

PROJECT

**ENVIRONMENTAL MANAGEMENT  
STRATEGY: TWEED SAND PLANT  
(PHASES 3 AND 4), CUDGEN  
NEW SOUTH WALES**

PREPARED FOR

**HANSON CONSTRUCTION MATERIALS –  
TWEED SAND PLANT**

DATE

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**TITLE** Environmental Management Strategy: Tweed Sand Plant (Phases 3 and 4), Cudgen, New South Wales

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**CLIENT** Hanson Construction Materials Pty Ltd – Tweed Sand Plant

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**CLIENT REFERENCE** EMS

**SYNOPSIS** This amended Environmental Management Strategy (EMS) addresses Schedule 5, Condition 1 of the Tweed Sand Plant (TSP) 'Notice of Modification' dated 20 August 2018. Accordingly, this report outlines the strategic context for environmental management of TSP and summarises how environmental performance will be monitored and managed throughout extractive phases 3 and 4 of the operation. This EMS constitutes an updated version of the site's existing EMS, which has been implemented at the site since July 2006.

## REVISION HISTORY

REVISION #	DATE	EDITION BY	APPROVED BY
1	04/09/2009	E. Holton	N. Zurig & L. Varcoe
2	07/12/2009	E. Holton	C. Anderson
3	02/02/2010	E. Holton	C. Anderson & L. Varcoe
4	28/02/2016	K. Bell	C. Anderson & L. Varcoe
5	20/11/2018	S. McGhee	E. Holton & L. Varcoe
6	29/03/2019	E. Holton	E. Holton

## DISTRIBUTION

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NSW Department of Planning and Environment	1	1	1	1	1	1				
G&S (library & file)	2	2	2	2	2	2				

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## **SUMMARY**

Hanson Construction Materials Pty Ltd (Hanson) commissioned Gilbert & Sutherland Pty Ltd (G&S) to prepare an Environmental Management Strategy (EMS) for Hanson's Tweed Sand Plant (TSP) operation in Cudgen, New South Wales.

The EMS is required to satisfy Schedule 5, Condition 1, of the 'Notice of Modification' for DA 152-6-2005 issued by the NSW Department of Planning and Environment (DPE) on 20 August 2018, following an application lodged by Hanson on 7 February 2017 to change the site's conditions from an annual extraction limit of 150,000 m<sup>3</sup> to transporting no more than 500,000 tonnes of product (sand) from the site per financial year.

As required under the Notice of Modification, this EMS outlines the strategic framework for environmental management of TSP. It summarises how the environmental performance of the development will be monitored, managed and reported to achieve compliance with the site's statutory approvals throughout the life of the development.

This EMS constitutes an updated version of the site's existing EMS, which has been implemented at the site since mid 2006.

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# 1 Introduction

Gilbert & Sutherland Pty Ltd (G&S) was commissioned by Hanson Construction Materials Pty Ltd (Hanson) to prepare an Environmental Management Strategy (EMS) for Hanson's Tweed Sand Plant (TSP) operation in Cudgen, NSW. This EMS was prepared to satisfy Schedule 5, Condition 1, of the Notice of Modification for DA 152-6-2005 issued by the New South Wales Department of Planning and Environment (DPE) on 20 August 2018, following an application lodged by Hanson on 7 February 2017 to change the site's conditions from an annual extraction limit of 150,000m<sup>3</sup> to transporting no more than 500,000 tonnes of product (sand) from the site per financial year.

This increase in sand production results in proportional increases in heavy vehicle movements with resulting impacts on dust generation and vehicle related noise. The Notice of Modification constitutes a revision of the Development Consent conditions issued in July 2006 for Phases 3 and 4 of TSP and requires the preparation and update of various management plans to guide environmental management at the site.

As required under the Notice of Modification, this EMS outlines the strategic framework for environmental management of TSP and summarises how the environmental performance of the development will be monitored, managed and reported to achieve compliance with the site's statutory approvals throughout the life of the development.

This EMS constitutes an updated version of the site's existing EMS, which has been implemented at the site since mid 2006.

## 1.1 Site description

TSP is located off Altona Road in Cudgen, Northern NSW. The site is formally described as Lot Plans; 22DP1082435, 23DP1077509 and 494DP720450, with a total area of approximately 77 hectares (ha) of which some 46 hectares (ha) is the approved extraction area.

The surveyed extraction limits for the site are shown on Schlencker Surveying (QLD) Drawing 11038-02 dated July 2018 in Appendix 1.

Sand extraction has been undertaken on this site since 1983 with Hanson taking over operation of the existing site in 2005. TSP is located within the Tweed Valley flood plain and is surrounded by the following land uses/receptors:

- North – Tweed Shire Council's wastewater treatment facility; the proposed Carbrook Sands Plant isolated residential receptors; agricultural land (cane, grazing); Pacific Motorway and township of Chinderah in the distance (approximately 2 km).
- East – Cudgen Lake Sand Plant (Cudgen Lakes); township of Cudgen (approximately 1 km); Township of Kingscliff in the distance (approximately 3 km).
- South – Residential receptors located along Cudgen Road ridge.
- West – Australian Bay Lobster Producers Pty Ltd; Melaleuca Station Memorial Gardens and Crematorium; Pacific Motorway; agricultural land (cane, grazing).

TSP operates a single dredge unit which is linked to an onshore wash plant via a floating flow line. Sand product is processed through the wash plant, stock piled and loaded via a front end loader into standard highway trucks. Loaded trucks then pass across the site weighbridge (logging product weight and truck departure date/time) then follow the standard transport route of Altona Road onto Crescent Street onto Tweed Coast Road then generally north or south bound on the Pacific Highway to their ultimate destination.

## 2 Scope of works

### 2.1 Notice of Modification – Relevant Conditions

For reference, the Notice of Modification is provided in Appendix 2. Preparation of an EMS is required under Schedule 5, Condition 1 of the Notice of Modification (DA 152-6-2005) as detailed below in italics;

Table 2.1.1 – Notice of Modification requirements for inclusion in the EMS

Condition	EMS Section
Environmental Management Strategy	
The Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. The strategy must:	
a. Be submitted to the Secretary for approval within three months of the determination of Modification 1;	Submitted on/before 20 November 2018
b. Provide the strategic framework for environmental management of the development;	Section 3
c. Identify the statutory approvals that apply to the development;	Section 3
d. Describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;	Section 4
e. Describe the procedures to be implemented to:	
<ul style="list-style-type: none"> <li>Keep the local community and relevant agencies informed about the operation and environmental performance of the development;</li> </ul>	Section 5.1 and 5.2
<ul style="list-style-type: none"> <li>Receive, record, handle and respond to complaints;</li> </ul>	Section 5.3
<ul style="list-style-type: none"> <li>Resolve any disputes that may arise during the course of the development;</li> </ul>	Section 5.5
<ul style="list-style-type: none"> <li>Respond to any non-compliance; and</li> </ul>	Section 5.4
<ul style="list-style-type: none"> <li>Respond to emergencies; and</li> </ul>	Section 5.6
f. Include:	
<ul style="list-style-type: none"> <li>copies of any strategies, plans and programs approved under the conditions of this consent; and</li> </ul>	Appendices
<ul style="list-style-type: none"> <li>a clear plan depicting all the monitoring to be carried out under the conditions of this consent.</li> </ul>	Section 6



### 3 Strategic framework

The strategic framework for environmental management of TSP draws on the experience of long-term operation of the site since 1983. Environmental management of the site is based on best practice management and proven techniques that have been implemented at this and other Hanson operations throughout Australia.

