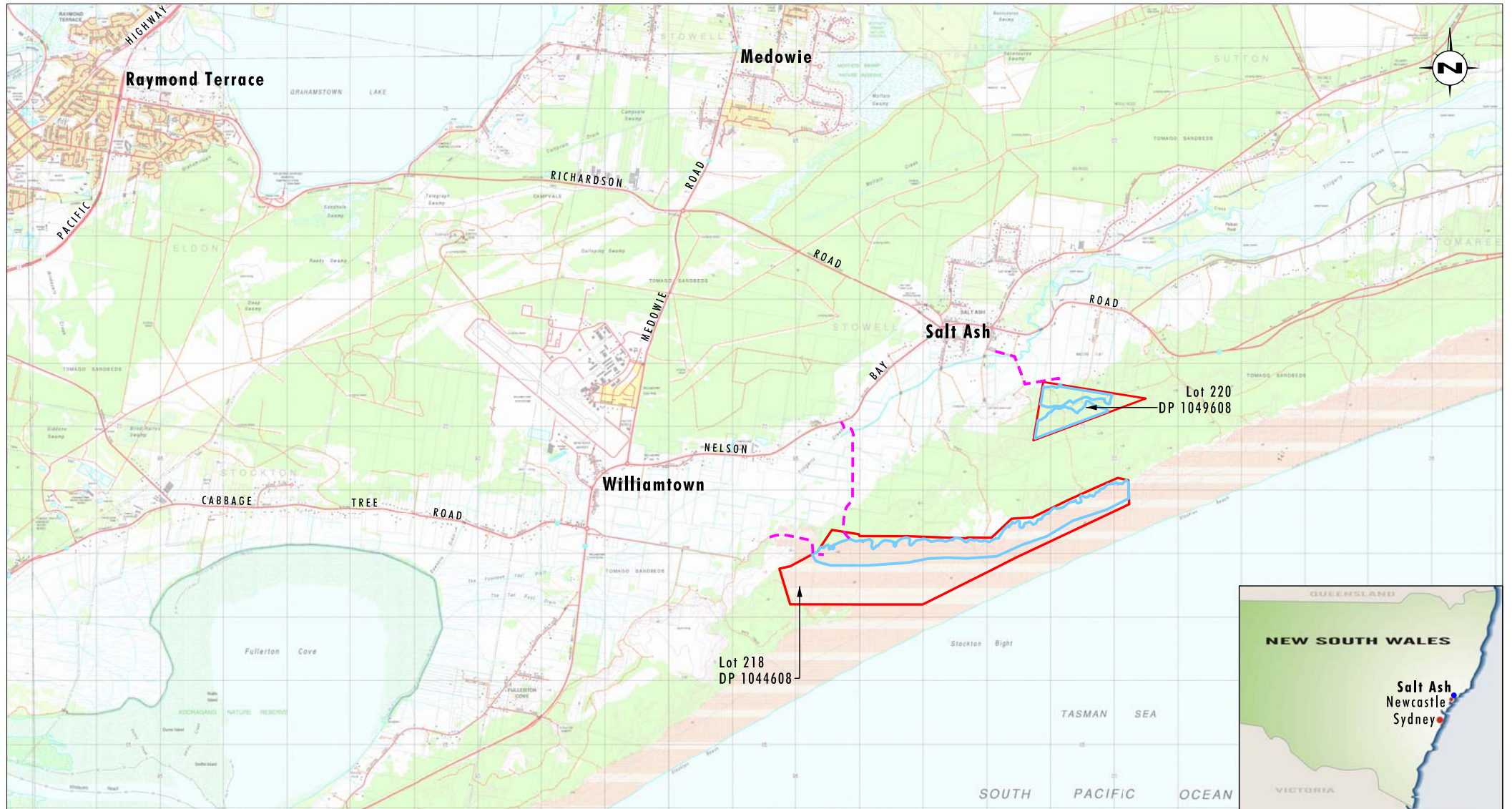
1.1.1 Sand Resources

The sand dunes of Stockton Bight comprise the largest mobile sand mass in New South Wales. The dunes have mostly formed in the last 6000 years from sand washed in from the sea and blown inland. The landward edge of the mobile dune system on Lot 218 is currently moving inland at a rate of up to five metres per year. The sand resource on Lot 220 is vegetated and provides a different quality of sand to the windblown sand that will be extracted from Lot 218.

It is estimated that there is approximately 11.4 million tonnes of industrial grade sand within the approved extraction area on Lot 218 and 9.6 million tonnes within the approved extraction areas on Lot 220.