The site's approach to environmental management is documented in various management plans as required under the site's Notice of Modification for DA 152-6-2005 and these strategies are based on a foundation of comprehensive environmental monitoring.

This EMS stipulates the site's environmental policy and statutory requirements and brings together the management and monitoring plans to be implemented to achieve compliance and Hanson's overarching environmental goals.

#### 3.1 Environmental Policy

TSP is owned and operated by Hanson Construction Materials Pty Ltd – one of the world's largest producers of crushed rock, sand, gravel and pre-mixed concrete. Sand extraction has been undertaken on this site since 1983, with Hanson taking over operations in 2005.

Hanson is committed to high environmental standards and all operations at the TSP site are designed and managed to minimize adverse impacts to the onsite and offsite environments.

Hanson takes its environmental responsibilities seriously and values the long-standing relationship fostered with the community since site works commenced in 1983. The strength of this community relationship is in part dependent on its commitment to environmental stewardship and ongoing consultation through the Community Consultative Committee.

Hanson operates under a formal Environmental Policy which applies to all of its operations including TSP. The Policy provides a framework for Hanson's company-wide approach to

environmental management and includes commitments to:

- Operating practices
- Compliance
- Management review
- Waste management
- Product development
- Environmental assessment
- Environmental incident response
- Rehabilitation
- Communication
- Community expectations
- Water management
- Energy management

Through implementation of its Environmental Policy, Hanson aims to meet and exceed the environmental standards required by legislation with the aim of protecting and preserving the environment. A copy of the Policy, current as at 1 May 2016, is attached in Appendix 3.

#### 3.2 Statutory requirements

The following major Acts, Regulations and Policies that relate to the development, operation and rehabilitation of the Plant form the basis of the site's statutory requirements:

- *Protection of the Environment Operations Act 1997*
- *Protection of the Environment Operations (General) Regulation 2009*
- *Protection of the Environment Operations (Clean Air) Regulation 2010*
- *Protection of the Environment Operations (Noise Control) Regulation 2008*
- *Protection of the Environment Operations (Waste) Regulation 2014*
- *Environmental Planning and Assessment Act 1979*
- *Environmental Planning and Assessment Regulation 2000*
- *Water Management Act 2000*
- *The Water Management (General) Regulation 2018*

- Fisheries Management Act 1994
- Fisheries Management (General) Regulation 2010
- Local Land Services Act 2013
- Local Land Services Regulation 2014
- Biodiversity Conservation Act 2016
- Biodiversity Conservation Regulation 2017
- Water NSW Act 2014
- Water NSW Regulation 2013
- Waste Avoidance and Resource Recovery Act 2001
- Soil Conservation Act 1938
- Environmentally Hazardous Chemicals Act 1985
- Environmentally Hazardous Chemicals Regulation 2017
- Environment and Health Protection Guidelines – On-site Sewage Management for Single Households, 1998
- Land Management (Native Vegetation) Code 2018

### 3.3 Consent and licencing

The following section gives a brief description of the site’s statutory requirements. These requirements are contained in the site’s Notice of Modification and Licence documents.

**3.3.1 Notice of Modification (DA 152-6-2005)**  
Development Consent DA 152-6-2005 was issued in 2006 by the NSW Department of Planning. On 7 February 2017 Hanson applied to DPE to change the site’s conditions from an annual extraction limit of 150,000 m<sup>3</sup> to transporting no more than 500,000 tonnes of product (sand) from the site per financial year. Following consultation with various approval authorities, DPE approved the application and issued a Notice of Modification on 20 August 2018.

The Notice of Modification constitutes a revision of the 2006 Development Consent and contains various conditions that require the Applicant (Hanson) to:

- Prevent, minimise, and/or offset adverse environmental impacts;
- Set standards and performance measures for acceptable environmental performance;
- Regularly monitor and report on the site’s environmental performance; and

- Provide for the ongoing environmental management of the development.

### 3.3.2 Environmental Protection Licence #11453

The site’s Environmental Protection Licence (EPL) #11453 authorises the carrying out of dredging works and extractive activities. The EPL contains provisions that govern:

- The scale and nature of activities that are allowed to be carried out on the subject site.
- Discharges to air, water and application to land.
- Limit conditions for pollution of waters, load limits and concentration limits.
- Monitoring and recording conditions.
- Reporting conditions.

A copy of the Environmental Protection Licence and Variation is attached as Appendix 2

### 3.3.3 Groundwater licences

The NSW Department of Primary Industries (Water) has issued a total of five groundwater bore licences issued for the site. These are:

- 30AL319525 under approval 30CA319526 (previously 30BL179583 & 30BL143838),
- 30AL319537 under approval 30WA319538 (previously 30BL179426)
- 30BL207198

Further detail is provided in Table 2.2.3.1.

Table 2.2.3.1 – Groundwater licence particulars

Licence numbers	Approved works
WAL 38097 Reference 30AL319525	Approval number: 30CA319526 Water Supply Works, Water Use Excavation – Groundwater Lot 22//1082435
WAL 38106 Reference 30AL319537	Approval number: 30WA319538 Water Supply Works Excavation – Groundwater Lot 22//1082435
30BL207198	Monitoring bore (MB8a, MB8b, MB9a, MB9b, MB10a, MB10b, MB11a, MB11b)

Each groundwater licence contains provisions that relate to appropriate use, monitoring and management of groundwater resources at the site. A copy of each groundwater licence is attached as Appendix 3.

## 4 Roles and responsibilities

### 4.1 General

General obligations and responsibilities of entities holding an Environmental Protection Licence are set out in the *Protection of the Environment Operations Act 1997* and the Regulations made under the Act. These include obligations to:

- ensure persons associated with the Licensee comply with the provisions of the Environmental Protection Licence, as set out in section 64 of the POEO Act 1997
- control the pollution of waters and the pollution of air
- report incidents causing or threatening to cause material environmental harm as set out in Part 5.7 of the Act.

### 4.2 Regional Risk Manager

Hanson's Regional Risk Manager (RRM) establishes Environmental Policies. These policies shall be amended from time to time based on the findings of Environmental Assessments, Environmental Audits, changes to legislation and the Company's business plan.

### 4.3 Local environmental manager (Site Manager)

The Local Environmental Manager (LEM) or Site Manager monitors the environmental performance of the site and ensures all plant, equipment and operations are undertaken in a manner that minimises impacts on the environment or nuisance to neighbouring properties.

It is the responsibility of the LEM to ensure all impacts to water, air and soil are within the allowable limits set out in the site's environmental management plans.

To fulfil these environmental responsibilities the LEM oversees a team of Hanson staff members and external consultants who carry out the site's monitoring and sampling requirements. Hanson staff and external consultants report the results of environmental monitoring to the LEM who is responsible for actioning any resulting recommendations or works.

The LEM is responsible for liaising with statutory authorities including incident reporting and periodic reporting of monitoring results in accordance with Section 5.

The LEM also reports the environmental performance of the development to Hanson's RRM.

The LEM is the point of contact between the local community and Hanson. The LEM is responsible for organising and attending the periodic community consultative committee meetings.

### 4.4 Production and maintenance employees

Under the Hanson Environmental Policy, all employees (including production and maintenance staff) have a responsibility for environmental protection, which is integral to the conduct of its commercial operations.

All employees must undergo an induction course prior to commencement of work at the site. This induction includes training in environmental protection procedures (spill clean-up) and creates awareness of the potential for environmental impacts during operations at the site.

Production and maintenance employees are answerable to the LEM. Employees must immediately report all incidents resulting in environmental harm or having the potential to cause environmental harm to the LEM for formal recording and processing.

### 4.5 Sub-contractors

TSP commissions and authorises various sub-contractors to carry out environmental tasks such as site rehabilitation, monitoring and auditing.

The requirements for these tasks are stipulated in the site's environmental management plans and it is the responsibility of the LEM to provide the relevant approved version of the plan to the sub-contractor to ensure the appropriate scope of works is undertaken.

Contractual documentation with each sub-contractor is used to formalize this relationship.

#### 4.6 Accountability

All employees and sub-contractors undertaking works at the site contribute to the site's overall environmental performance.

The LEM must ensure that all site staff and contractors have completed relevant site inductions and additional training where necessary to perform the required tasks and ensure compliance with the site's management plans.

## 5 Procedures

### 5.1 Community consultation

In accordance with Schedule 5, Condition 8 of the Notice of Modification, the Applicant must operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. The CCC must be operated in general accordance with the Department's *Community Consultative Committee Guidelines: State Significant Projects (2016)*, for the duration of quarrying operations and for at least six months following the completion of quarrying operations.

The CCC is an advisory committee. In accordance with the guidelines, the Committee should comprise an independent chair and appropriate representation from the Applicant, Council and the local community.

In accordance with this requirement Hanson has formed a CCC to keep the local community informed about the environmental performance and ongoing operation of TSP. This committee has been regularly meeting since 2006.

Twice-yearly CCC meetings are held and involve a review of operations and the site's environmental performance. During the meetings, site management provides copies of relevant documentation such as water quality monitoring reports and environmental audit reports for review.

Time is allocated for any questions from Council or the community representatives. Questions are typically answered during the meetings. Responses to any unanswered questions are provided to the committee at a later date. If requested, site inspections may also be arranged and conducted during meetings.

Minutes are taken at each meeting to provide an accurate summary of matters discussed, including any community concerns expressed and inquiries made. A copy of the minutes is distributed to committee members following the meeting. A copy is also made publicly available on the Hanson website, following confirmation of the minutes at the following meeting.

### 5.2 Notification and reporting requirements

The Notice of Modification and the site's various environmental management plans stipulate the reporting requirements that must be adhered to, to ensure the statutory authorities remain fully informed of the site's environmental performance. The following section outlines the site's notification and reporting requirements stipulated in the Notice of Modification and Environmental Protection License.

Each of these requirements are incorporated into an Inspection Test Plan (ITP) specific for Tweed Sand Plant. The ITP includes each reporting and monitoring requirement, the timeframe for completion and the chain of responsibility. The ITP is displayed at the site office and is also available to Hanson staff electronically.

Periodic reviews of operational compliance are conducted internally by Hanson to ensure ongoing operational compliance.

#### 5.2.1 Initial notification

In accordance with Schedule 2, Condition 22 of the Notice of Modification, prior to dispatching more than 10 laden trucks from the site in any hour, the Applicant must provide written notification to the Department and Council that the following conditions have been completed to the satisfaction of the relevant authority:

- Schedule 2, Condition 16(b) – Contributions
- Schedule 3, Condition 3 – Noise Management Plan
- Schedule 3, Conditions 21, 22 – Upgrade and Maintenance of Altona Road
- Schedule 3, Condition 23 – Upgrade of the Crescent Street and Tweed Coast Road Intersection
- Schedule 3, Condition 25 – Transport Management Plan

When these Conditions have been met, to the satisfaction of the relevant authorities, the Applicant must not dispatch more than 18 laden trucks from the site in any hour.

### 5.2.2 Incident notification, reporting and response

The Notice of Modification defines an incident as:

*A set of circumstances that:*

- *causes or threatens to cause material harm to the environment; or*
- *results in non-compliance with this consent*

Further to this, any exceedance of any criteria in Schedule 3 of the Notice of Modification is considered an incident and must be notified to the Department.

In accordance with Schedule 5, Conditions 9 to 12 of the Notice of Modification, the Applicant must follow the procedures outlined below for incident notification, reporting and response:

- The Department must be notified in writing to [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) immediately after the Applicant becomes aware of an incident.
- Within 7 days of the date of the incident, the Applicant must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested. This report must include the time and date of the incident, details of the incident, measures implemented to prevent re-occurrence and must identify any non-compliance with this consent.
- Any written requirements of the Secretary or relevant public authority (as determined by the Secretary) which may be given at any point in time, to address the cause or impact of an incident must be complied with and within any timeframe specified by the Secretary or relevant public authority.
- If statutory notification is provided to EPA as required under the POEO Act in relation to the project, such notification must also be provided to the Secretary within 24 hours after the notification was provided to EPA.

### 5.2.3 Notification of Exceedances

In accordance with Schedule 4, Condition 1 of the Notice of Modification, as soon as practicable and

no longer than 7 days after obtaining monitoring results showing an exceedance of any criteria in Schedule 3 of the Notice of Modification, the Applicant must:

- Notify the affected land owners and tenants in writing of the exceedance, and provide quarterly monitoring results, to each affected party until the development is again complying with the relevant criteria; and
- Publish on its website the full details of the exceedance.

Any exceedance of any criteria in Schedule 3 of the Notice of Modification is an incident that must be notified to the Department in accordance with Section 5.2.2.

Upon receipt of monitoring results that exceed the relevant criteria Hanson prepares a brief written report including all required information and forwards the correspondence to [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au). Once accepted by DPE the details of the exceedance are uploaded to the Tweed Sand Plant directory of the Hanson website.

For any exceedance of the air quality criteria or air quality measures in Schedule 3, TSP must also provide to any affected land owners and tenants a copy of the fact sheet entitled “*Mine Dust and You*” (NSW Minerals Council, 2011).

This notification requirement is incorporated into the site’s ITP including the relevant contact details for each authority to ensure notification can be undertaken immediately when required.

Full details of environmental exceedances recorded at the site are also included in each Annual Review Report (see section 5.2.5). These reports are uploaded to the Hanson website each year following their review and acceptance by DPE.

### 5.2.4 Notification of environmental harm

In accordance with Section R2 of the Environmental Protection Licence, 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 Protection of the Environment Operations Act 1997. Notifications must be made by telephoning the Environment Line service on 131 555.

The licensee must then provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

This notification requirement is incorporated into the site's ITP including the relevant contact details for each authority to ensure notification can be undertaken immediately when required.

### 5.2.5 Annual Review

In accordance with Schedule 5, Condition 13 of the Notice of Modification, the Applicant must, by the end of September each year, or other timing as may be agreed by the Secretary, submit to the Department a report reviewing the environmental performance of the development, to the satisfaction of the Secretary. This review must:

(a) describe the development (including any rehabilitation) that was carried out in the previous financial year, and the development that is proposed to be carried out over the current financial year;

(b) include a comprehensive review of the monitoring results and complaints records of the development over the previous financial year, which includes a comparison of these results against the:

- relevant statutory requirements, limits or performance measures/criteria;
- requirements of any plan or program required under this consent;
- monitoring results of years prior; and
- relevant predictions in the documents listed in condition 3 of Schedule 2;

(c) detail any non-compliance over the past financial year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence;

(d) evaluate and report on:

- the effectiveness of the noise and air quality management systems; and
- compliance with the performance measures, criteria and operating conditions in this consent;

(e) identify any trends in the monitoring data over the life of the development;

(f) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and

(g) describe what measures will be implemented over the current financial year to improve the environmental performance of the development.

The Applicant must ensure that copies of the Annual Review are submitted to Council and are available to the Community Consultative Committee and any interested person upon request.