1.1.2 Conservation and Cultural Heritage

Stockton Bight has a high conservation value due to its rich Aboriginal cultural heritage and archaeological value, and habitat for threatened and endangered species.



Source: Department of Lands (2006)

0 1 2 4 km
1:85 000

Legend

- Lot Boundaries
- Approval Areas
- Approved Site Access

FIGURE 1.1

Locality Plan

Ownership of Lots 218 and 220 was transferred to Worimi Local Aboriginal Lands Council (WLALC) in 2001 in accordance with the provisions of Section 36 of the Aboriginal Land Rights Act 1983. Clause 45(2) of this act states:

45(2) Notwithstanding any other Act, but subject to this section:

- (a) any transfer of lands to an Aboriginal Land Council under section 36 includes the transfer of mineral resources or other natural resources contained in those lands,
- (b) any vesting of the title to lands in an Aboriginal Land Council under Section 37 includes, subject to that section, the vesting of the title to the mineral resources or other natural resources contained in those lands.

In February 2007, the Worimi Conservation Lands were proclaimed, forming a 4438 hectare conservation area that includes Worimi State Conservation Area, Worimi National Park and Worimi Regional Park. The conservation lands are now leased back to the government under an agreement that allows for the lands to be co-managed between the WLALC and the government. The agreement intends to provide for the protection of the cultural and natural heritage values of the Stockton Bight landscape, while allowing for safe and sustainable recreational and commercial use of the area by the broader community.

Utilisation of the sand resources within Lots 218 and 220 is a key element of WLALC cultural development program as it will provide a long-term source of income to facilitate implementation of the program.

1.2 Purpose and Scope

This Environmental Management Strategy (EMS) provides the strategic context for the environmental management of Mackas Sand operations. This document has been prepared to satisfy Condition 1 of Schedule 5 of the Project Approval 08_0142 (MOD2).

This EMS has been developed to identify, address and effectively manage the environmental aspects and impacts of the operation, including:

- sand extraction operations
- management of biodiversity and archaeology
- environmental monitoring and management programs
- rehabilitation and closure activities.

1.3 Objectives

The main objectives of this EMS include the following:

- to exist as an umbrella document for the Mackas Sands environmental management system (encompassing management plans and procedures) that has been developed to address environmental aspects that are specific to Mackas Sands operations
- to implement a fully functional and effective environmental management system that is used to drive improved environmental performance and reduced environmental risk

- to ensure ownership of the environmental management system at all levels and that employee knowledge and use of the system remain high
- to prioritise staff and financial environmental resources on the basis of environmental risk
- to continuously improve the environmental performance of the operations through improvement plans, audits and inspection processes, training programs and effective corrective action systems.

1.4 Regulatory Requirements

1.4.1 Project Approval Conditions

A detailed list of the PA 08_142 (MOD 2) conditions outlined in the Project Approval, and where they are addressed in this document is included in **Table 1.1**. As required by the Project Approval, a series of management plans have been developed to specifically address and manage environmental matters relevant at Mackas Sand. The strategies, plans and programs referred to in Condition 1(f) of Schedule 5 as required by PA 08_0142 (MOD2) are set out in **Table 1.2**.

Table 1.1 Project Approval Requirements

Conditions		Addressed in Section
Schedule 5 – Environmental Management and Monitoring Conditions		
Environmental Management Strategy		
1.	The proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must:	
	a) be submitted to the Secretary for approval within 3 months of the date of this approval;	Section 1.0
	b) provide a strategic framework for environmental management of the project;	Section 1.5
	c) identify the statutory approvals that apply to the project;	Section 2.0
	d) describe the role responsibility, authority and accountability of all key personnel involved in the environmental management of the project ;	Section 1.6
	e) describe the procedures that would be implemented to:	Section 3.1
	• keep the community and relevant agencies informed about the operation and environmental performance of the project;	
	• receive handle and respond to, and record complaints;	Section 3.1.3
	• resolve any disputes that may arise during the course of the project;	Section 3.1.4

Conditions		Addressed in Section
	<ul style="list-style-type: none"> respond to non-compliance; 	Sections 4.3 and 5.0
	<ul style="list-style-type: none"> respond to emergencies; 	Section 3.3
	f) include: <ul style="list-style-type: none"> copies of the various strategies, plans and programs that are required under the conditions of this approval once they have been approved; and a clear plan depicting the monitoring currently being carried out within the project area. The Proponent shall implement the approved strategy as approved from time to time by the Secretary.	Appendices