Compilation of all environmental results required for reporting commences immediately at the conclusion of each reporting period (July to June) to ensure the deadline of September 30 is met. Preparation of this report is typically undertaken by a third party and reviewed by Hanson prior to submission to DPE. Once accepted by DPE the report is uploaded to the Hanson website and made available to Council and the CCC. Any additional parties expressing interest in viewing the document are directed to the Hanson website where the document can be accessed in full.

### 5.2.6 Annual return

In accordance with Condition R1 of TSP's Environmental Protection Licence the licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

- a) a Statement of Compliance; and
- b) a Monitoring and Complaints Summary.

At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.



The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years.

The required forms are completed by Quarry Management and returned to the EPA.

This requirement is incorporated into the site's ITP to ensure it is completed on an annual basis.

### 5.2.7 Independent Environmental Audit

Schedule 5, Conditions 14 and 15 of the site's Notice of Modification require that within a year of the commencement of operations and every three years thereafter, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. The primary purposes of the audit are to ascertain information in relation to the environmental performance of the development and the adequacy of strategies, plans and programs. Audits must:

- Be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
- Include consultation with the relevant agencies and the CCC;
- Assess the environmental performance of the development and whether it is complying with the relevant requirements of Notice of Modification DA 152-6-2005 and any relevant EPL or water licences for the development (including any assessment, strategy, plan or program required under these approvals);
- Review the adequacy of strategies, plans or programs required under the abovementioned approvals;
- Recommend appropriate measures or actions to improve the environmental performance of the development, and/or any assessment, strategy, plan or program required under the abovementioned approvals; and
- Be conducted and reported to the satisfaction of the Secretary.

Within 12 weeks of commencing each audit, unless otherwise agreed by the Secretary, the Applicant must submit a copy of the Audit report to the Secretary and any other agency that requests it, together with its response to any recommendations contained in the Audit report, and a timetable for the implementation of the recommendations. The Applicant must implement these recommendations, to the satisfaction of the Secretary.

This requirement is incorporated into the site's ITP with sufficient detail to track the due date of the IEA.

Once accepted by DPE the report is uploaded to the Hanson website in accordance with Section 5.2.8.

### 5.2.8 Access to information

Schedule 5, Condition 16 of the site's Notice of Modification requires that within one month of the determination of Modification 1, and for the life of the development, the Applicant must make the following information and documents (as they are obtained or approved) publicly available on its website:

- The documents listed in Schedule 2, Conditions 2 and 3 of the Notice of Modification DA 152-6-2005 being:
  - The Notice of Modification
  - Any written directions from the Secretary (DPE)
  - The development layout
- Current statutory approvals for the development;
- All approved strategies, plans and programs required under the conditions of this consent being:
  - Noise management plan
  - Air quality management plan
  - Soil and water management plan
  - Transport management plan
  - Rehabilitation management plan
  - Environmental management strategy

- Regular reporting on the environmental performance of the development in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent;
- A comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
- A summary of the current stage and progress of the development
- Contact details to enquire about the development or to make a complaint
  - A complaints register, updated monthly;
  - The Annual Reviews of the development;
- Any Independent Environmental Audit as described in Schedule 5, Condition 12 of the Notice of Modification, and the Applicant's (Hanson) response to the recommendations in any audit; and
- Any other matter required by the Secretary; and

Hanson maintain a dedicated section on the company's website for Tweed Sand Plant's regulatory information. This information can be accessed via two methods;

- 1 Searching Hanson's website (hanson.com.au) and typing Tweed Sand Plant in the right search bar or,
- 2 Going to Hanson's website, clicking About Us > Regulatory Information > Tweed Sand Plant

At this location, the required information under Schedule 5, Condition 16 can be found under the following headings;

- Complaint register
- Community Consultative Committee (CCC) Meeting
- Contact details
- Development Layout Plans

- Environmental Assessment
- Exceedance Register
- Fact Sheets
- Statutory Approvals
- Annual Environmental Management Report
- Approved Site Management Plans, Programs and Strategies
- Monitoring Results
- Independent Environmental Audits
- Truck Movements

Note: Accurate at time of reporting but subject to changes should the Secretary require further information to be displayed.

Hanson are required to keep the above information up-to-date, to the satisfaction of the Secretary. To achieve this, new reports are uploaded to the website following their approval/acceptance by the relevant statutory authorities and the available information is routinely reviewed to ensure it is up to date.

### 5.3 Complaints handling

#### 5.3.1 Receipt of complaints

To allow the local community, government or other interested parties to lodge a formal complaint concerning operations conducted at TSP or by associated vehicles or mobile plant, complaints can be formally made in a number of ways:

- Via the Hanson website [www.hanson.com.au](http://www.hanson.com.au)
- TSP's phone number (02 6674 2916) is advertised at the site's access point on Altona Road, Cudgen. This number and the Quarry Manager's mobile number (0407 180 038) are also available on the Hanson website under 'Complaints Register' and 'Contact Details'. These numbers can be used to lodge a complaint directly with the TSP Manager during operating hours. In accordance with the site's EPL, the Applicant must ensure that the public are made aware of the complaints line number.

- Complaints may be addressed to TSP management in writing and posted to the site's PO Box.
- Complaints may be referred to a member of the CCC to be raised at the next meeting.
- Complaints may be made to Tweed Shire Council or other relevant statutory authorities. The Plant is then notified of the complaint by the relevant agency.

The TSP Complaint Proforma document (including the relevant phone numbers and email address) is available on the Hanson website and included in Appendix 4.

### 5.3.2 Response to complaints

Upon receipt of a complaint via any of the above notification methods, TSP management will conduct an investigation into the cause or source of the issue. If a complaint is verified, TSP management will remediate the issue in accordance with the relevant Environmental Management Plan and/or statutory requirement and the general process outlined below:

- Undertake notification and reporting in line with Sections 5.2.2, 5.2.3 and 5.2.4 (as relevant to the individual incident).
- TSP management to conduct an investigation to identify the source/cause of the issue.
- TSP management to consult the relevant environmental management plan for advice on management/remediation of the issue.
- If no management/remediation actions are identified in the plan, TSP management is to consult the relevant Environmental Consultant and/or statutory authority for advice.
- TSP management to implement the given actions and/or recommendations of the management plan and/or Environmental Consultant.

Liaison with the complainant shall be undertaken following the general procedure below

- TSP management to contact the complainant within 24 hours of lodging a complaint and

inform them of the complaints handling procedure.

- TSP management to inform the complainant of the outcome of investigations into the source of the complaint and any remedial actions that will be implemented to address the complaint.
- TSP to inform the complainant when remedial actions have been completed.

Details of these interactions to be recorded as per Section 5.3.3 below.

### 5.3.3 Record of complaints

A Complaints Register is to be maintained onsite by TSP management. This Register is used to record all complaints received at the Plant and includes the following information in regard to each complaint as required by the site's Environmental Protection License:

- a) the date and time of the complaint
- b) the method by which the complaint was made
- c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect
- d) the nature of the complaint
- e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant,
- f) if no action was taken by the licensee, the reasons why no action was taken.

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

A copy of the Complaints register is available on the Hanson website and updated monthly.

A copy of the Complaints Register should be made available at each CCC meeting. In this way, the community representatives and Tweed Shire Council remain informed about the performance and management of the Plant.

Complaints are also reported to the DPE on an annual basis as a component of the Annual Report. This report provides a summary of complaints received over a 12-month period and compares this with those received in the previous 12 months.