Table 1.2 Strategies, Plans and Programs required by Consent Conditions

Schedule, Condition	Requirement	Appendix
3, 10	Prepare and implement a Noise Management Plan	1
3, 13	Prepare and implement an Air Quality Monitoring Program	2
3, 18	Prepare and implement a Soil and Water Management Plan	3
3, 23	Prepare and implement an Unexploded Ordnance Management Plan	4
3, 25	Prepare and Implement a Landscape Management Plan	5
3, 28A	Prepare and implement a Biodiversity Offset Strategy	5
3, 29	Prepare and Implement an Aboriginal Cultural Heritage Management Plan	6
3, 30	Prepare and Implement a Non-Indigenous Heritage Management Plan	7
5, 1	Prepare and implement an Environmental Management Strategy	This document
5, 1(f)	Clear plan depicting monitoring being carried out within project area	8

In addition to PA 08_0142 (MOD2) Mackas Sand holds other approvals and licences which require the development of management plans, programs or procedures. These approvals and corresponding plans are presented in **Table 1.3**.

Table 1.3 Additional Approvals and Corresponding Plans and Procedures

Approval/Licence	Management Requirement	Location
EPL 13218	Pollution Incident Response Management Plan (PIRMP)	www.mackassand.com.au
EPBC Approval 2011/6214	Landscape Management Plan	www.mackassand.com.au
Hunter Water Regulation 2010 Approval	Operations Management Procedure Hydrocarbon Spill Procedure	www.mackassand.com.au

In order to effectively implement the range of environmental protection and monitoring actions required within the EMS, a yearly planner, monthly checklist, action summary and induction materials list have been developed. These additional tools are included within **Appendix 8**.

1.5 Strategic Framework Context

Environment and community aspects and impacts for Mackas Sand are identified in consideration of the activities undertaken at the site as well as legislative requirements, project approvals conditions and other licences and approvals. This process aims to appropriately manage environmental and community aspects and minimise the potential environmental and community impacts of the operation.

Mackas Sand has identified the major environmental risks for the operation and their management strategies as part of the EMS for the project. Mackas Sand will review the environmental risks as discussed in **Section 1.3**.

The objectives and targets for Mackas Sand incorporated into this EMS have been developed based on the environmental assessment (EA), Project Approval, Environment Protection Licence (EPL), previous environmental performance, community concerns and other regulatory and company requirements. Objectives and targets set in order to meet the commitments and to measure the performance of the operation are outlined throughout the EMS.

1.6 Roles and Responsibilities

The Quarry Manager will be accountable for all aspects pertaining to the operations, environmental management and safety on the proposed site. The Quarry Manager may be contacted on (02) 4982 6227 (office) or 0408 490 911 (24 hour complaints line).

The implementation, day-to-day management and continued improvement of the EMS for sand extraction operations will be the responsibility of the Quarry Manager. The specific duties of the Quarry Manager include:

- ensuring compliance is achieved with relevant legislation and company policy by establishing and maintaining appropriate management and monitoring systems
- ensuring the management practices described in the EMS and associated plans and programs are implemented effectively
- ensuring that contractors fulfil their contractual obligations

- monitoring the performance of EMS strategies
- regular liaison with the government, community and other stakeholders
- implementing environmental induction procedures and appropriate training for Mackas Sand personnel and contractors
- reporting.

It is the responsibility of all quarry staff and contractors to comply with the regulations and procedures defined in the EMS, and to carry out their work in a way that minimises the social and the environmental impacts.

2.0 Statutory Approvals

2.1 Commonwealth Legislation

Commonwealth legislation governing the operations of the site includes the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) and Native Title Act 1993. These pieces of legislation were considered within the EA for the project (Umwelt 2012). It was determined that approval was required under the EPBC Act for the development of the Alternate access road. EPBC Approval 2011/6214 was granted on 29 November 2013.

A copy of EPBC Approval 2011/6214 is included as **Appendix 9**.

2.2 NSW State Legislation

2.2.1 Environmental Planning and Assessment Act 1979

The original proposal satisfied the definition of a Major Project under the State Environmental Planning Policy (Major Development) 2005 and approval was given in accordance with the requirements of the now repealed Part 3A of the EP&A Act. Modifications to projects approved under Part 3A that are outside the scope of the original approval are permitted with consent under Section 75W of the EP&A Act. The Minister for Planning and Infrastructure (now Minister for Planning and Environment) is the determining authority for modifications under Section 75W of the EP&A Act.

Modification (MOD 1) to the Project Approval 08_142 under 75W of the EP&A Act was granted on 30 September 2013 for the development of an alternate access road to Lot 218 and the temporary lowering of the quarry ground surface during extractive operations.

A copy of Project Approval 08_142 (MOD 2) is included as **Appendix 10**.

2.2.2 Hunter Water Regulations 2010

Mackas Sand was granted approval under Clause 10(1) of the Hunter Water Regulations 2010 for engaging in extractive industry in the North Stockton Sandbeds Catchment Area on 7 June 2012. The permit provided for extractive operations taking place only within the boundaries of Lot 218 and Lot 220 Nelson Bay Road, Salt Ash (refer to **Figure 1.1**) and meeting the requirements and criteria outlined in PA 08_0142 (MOD 1).

A copy of approval under the Hunter Water Regulations is included as **Appendix 11**.

2.2.3 Protection of the Environment Operations Act 1997

On 30 November 2009 Mackas Sand was issued with EPL 13218 under the Protection of Environment Operations Act 1997. EPL 13218 is for land-based extractive activity at Lot 218 and Lot 220 for a production level of between 500,000 and 2,000,000 tonnes per year. The licence stipulates a number of criteria for the monitoring of groundwater, sets out limits for noise emissions from the operation and details reporting requirements. These requirements are discussed further in the Noise Management Plan (see **Appendix 1**) and Soil and Water Management Plan (see **Appendix 3**).

A copy of EPL 13218 is included as **Appendix 12**.

3.0 Implementation and Operation

3.1 Consultation

3.1.1 Community Consultative Committee

In general all major extractive operations in NSW are required to establish a Community Consultative Committee (CCC) in accordance with the 'Guidelines for establishing and operating Community Consultative Committees for Mining Projects (DoP June 2007)'.

The main purpose of the CCC is to

... provide a forum for open discussion between representatives of the company¹, the community, the council and other stakeholders on issues directly relating to the mine's operations, environmental performance and community relations, and to keep the community informed on these matters. (DoP June 2007:1)

Membership of the CCC is made up of at least three members of the community, one member of the local council, an independent Chairperson, and two to three members of the project management team (including Environmental Managers).

The CCC meets at a frequency determined by the members to discuss issues relating to the operation and standing of Mackas Sand within the community in regards to environmental management. The CCC was formed and had its first meeting on 15 September 2010 and currently meets on a six monthly basis, with all members able to call an extraordinary meeting should they have particular matters they wish to discuss.

3.1.2 Communication with the Broader Community

It is generally accepted that as a member of the CCC, community members will encourage conversation regarding the operation to gauge the attitudes of the community and report back to the CCC at meetings. As well as informal communication such as this, the Chairperson may hold formal information sessions to communicate relevant information to special interest groups such as the local Chamber of Commerce.

In addition to this, a website (www.mackassand.com.au) will be used to display plans, strategies, monitoring results and reports and to keep the community informed.

3.1.3 Complaints Handling

In accordance development consent and EPL requirements, Mackas Sand has established a 24 hour complaints line. The number is listed on the Mackas Sand website (www.mackassand.com.au).

The Complaints Line number is: **0408 490 911**.

Complaints received on the number will be directed to the Quarry Manager who will respond to the complainant within 24 hours if the complainant is contactable. A record of all complaints will be kept on-site and published on the Mackas Sand website.

All complaints and information in regard to responses will be provided to the CCC. One of the functions of the CCC is to review complaints or disputes between Mackas Sand and members of the community.

3.1.4 Dispute Resolution

Part of the function of the CCC is to raise and discuss any disputes that may occur between the proponent and members of the local community or other relevant stakeholders, as part of working towards an amicable resolution. In the event of a dispute, the CCC will discuss and try and work towards a solution that satisfies all relevant parties. If required in these cases the Chairperson will act as a mediator between all relevant parties. Should the dispute remain unresolved the Chairperson will refer the matter to the Secretary.

3.2 Training and Induction

Mackas Sand aims to provide the necessary tools and training for its employees and contractors to enable the effective implementation of Mackas Sands management systems and to assist with the risk management process. A competency-based training scheme will be implemented to identify minimum qualifications and skills required, to ensure that adequate resources and training are provided to meet these requirements. All employees and contractors will be required to complete a structured site induction. The scope of the induction will include:

- an overview of the Mackas Sands operation and EMS
- an overview of the Mackas Sands EMS and standard operating procedures
- legislative requirements
- key environmental issues for Mackas Sands (i.e. groundwater, noise, dust, biodiversity and archaeology)
- environmental incident and community complaint reporting requirements;
- Workplace Health and Safety (WHS) requirements
- Emergency Response Procedures.