## 5.4 Response to non-compliance

### 5.4.1 General response procedure

In the event of detecting a non-compliance, the following general procedure would be followed:

- Undertake notification and reporting in line with Sections 5.2.2, 5.2.3 and 5.2.4 (as relevant to the individual incident).
- TSP management shall conduct a field investigation to identify the source/cause of the non-compliance if possible.
- TSP management to consult the relevant environmental management plan for advice on management/remediation of the non-compliance.
- If no management/remediation actions are identified in the plan, TSP management is to consult the relevant Environmental Consultant and/or statutory authority for advice.
- TSP management to implement the given actions and/or recommendations of the management plan and/or external advice.

### 5.4.2 Cyanobacterial bloom (blue-green algae) notification

Public health authorities must be notified when cyanobacterial (blue-green algae) biovolumes or toxin levels are within the 'Action' Red level. Correspondence shall be forwarded to Council's Environmental Health division and DPE including details of cyanobacterial biovolumes, toxicity levels (if toxicity is present) and the health and safety precautions implemented to minimize exposure for TSP staff.

## 5.5 Dispute resolution

### 5.5.1 Independent review

If an owner of privately-owned land considers the development to be exceeding the relevant criteria in Schedule 3 of the Modification Notice, then he/she may ask the Secretary in writing for an independent review of the impacts of the development on his/her land.

If the Secretary is satisfied that an independent review is warranted, within 3 months of the Secretary's decision, or as otherwise agreed by the Secretary with the landowner, the Plant must:

- a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:
  - consult with the landowner to determine their concerns;
  - conduct monitoring to determine whether the development is complying with the relevant criteria in Schedule 3 of the Modification Notice; and
  - if the Development is not complying with that criteria, identify measures that could be implemented to ensure compliance with the relevant criteria;
- b) provide the Secretary and landowner with a copy of the independent review;
- c) comply with any written requests made by the Secretary to implement any findings of the review.

## 5.6 Emergency response

Hanson has a Pollution Incident Response Management Plan (PIRMP) for Tweed Sand Plant dated September 2013. The PIRMP details the standard procedures that should be followed for emergencies at the site in relation to pollution incidents. A copy of the Plan is included in Appendix 12.

## 6 Environmental monitoring

The following sections provide a summary of the environmental monitoring required under each of the site's environmental management plans as listed below;

- SLR Consulting (November 2018). Tweed Sand Plant – MOD 1 Noise Management Plan (contained in Appendix 7)
- SLR Consulting (November 2018). Tweed Sand Plant – MOD 1 Operational Traffic Management Plan (contained in Appendix 8)
- Katestone Environmental (November 2018). Tweed Sand Plant – Air Quality Management Plan (contained in Appendix 9)
- Gilbert & Sutherland (November 2018). Soil and Water Management Plan for Tweed Sand Plant (Phases 3 and 4), Cudgen, New South Wales (contained in Appendix 10)
- James Warren & Associates (November 2018). Rehabilitation and Landscaping Management Plan (contained in Appendix 11).

Drawing 11792\_EMS 001 in Appendix 1 identifies all environmental monitoring points for the TSP site.

## 6.1 Traffic monitoring

Traffic monitoring is conducted in accordance with the site's Operational Traffic Management Plan prepared by SLR Consulting and dated November 2018 (Appendix 7). The monitoring requirements are summarised in Table 6.1.

Table 6.1 Traffic monitoring

Frequency	Conducted by	Locations	Parameters	Assessment Criteria								
Continuous	Automated traffic monitoring system at weighbridge. TSP Manager	Site weighbridge	<ul style="list-style-type: none"> <li>Operating hours</li> <li>Laden traffic movements</li> <li>Speed limits</li> <li>Compliance with TSP</li> <li>Driver's code of conduct</li> <li>Compliance with operational TMP</li> </ul>	<table border="1"> <thead> <tr> <th>Activity</th> <th>Operating hours</th> </tr> </thead> <tbody> <tr> <td>Quarrying operations (excluding loading and dispatch of trucks)</td> <td> <ul style="list-style-type: none"> <li>7 am to 5 pm Monday to Friday</li> <li>7 am to 4 pm Saturday</li> <li>At no time on Sundays or public holidays</li> </ul> </td> </tr> <tr> <td>Loading and dispatch of trucks</td> <td> <ul style="list-style-type: none"> <li>7 am to 5 pm Monday to Friday</li> <li>7 am to 12 pm Saturday</li> <li>At no time on Sundays or public holidays</li> </ul> </td> </tr> <tr> <td>Maintenance</td> <td>May be conducted at any time, provided that these activities are not audible at any privately-owned residence</td> </tr> </tbody> </table>	Activity	Operating hours	Quarrying operations (excluding loading and dispatch of trucks)	<ul style="list-style-type: none"> <li>7 am to 5 pm Monday to Friday</li> <li>7 am to 4 pm Saturday</li> <li>At no time on Sundays or public holidays</li> </ul>	Loading and dispatch of trucks	<ul style="list-style-type: none"> <li>7 am to 5 pm Monday to Friday</li> <li>7 am to 12 pm Saturday</li> <li>At no time on Sundays or public holidays</li> </ul>	Maintenance	May be conducted at any time, provided that these activities are not audible at any privately-owned residence
				Activity	Operating hours							
				Quarrying operations (excluding loading and dispatch of trucks)	<ul style="list-style-type: none"> <li>7 am to 5 pm Monday to Friday</li> <li>7 am to 4 pm Saturday</li> <li>At no time on Sundays or public holidays</li> </ul>							
				Loading and dispatch of trucks	<ul style="list-style-type: none"> <li>7 am to 5 pm Monday to Friday</li> <li>7 am to 12 pm Saturday</li> <li>At no time on Sundays or public holidays</li> </ul>							
Maintenance	May be conducted at any time, provided that these activities are not audible at any privately-owned residence											
<p>TSP must not dispatch more than 10 laden trucks from the site in any hour until the relevant conditions of the Notice of Modification, as detailed in Section 5.2.1 of this EMS, have been met to the satisfaction of the relevant authorities. When these conditions have been met, TSP must not dispatch more than 18 laden trucks from the site in any hour.</p> <p>Vehicles to comply with TSP standard transport route (Altona Rd, Crescent St, Tweed Coast Rd).</p> <p>Speed limits along transport road:</p> <ul style="list-style-type: none"> <li>Within the site: 30 km/h;</li> <li>Altona Road: 40 km/h;</li> <li>Crescent Street: 80 km/h;</li> <li>Tweed Coast Road 80 km/h / 60 km/h.</li> </ul>												
<p>Drivers to comply with TSP Drivers' Code of Conduct and Operational Traffic Management Plan</p>												
<p>Drivers to comply with TSP Drivers' Code of Conduct and Operational Traffic Management Plan</p>												



## 6.2 Noise Monitoring

Noise monitoring is conducted in accordance with the site's Noise Management Plan prepared by SLR Consulting and dated November 2018 (Appendix 8). The monitoring requirements are summarised in Table 6.2.

Table 6.2 Noise monitoring requirements

Frequency	Conducted by	Locations	Parameters	Assessment Criteria				
During extraction	Qualified acoustics consultant	<ul style="list-style-type: none"> <li>At the specific complainant residential location, and Control Noise Monitoring Location (if required)</li> </ul>	To be determined based on specifics of complaint	<table border="1"> <thead> <tr> <th>Receiver Location</th> <th>Day/Evening (dB(A) LAeq(15min))</th> </tr> </thead> <tbody> <tr> <td>Any residence on privately owned land</td> <td>40</td> </tr> </tbody> </table> <p>This noise criterion does not apply if the Applicant has an agreement with the relevant landowner to exceed the noise criterion, and the Applicant has advised the Department in writing of the terms of this agreement.</p>	Receiver Location	Day/Evening (dB(A) LAeq(15min))	Any residence on privately owned land	40
Receiver Location	Day/Evening (dB(A) LAeq(15min))							
Any residence on privately owned land	40							
Complaints based (if required)								
During extraction	Qualified acoustics consultant	<ul style="list-style-type: none"> <li>Nearest Noise Sensitive Receptor – on TSP land adjacent to 543 Cudgen Road, Cudgen, and</li> <li>Control Noise Monitoring Location (if required)</li> </ul>	<p>Short-term attended measurement of:</p> <ul style="list-style-type: none"> <li>average (LAeq(15minute)) noise level from the dredging and processing operations over a 15-minute measurement period</li> <li>tonal, impulsive, low frequency and/or modulating characteristics</li> <li>ambient noise (i.e. LAmax, LA1, LA10, LA90) over the 15-minute measurement interval</li> <li>Weather conditions during the monitoring period including 15-minute wind speed (m/s) and direction, rainfall (mm), temperature, humidity and cloud cover</li> </ul>					
Quarterly monitoring								
During extraction	Qualified acoustics consultant	<ul style="list-style-type: none"> <li>Nearest Noise Sensitive Receptor – on TSP land adjacent to 543 Cudgen Road, Cudgen, and</li> <li>Control Noise Monitoring Location (if required)</li> </ul>	<p>Continuous unattended monitoring for a minimum period of 1 week, including:</p> <ul style="list-style-type: none"> <li>average (LAeq(15minute)) noise level from the dredging and processing operations over a 15-minute measurement period</li> <li>tonal, impulsive, low frequency and/or modulating characteristics</li> <li>ambient noise (i.e. LAmax, LA1, LA10, LA90) over the 15-minute measurement interval</li> </ul> <p>Short-term attended measurements and weather monitoring consistent with the above item. Weather monitoring will be continuous during the duration of the unattended monitoring and be conducted adjacent to the monitoring equipment.</p>					
Annual monitoring								

### 6.3 Air Quality Monitoring

Air quality monitoring is conducted in accordance with the site's Air Quality Plan (AQP) prepared by Katesstone and dated November 2018 (Appendix 9). The monitoring requirements are summarised in Table 6.3.

Table 6.3 Air quality monitoring requirements

Frequency	Conducted by	Locations	Parameters	Assessment Criteria		
				Pollutant	Averaging Period	Criterion
During extraction	Qualified environmental consultant.	Four (4) locations in accordance with Figure 3 in the AQP.	Deposited dust	Particulate matter < 10 µm (PM10)	Annual	a,c 25 µg/m <sup>3</sup>
Monthly					24-hour	b 50 µg/m <sup>3</sup>
During extraction	Bureau of meteorology (BOM) station	BOM Coolangatta and/or Cudgen station as appropriate for the chosen parameters and data availability.	BOM Cooloongatta station;	Particulate matter < 2.5 µm (PM2.5)	Annual	a,c 8 µg/m <sup>3</sup>
Daily (minimum)					24-hour	b 25 µg/m <sup>3</sup>
				Total suspended particulates (TSP)	Annual	a,c 90 µg/m <sup>3</sup>
				Deposited dust <sup>d</sup>	Annual	b 2 g/m <sup>2</sup> /month
						a 4 g/m <sup>2</sup> /month
During	Qualified environmental	To be determined based	To be	As above	Notes: a Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources). b Incremental impact (i.e. incremental increase in concentrations due to the development on its own). c Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Secretary). d Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3590.10.1:2003 Methods for Sampling and Analysis of Ambient Air – Determination of Particulate Matter – Deposited Matter – Gravimetric Method.	



extraction	consultant	on nature of complaint or exceedance	determined based on nature of complaint or exceedance	
Complaints based and/or following repeated exceedances of relevant criteria. Requirements to be determined in consultation with Qualified Environmental Consultant.				

## 6.4 Surface water monitoring

Surface water monitoring is conducted in accordance with the site's Soil and Water Management Plan (SWMP) prepared by Gilbert & Sutherland and dated November 2018 (Appendix 10). The monitoring requirements are summarised in Table 6.4.

Table 6.4 Surface water monitoring requirements

Frequency	Conducted by	Locations	Parameters	Assessment Criteria																												
<b>Operational monitoring</b>																																
During extraction	TSP Management	Rainfall meter	Rainfall	NA																												
Daily																																
During extraction	TSP Management	Two (2) locations (east and west within the extraction lake).	pH, EC, temperature, DO, salinity, REDOX potential	NA																												
Weekly																																
<b>Compliance monitoring</b>																																
During extraction	Qualified environmental consultant	Three (3) surface water locations (two (2) within the extraction lake, one (1) downstream at the lake's discharge to the local drainage network), in accordance with Drawing No. 10683_002 in the SWMP.	pH, salinity, DO, turbidity, REDOX potential, sodium, potassium, magnesium, chloride, sulfate, bicarbonate, dissolved iron, dissolved aluminium, arsenic, chlorophyll-a, faecal coliforms, enterococci, ammonium	<table border="1"> <thead> <tr> <th>Pollutant</th> <th>WQ objective</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td>6.5 – 8.5</td> </tr> <tr> <td>Salinity</td> <td>&lt;3,000ppm</td> </tr> <tr> <td>DO</td> <td>&gt;6.0mg/L</td> </tr> <tr> <td>Turbidity</td> <td>5 – 20 NTU</td> </tr> <tr> <td>Sodium</td> <td>&lt;500mg/L</td> </tr> <tr> <td>Potassium</td> <td>&lt;40mg/L</td> </tr> <tr> <td>Magnesium</td> <td>&lt;100mg/L</td> </tr> <tr> <td>Chloride</td> <td>&lt;1,000mg/L</td> </tr> <tr> <td>Sulfate</td> <td>&lt;800mg/L</td> </tr> <tr> <td>Bicarbonate</td> <td>&lt;400mg/L</td> </tr> <tr> <td>Dissolved iron</td> <td>&lt;20mg/L</td> </tr> <tr> <td>Dissolved aluminium</td> <td>&lt;0.5mg/L</td> </tr> <tr> <td>Arsenic</td> <td>&lt;0.024mg/L</td> </tr> </tbody> </table>	Pollutant	WQ objective	pH	6.5 – 8.5	Salinity	<3,000ppm	DO	>6.0mg/L	Turbidity	5 – 20 NTU	Sodium	<500mg/L	Potassium	<40mg/L	Magnesium	<100mg/L	Chloride	<1,000mg/L	Sulfate	<800mg/L	Bicarbonate	<400mg/L	Dissolved iron	<20mg/L	Dissolved aluminium	<0.5mg/L	Arsenic	<0.024mg/L
Pollutant	WQ objective																															
pH	6.5 – 8.5																															
Salinity	<3,000ppm																															
DO	>6.0mg/L																															
Turbidity	5 – 20 NTU																															
Sodium	<500mg/L																															
Potassium	<40mg/L																															
Magnesium	<100mg/L																															
Chloride	<1,000mg/L																															
Sulfate	<800mg/L																															
Bicarbonate	<400mg/L																															
Dissolved iron	<20mg/L																															
Dissolved aluminium	<0.5mg/L																															
Arsenic	<0.024mg/L																															
Biannual (typically December and June)																																
Post extraction:																																
Biannual for 12 months																																
Annually until the relevant completion criteria specified in the SWMP and RLMP have been achieved.																																
During extraction	Qualified environmental consultant	One (1) vertical profile location within the current extraction lake, in accordance with Drawing 10683_002 in the SWMP.	pH, temperature, REDOX potential, salinity, DO																													
Biannual (typically December and June)																																
Post extraction																																
Biannual for 12 months																																

Frequency	Conducted by	Locations	Parameters	Assessment Criteria	
Annually until the relevant completion criteria specified in the SWMP and RLMP have been achieved.		Analysis at 1m intervals.		Chlorophyll-a	<10µg/L
				Faecal coliforms	<1,000 Median cells/100mL
				Enterococci	<230 Median cells/100mL
				Ammonium	<20mg/L

## 6.5 Groundwater Monitoring

Groundwater monitoring is conducted in accordance with the site's Soil and Water Management Plan prepared by Gilbert & Sutherland and dated November 2018 (Appendix 10). The monitoring requirements are summarised in Table 6.5.