Training will be ongoing to improve the environmental and social understanding, capabilities and performance of personnel and contractors. In addition, specific training will be provided to personnel involved in:

- maintaining and operating pollution control equipment
- Aboriginal cultural awareness
- handling and storage requirements for tank traps
- storing and handling hydrocarbons
- management of unexploded ordnance
- Mackas Sand site transport rules
- responding to environmental incidents and emergencies.

An overview of induction materials are included within **Appendix 8**.

3.3 Operational Controls and Emergency Procedures

3.3.1 Dangerous Goods

Storage, handling and transport of dangerous goods such as fuels onsite will be undertaken and managed by suitably qualified persons in accordance with Australian Standards, particularly AS1940 and the Dangerous Goods Code.

Refuelling of equipment occurs on occasion within the extraction areas via the usage of mobile refuelling equipment, consisting of a fuel tank, spilt fuel bund/spill catch tray and spill kit. An additional mobile spill kit is located within the extraction area to enable prompt clean up in the event of a spill during refuelling activities. Any spills will be managed according to the Mackas Sand Operational Management Procedure (Umwelt 2013). Any contaminated material to be disposed of will be done so in accordance with relevant waste management requirements.

3.3.2 Public Safety

Following consent in 2009, Mackas Sand erected fences around the extraction areas on Lot 220 to ensure that public safety is provided for. However, fencing materials were removed and/or destroyed by persons seeking to pass through the site (e.g. dirt bike riders, 4WD vehicles, etc.). Additional means of preventing access to Lot 220 were attempted in consultation with the CCC, including placement of concrete blocks across access tracks where safe to do so. These too were ineffective and were found in some cases to hamper the bushfire brigade's ability to access fire zones. It has since been considered not practical to erect safety fencing that prevents access, whilst allows for sufficient fauna movement.

Signs indicating that it is private property and an active quarry site will be maintained around Lot 220 to ensure that the public is made aware of the dangers associated with unauthorised access and movement about the site. Similar signs will be erected at Lot 218 as required. Additionally, a relocatable rope/reflective tape or similar barrier will be erected on the duneward side of the extraction area of Lot 218, approximately 30 metres distant from the extraction face. This will alert drivers of 4WD vehicles of their proximity to the extraction face, preventing any unauthorised or inadvertent access.

3.3.3 Bushfire Management

Mackas Sand will be responsible for ensuring that fire management strategies are implemented and that there are always persons on-site trained in fire fighting. Bushfire management strategies that will be implemented include:

- regular slashing of surface vegetation around critical infrastructure such as the processing plant and other site facilities
- maintaining road ways and tracks that are either exiting the site or constructed as a requirement of the project in order to provide an effective fire break.

The site will be equipped with operational fire fighting equipment which will be serviced as required by the manufacturer's specifications.

Mackas Sand staff onsite in the event of a fire will assist Rural Fire Service and Emergency Service personnel as directed to contain or control any fire burning on site.

4.0 Monitoring and Compliance

4.1 Monitoring Programs

Environmental monitoring programs have been developed in accordance with PA 08_0142 and other approvals, licences, etc. to ensure that the required environmental monitoring is undertaken at Mackas Sand. The location of all Mackas Sand monitoring points are shown in **Figure 4.1**.

4.2 Environmental Inspections

As a minimum, environmental inspections as presented within the monitoring checklist included within **Appendix 8** are to be undertaken to determine compliance with legislation, standards, codes and other external requirements, the Project Approval and EPL. Inspections are to be conducted by the Mackas Sand Quarry Manager or his/her delegate and be recorded according to document control procedures (see **Section 1.4**).

Outcomes of the inspections shall be documented within the monitoring checklist to capture and track all actions. In the event a non-conformance is identified during the inspection, corrective and/or preventative actions are to be developed in accordance with **Section 4.5**. The completion and effectiveness of the corrective and/or preventative action is to be assessed during the next monthly inspection.

4.3 Compliance Assessment

A non-compliance can be defined as an exceedance of impact assessment criteria or relevant regulatory instrument. This can include but is not limited to:

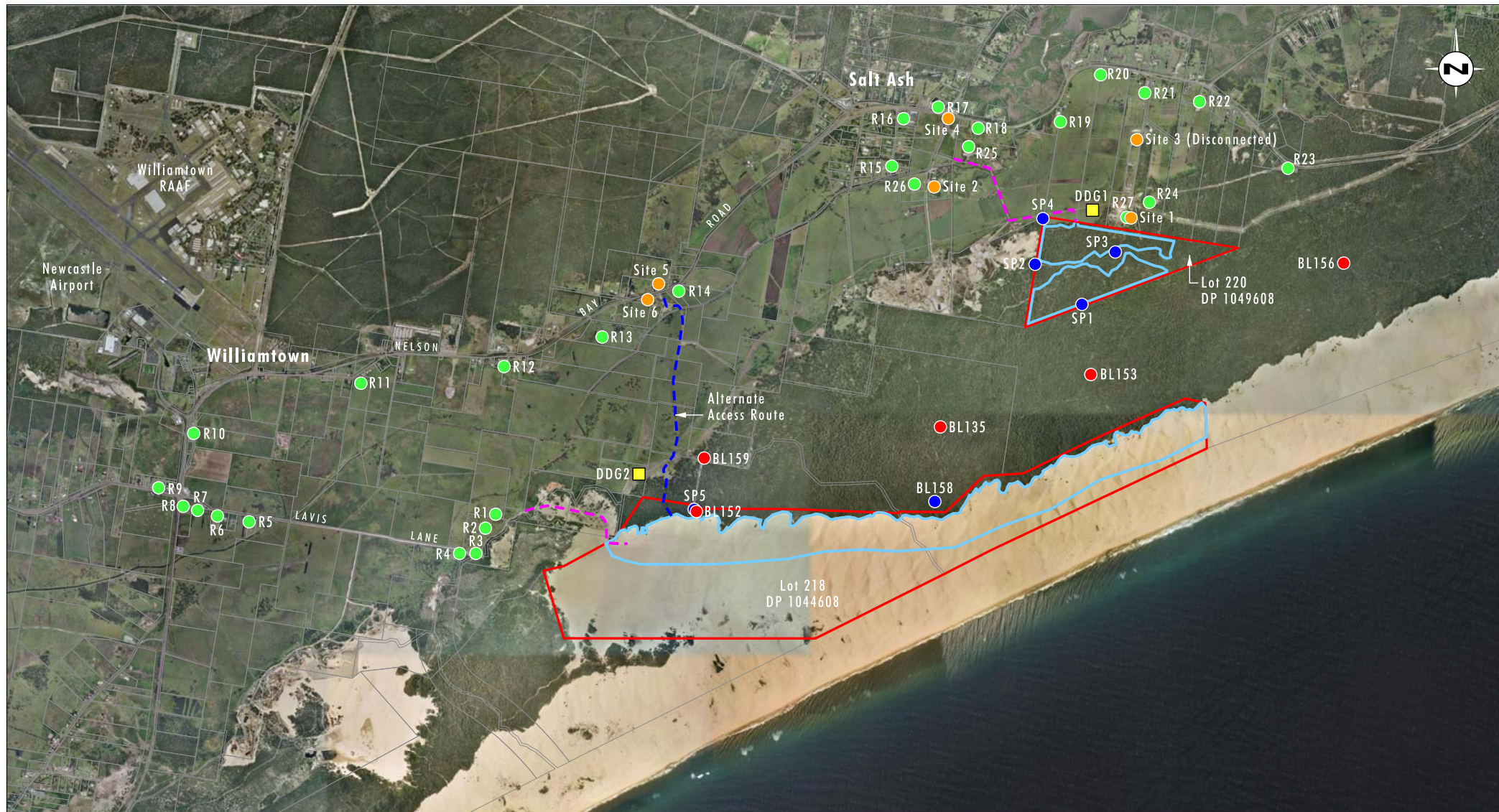
- any monitoring result that does not meet the acceptance criteria specified in PA 08_0142 or EPL 13218, noting any considerations within the EMS and related documents;
- any notice of non-compliance issued by Office of Environment and Heritage (OEH) or any other regulatory authority with environmental jurisdiction (e.g. NSW Office of Water (NOW), DPE etc); or
- any non-compliance with legislation, other approvals or licences.

Notification and reporting procedures for non compliance events are included in **Section 5.0**.

4.4 Independent Environmental Audit and Other Audit Procedures

Independent environmental audits are to be undertaken to verify compliance with legislation, licences, approvals and the EMS. Audit results are to be communicated to the CCC where relevant. The recommendations from independent environmental audits are to be consolidated into action plans and entered into an electronic database to allow tracking of progress against the audit actions.

Condition 5 of Schedule 5 of PA 08_0142 (MOD2) requires an Independent Environmental Audit to be undertaken within two years of commencing quarry operations and every three years thereafter. The proponent must commission and pay the full cost of these Audits.