Table 6.5 Groundwater monitoring requirements

Frequency	Conducted by	Locations	Parameters	Operational monitoring	Assessment Criteria																																													
During extraction	TSP Management	Groundwater bores as shown on Drawing 10683_003.	pH, salinity, dissolved oxygen, temperature, REDOX potential, groundwater level	NA																																														
Monthly																																																		
<b>Compliance monitoring</b>																																																		
During extraction	Qualified environmental consultant	Groundwater bores as shown on Drawing 10683_003.	pH, salinity, REDOX potential, groundwater levels, sodium, potassium, magnesium, chloride, sulfate, bicarbonate, dissolved iron, dissolved aluminium, arsenic, chlorophyll-a, faecal coliforms, enterococci, ammonium	<table border="1"> <thead> <tr> <th>Pollutant</th> <th>Unit of measure</th> <th>Water quality objective – shallow bores</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td>pH units</td> <td>6.5 - 8.5</td> </tr> <tr> <td>Salinity</td> <td>ppm</td> <td>&lt;3,000</td> </tr> <tr> <td>Sodium</td> <td>mg/L</td> <td>&lt;500</td> </tr> <tr> <td>Potassium ion</td> <td>mg/L</td> <td>&lt;40</td> </tr> <tr> <td>Magnesium ion</td> <td>mg/L</td> <td>&lt;100</td> </tr> <tr> <td>Chloride ion</td> <td>mg/L</td> <td>&lt;1,000</td> </tr> <tr> <td>Sulfate ion</td> <td>mg/L</td> <td>&lt;800</td> </tr> <tr> <td>Bicarbonate ion</td> <td>mg/L</td> <td>&lt;400</td> </tr> <tr> <td>Soluble iron ion</td> <td>mg/L</td> <td>&lt;20</td> </tr> <tr> <td>Soluble aluminium ion</td> <td>mg/L</td> <td>&lt;0.5</td> </tr> <tr> <td>Arsenic</td> <td>mg/L</td> <td>&lt;0.024</td> </tr> <tr> <td>Faecal coliforms</td> <td>Median No./100mL</td> <td>&lt;1,000</td> </tr> <tr> <td>Enterococci</td> <td>Median No./100mL</td> <td>&lt;230</td> </tr> <tr> <td>Ammonium ion</td> <td>mg/L</td> <td>20</td> </tr> </tbody> </table>		Pollutant	Unit of measure	Water quality objective – shallow bores	pH	pH units	6.5 - 8.5	Salinity	ppm	<3,000	Sodium	mg/L	<500	Potassium ion	mg/L	<40	Magnesium ion	mg/L	<100	Chloride ion	mg/L	<1,000	Sulfate ion	mg/L	<800	Bicarbonate ion	mg/L	<400	Soluble iron ion	mg/L	<20	Soluble aluminium ion	mg/L	<0.5	Arsenic	mg/L	<0.024	Faecal coliforms	Median No./100mL	<1,000	Enterococci	Median No./100mL	<230	Ammonium ion	mg/L	20
Pollutant	Unit of measure	Water quality objective – shallow bores																																																
pH	pH units	6.5 - 8.5																																																
Salinity	ppm	<3,000																																																
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Soluble iron ion	mg/L	<20																																																
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Arsenic	mg/L	<0.024																																																
Faecal coliforms	Median No./100mL	<1,000																																																
Enterococci	Median No./100mL	<230																																																
Ammonium ion	mg/L	20																																																
Biannual (typically December and June)																																																		
Post extraction																																																		
Biannual for 12 months																																																		
Annually until the relevant completion criteria specified in the SWMP and RLMP have been achieved.																																																		

Table 6.2.2 – WQO's for deep bores							
Parameters	MB2a	MB5a	MB8b	MB9b	MB10b	MB11b	
pH	6.89 - 7.52	6.89 - 7.52	6.89 - 7.52	6.89 - 7.52	6.89 - 7.52	6.89 - 7.52	6.89 to 7.52
Salinity (ppm)	<11,750	<2,470	<21,812	<14,988	<9,920	<19,700	
Bicarbonate alkalinity (mg/L)	424 to 769	194 to 254	409 to 700	73 to 585	571 to 763	590 to 754	
Magnesium (mg/L)	<425	<88	<936	<728	<526	<804	
Sodium (mg/L)	<2,608	<420	<5,130	<4,300	<2,442	<5,331	
Potassium (mg/L)	<129	<26	<208	<136	<120	<203	
Dissolved ion (mg/L)	<1.82	<1.82	<1.82	<1.82	<1.82	<1.82	<1.82
Dissolved aluminium (mg/L)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloride (mg/L)	<4,400	<744	<9,982	<8,810	<4,440	<9986	
Sulfate (mg/L)	<996	<643	<2,908	<2,170	<2,162	<1,745	
Arsenic (mg/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ammonia (mg/L)	<6.4	<6.4	<6.4	<6.4	<6.4	<6.4	<6.4
Faecal coliforms median (cfu/100mL)	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
Enterococci median (cfu/100mL)	<230	<230	<230	<230	<230	<230	<230

## 6.6 Cyanobacteria Monitoring

Cyanobacteria (blue-green algae) monitoring is conducted in accordance with the site's Soil and Water Management Plan prepared by Gilbert & Sutherland and dated November 2018 (Appendix 10). The monitoring requirements are summarised in Table 6.6.

Table 6.6 Cyanobacteria monitoring requirements

Frequency	Conducted by	Locations	Parameters	Assessment Criteria	
Weekly	TSP Management	Extraction lake	Visual inspections of the water body appearance and Secchi disk transparency	N/A	
During extraction	Qualified environmental consultant	Two (2) locations (east and west) within the extraction lake	<ul style="list-style-type: none"> <li>Algal cell count, biovolume and predominant genera</li> <li>Polymerase Chain Reaction (PCR) genetic toxin testing</li> <li>Total nitrogen</li> <li>Nitrogen-oxidised</li> <li>Ammonia</li> <li>Total Phosphorus</li> <li>Orthophosphorus</li> </ul>	Alert level	Description
Monthly				Alert (Amber mode)	Biovolume equivalent of 0.5 to < 1.8 mm <sup>3</sup> /L of potentially toxic cyanobacteria.
During extraction	Qualified environmental consultant	One (1) vertical profile location at three sampling depths: the water surface, eight metres deep and the maximum depth of the lake (approximately 16-18 metres)	<ul style="list-style-type: none"> <li>Cell count/biovolume of cyanobacteria</li> <li>Toxin analysis (CYN and deoxy CYN)</li> <li>PCR genetic testing for PKS-CYN gene</li> <li>Nutrients (total nitrogen, total phosphorus, orthophosphorus, oxidised nitrogen and ammonia)</li> </ul>	Action (Red mode)	Biovolume equivalent of ≥ 1.8 mm <sup>3</sup> /L of potentially toxic cyanobacteria or ≥ 10 mm <sup>3</sup> /L total biovolume of all cyanobacterial material.
Annually				Alert (Red mode)	Retreating from Red



### 6.7 Acid sulfate soil monitoring

Acid sulfate soil monitoring is conducted in accordance with the site's Soil and Water Management Plan prepared by Gilbert & Sutherland and dated November 2018. The monitoring requirements are summarised in Table 6.7 (Appendix 10).