Source: Department of Lands (2003)

0 0.5 1 2 km
1:45 000

Legend

- Lot Boundaries (218 & 220)
- Approval Area
- Approved Site Access
- Alternate Access Route
- Noise Monitoring Location
- Dust Monitoring Location
- EPL Groundwater Monitoring Location
- Hunter Water Groundwater Monitoring Location
- Residential Receivers

File Name (A4): R66_V1/1646_464.dgn

FIGURE 4.1

Mackas Sand Monitoring Locations

In accordance with the requirements of Condition 5 of Schedule 5 of PA 08_0142 (MOD2), the Independent Environmental Audits must:

- (a) be conducted by a suitably qualified, experienced, and independent team of experts whose appointment has been approved by the Secretary
- (b) assess the environmental performance of the project, and its effects on the surrounding environment
- (c) assess whether the project is complying with the relevant standards, performance measures and statutory requirements
- (d) review the adequacy of any strategy/plan/program required under this approval; and, if necessary
- (e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy/plan/program required under this approval.

Condition 6 of Schedule 5 of PA 08_0142 (MOD 2) requires that:

Within one month of completion of each of the Independent Audits, the Proponent shall submit a copy of the audit report to the Secretary and relevant agencies, with a response to any of the recommendations in the audit report.

Condition 7 of Schedule 5 of PA 08_0142 (MOD 2) states:

Within 3 months of submitting a copy of the audit report to the Secretary, the Proponent shall review and if necessary revise the:

- (a) strategies/plans/programs required under this approval; and
- (b) rehabilitation bond, to consider the:
 - effects of inflation
 - changes to the total area of disturbance
 - performance of rehabilitation against the completion criteria of the Landscape Management Plan, to the satisfaction of the Secretary.

Mackas Sand will review and revise strategies/plans/programs if necessary as required by Condition 7 of Schedule 5 of PA 08_0142 (MOD 2). The Quarry Manager will be responsible for ensuring these strategies/plans/programs are reviewed and revised.

In addition to Independent Environmental Audits, internal audits of operations and/or this EMS, or other aspects of PA 08_0142 will be undertaken to verify compliance with legislation, licences and approvals as part of the Annual Review process and more frequently as required. All internal and external auditors are to be appropriately qualified persons.

4.5 Corrective Action

An environmental non-conformance is taken to be any deviation from procedures implemented at Mackas Sand including identified objectives and targets. The non-conformance may be identified from routine inspections, audits or monitoring, or it can be from an external complaint. In the case of any non-conformance, corrective action will be developed and managed through internal tracking mechanisms. Additionally, any non-conformance resulting in an environmental incident will be managed in accordance with **Section 5.0**.

Corrective actions may also be identified through investigations of any environmental incidents (refer to **Section 5.0**) or non-compliances (refer to **Section 4.3**).

5.0 Reporting

5.1 Project Approval Requirements

5.1.1 Incident Reporting

Environmental incidents will be managed in accordance with the Mackas Sand EMS, which has been developed to:

- define and categorise environmental incidents
- manage hazards and incidents to minimise damage to people, environment, community and other assets
- identify factors that contributed to incidents through an investigation process and to learn from those events and prevent reoccurrence.

Condition 2 of Schedule 5 of PA 08_0142 (MOD 2) requires any exceedances of limits/performance criteria or incidents to be reported to the Department of Planning and Environment within 24 hours of the exceedances being recorded.

Following the reporting of an exceedance or incident to the DPE, Condition 3 of Schedule 5 of PA 08_0142 (MOD 2) requires the proponent to prepare a written report of the exceedance within six days of the exceedance being reported. The written report must contain:

- a) a description of the date, time and nature of the exceedance
- b) identification of the cause (or likely cause) of the exceedance
- c) a description of actions taken to date
- d) a description of the proposed measures to address the exceedance.

In the event of any exceedances or incidents which cause or may cause material harm to the environment, Mackas Sand will report in accordance with the requirements of Conditions 2 and 3 of Schedule 5. The Quarry Manager will be responsible for ensuring these reporting requirements are complied with.

Additionally, further incident reporting procedures are detailed within the Mackas Sand Pollution Incident Response Management Plan, available at www.mackassand.com.au

5.1.2 Material Harm Incidents

Mackas Sand is committed to minimising any potential for material harm to the environment and surrounding community. A PIRMP has been developed for Mackas Sand operations which outlines the response and notification procedures in the event of a potential material harm incident. In addition to reporting required by Condition 2 of Schedule 5 of PA 08_0142 (MOD2) incidents resulting or having the potential to result in material harm to the environment, (as defined by Section 147 of the Protection of the Environment Operations Act 1997) shall be reported to the following authorities (as relevant) as soon as it is safe to do so:

- the Appropriate Regulatory Authority (ARA)

- the EPA (if not the ARA)
- the Ministry of Health via the local Public Health Unit
- WorkCover;
- the Local Authority (Council) if not the ARA; and
- NSW Fire and Rescue.

In the case where immediate threat to human health or property has been identified, contact NSW Fire and Rescue as a first priority.

The decision on whether to notify should not delay immediate actions to ensure the safety of people or contain a pollution incident. However, incident notification should be made as soon as it is safe to do so.

The information about a pollution incident that must be notified includes:

- the time, date, nature, duration and location of the incident
- the location of the place where pollution is occurring or is likely to occur
- the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known
- the circumstances in which the incident occurred, including the cause of the incident, if known
- the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.

5.1.3 Annual Reporting

Condition 4 of Schedule 5 of PA 08_0142 (MOD 2) requires the proponent to prepare an Annual Review by the end of March each year, or other timing agreed by the Director-General. The Condition 4 requires the report to:

- (a) Describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the next year
- (b) Include a comprehensive review of the monitoring results and complaints records of the project over the past calendar year, which includes a comparison of the results against the:
 - Relevant statutory requirements, limits or performance measures/criteria
 - Requirements of any plan, program or strategy required under this approval
 - Monitoring results of previous years
 - Relevant predictions in the EA and EA (MOD 2).
- (c) Identify any non-compliance over the past calendar year, and describe what actions were (or are being) taken to ensure compliance

- (d) Identify any trends in monitoring data over the life of the project
- (e) Identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies
- (f) Describe what measures will be implemented over the current calendar year to improve the environmental performance of the project.

In addition, the Annual Review will also include:

- an Operations Report as required within the Approval under the Hunter Water Regulation
- a report addressing compliance with the Landscape Management Plan approved under EPBC 2011/6214.

The Quarry Manager will be responsible for ensuring these reporting requirements are complied with.

5.2 EPL Reporting Requirements

5.2.1 Annual Return Documents

For each 12 month reporting period Mackas Sand must provide to the Environment Protection Agency (EPA) a statement of compliance and a monitoring and summary of complaints for the 12 month period preceding. This Annual Return must be provided to the EPA within 60 days of the end of the reporting period.

The Quarry Manager will be responsible for ensuring these reporting requirements are complied with.

5.2.2 Annual Groundwater Monitoring Report

Mackas Sand will compile a report annually showing the results of all groundwater monitoring conducted on the premises. The report will graphically present the results of all groundwater results since monitoring began and note on the graph when any groundwater extraction and/or recharge began. Each parameter monitored will be graphed separately and results will be compared to relevant criteria, such as that developed by the Australian and New Zealand Environment Conservation Council (ANZECC). The report will also provide a commentary on the results that have been obtained, highlight any changes observed over time, and make recommendations where adverse effects are observed. The report will be submitted to the EPA annually with the Annual Return.

The Quarry Manager will be responsible for ensuring these reporting requirements are complied with.

5.2.3 Written Report

Where an EPA officer or other government representative suspects on reasonable grounds that the action of the operations may be causing or is likely to be causing harm to the environment the officer may request a written report of the event.

Should the report provided not give enough details to satisfy the EPA a request for further details from the proponent may be lodged.

The Quarry Manager will be responsible for ensuring these reporting requirements are complied with.

5.3 Access to Information

As required by Condition 9 of Schedule 5 of Project Approval 08_0142, all strategies, plans and programs will be displayed on the company website (www.mackassand.com.au) within one month of approval by the Secretary. The website will be updated at least once every three months.

The Quarry Manager will be responsible for ensuring reports are placed on the website as required by Condition 9 of Schedule 5 of PA 08_0142 (MOD 2).

6.0 Review and Improvement

6.1 Continuous Improvement

Where possible, Mackas Sand will attempt to implement all reasonable and feasible best practice mitigation measures throughout operations at Mackas Sand. The basis for continuous improvement will be through the ongoing monitoring of impacts and through the development of corrective/preventative actions.

6.2 Review

The EMS is to be reviewed in accordance with Condition 4A and Condition 7 of Schedule 5 in PA 08_0142, or as directed by the Secretary of DPE. The review will reflect changes in environmental requirements, technology and operational procedures.

7.0 References

Department of Planning, June 2007. Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects.

Umwelt (Australia) Pty Limited (2012). Environmental Assessment of Modifications to Sand Extraction Operations on Lot 218 and Lot 220, Salt Ash, NSW.

Umwelt (Australia) Pty Limited (2015). Environmental Assessment of Modifications to Mackas Sand Extraction Operations on Lot 218 Salt Ash NSW.

Umwelt (Australia) Pty Limited (2013). Mackas Sand Operational Management Procedure Lot 218 and Lot 220, Salt Ash, NSW.

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