Table 6.7 Acid sulfate soil monitoring requirements

Frequency	Conducted by	Locations	Parameters	Assessment Criteria												
<b>During removal of overburden</b>																
Two (2) boreholes (depth to groundwater) per 1 hectare prior to disturbance.	Qualified soil consultant	Within expansion area 2 boreholes per hectare Samples collected at 0.5m depth intervals.	<ul style="list-style-type: none"> <li>Chromium Reducible Sulfur (CRS)</li> <li>Total Actual Acidity (TAA)</li> </ul>	<table border="1"> <thead> <tr> <th colspan="2">Texture</th> <th colspan="2">Action criteria</th> </tr> <tr> <th>Sands to loamy sands</th> <th>Sulfur trail %S oxidisable</th> <th>0.03</th> <th>Acid trail mol H+ /tonne</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td>18</td> </tr> </tbody> </table>	Texture		Action criteria		Sands to loamy sands	Sulfur trail %S oxidisable	0.03	Acid trail mol H+ /tonne				18
Texture		Action criteria														
Sands to loamy sands	Sulfur trail %S oxidisable	0.03	Acid trail mol H+ /tonne													
			18													
<b>During sand extraction</b>																
Minimum of 10 samples over quarterly period for analysis.	Qualified soil consultant	Processed sand stockpile	<ul style="list-style-type: none"> <li>Chromium Reducible Sulfur (CRS)</li> <li>Total Actual Acidity (TAA)</li> </ul>	<table border="1"> <thead> <tr> <th colspan="2">Texture</th> <th colspan="2">Action criteria</th> </tr> <tr> <th>Sands to loamy sands</th> <th>Sulfur trail %S oxidisable</th> <th>0.03</th> <th>Acid trail mol H+ /tonne</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td>18</td> </tr> </tbody> </table>	Texture		Action criteria		Sands to loamy sands	Sulfur trail %S oxidisable	0.03	Acid trail mol H+ /tonne				18
Texture		Action criteria														
Sands to loamy sands	Sulfur trail %S oxidisable	0.03	Acid trail mol H+ /tonne													
			18													



## 6.8 Rehabilitation

Site rehabilitation is conducted in accordance with the site's Rehabilitation and Landscaping Management Plan (RLMP) prepared by James Warren and Associates and dated November 2018 (Appendix 11). The monitoring requirements are summarised in Table 6.8.

Table 6.8 Site rehabilitation requirements

Frequency	Conducted by	Locations	Parameters	Assessment Criteria
<i>Wetland</i>				
6 months after initial planting  Annually until completion criteria achieved	Qualified ecologist	Wetland zones as identified in the RLMP	Physicochemical water quality indicators; <ul style="list-style-type: none"> <li>• Nutrients</li> <li>• Dissolved and suspended solids</li> <li>• Turbidity</li> <li>• DO</li> <li>• pH</li> <li>• Salinity</li> </ul> Biological indicators; <ul style="list-style-type: none"> <li>• Presence of aquatic weeds.</li> <li>• Growth rate of wetland plants.</li> <li>• Diversity of habitat.</li> <li>• Abundance of fish, birds and macroinvertebrates.</li> </ul>	Completion criteria; <ul style="list-style-type: none"> <li>• Survival rate of at least 85% of wetland plantings.</li> <li>• At least 80% of desired species composition achieved.</li> <li>• All invasive weed species controlled to &lt;1% cover during all monitoring events.</li> <li>• Water quality consistent with the requirements of the SWMP.</li> </ul>
<i>Open Space</i>				
6 months after initial planting	Qualified ecologist	Open space areas as identified in the RLMP	Survival rate of plants Signs of invasive weed growth Growth conditions	Completion criteria: <ul style="list-style-type: none"> <li>• Survival rate of at least 85% of wetland plantings.</li> <li>• At least 80% of desired species composition</li> </ul>

Annually until completion criteria achieved			(adequate water, mulch, nutrients)	<p>achieved.</p> <ul style="list-style-type: none"> <li>Plant densities achieved</li> <li>All invasive weed species controlled to &lt;1% cover during all monitoring events.</li> </ul>
---	--	--	------------------------------------	---

## 7 Administration of the EMS

### 7.1 Review of the EMS

This EMS shall be reviewed and revised and/or updated, in accordance with Schedule 5 Condition 4 of the Notice of Modification as detailed below;

*4. Within three (3) months of any of the following:*

- (a) The submission of an incident report under Schedule 5 Condition 10*
- (b) The submission of an Annual Review under Schedule 5 Condition 13*
- (c) The submission of an Audit report under Schedule 5 Condition 14, or*
- (d) The approval of any modification to the conditions of the Notice of Modification.*

*Where a review leads to revisions to the EMS, within six weeks of the review the revised EMS must be submitted for DPE approval.*

Review of this EMS will also take place if monitoring records indicate that it is warranted or in the event of any significant change to operations at TSP. Any modifications to the EMS will be undertaken in consultation with DPE.

## 8 Limitations of reporting

Gilbert & Sutherland Pty Ltd has attempted to be accurate providing this information. The interpretation of scientific data, however, involves professional judgement. As such, interpretation is open to error.

In recognising the potential for errors in scientific interpretation, Gilbert & Sutherland Pty Ltd does not guarantee that the information is totally accurate or complete and clients are advised not to rely solely on this information when making commercial decisions. Any representation, statement, opinion or advice, expressed or implied is made in good faith and on the basis that


the authors, Gilbert & Sutherland Pty Ltd, their agents or employees are not liable (whether by reason of lack of care or otherwise) to any person for any damage or loss whatsoever which has occurred or may occur in relation to that person taking or not taking (as the case may be) action in respect of any representation, statement or advice referred to above.


Furthermore, this information should not be relied upon by any other persons than the client for whom this information was compiled. This information reflects the specific brief and the budget of the client concerned, who enjoys an individual tolerance of risk.


## 9 Appendix 1 – Drawings



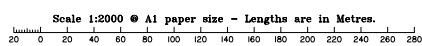


Photo sourced from 

APPROVED EXTRACTION AREA 

SITE BOUNDARY 

PhotoMap by nearmap.com  
Date of capture: 22/07/2018  
Rectification & Georeferencing Approx. only.



**General Notes**

This Plan has been prepared for the Client under specific instructions as per the Job Number & name of this plan. It is available for the purposes of Engineering Design only and is not to be used by any other person or organisation for any other purpose, and is subject to the following conditions:

- The boundaries shown herein have been determined from plan dimensions only. No search has been undertaken for easements or other encumbrances on this site.
- No report is made on any services or features other than those shown herein. Prior to any excavation, construction or installation, relevant authorities should be contacted for the possible location of further services and detailed location of all services.
- These notes form an integral part of this plan and no part of this plan may be reproduced in whole or in part without written notice.

**SCHLENKER SURVEYING (QLD)**  
Geod. Control # Brisbane  
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**SITE PLAN**

Lot 22 in DP1082435,  
Lot 23 in DP1077509 &  
Lot 494 in DP720450

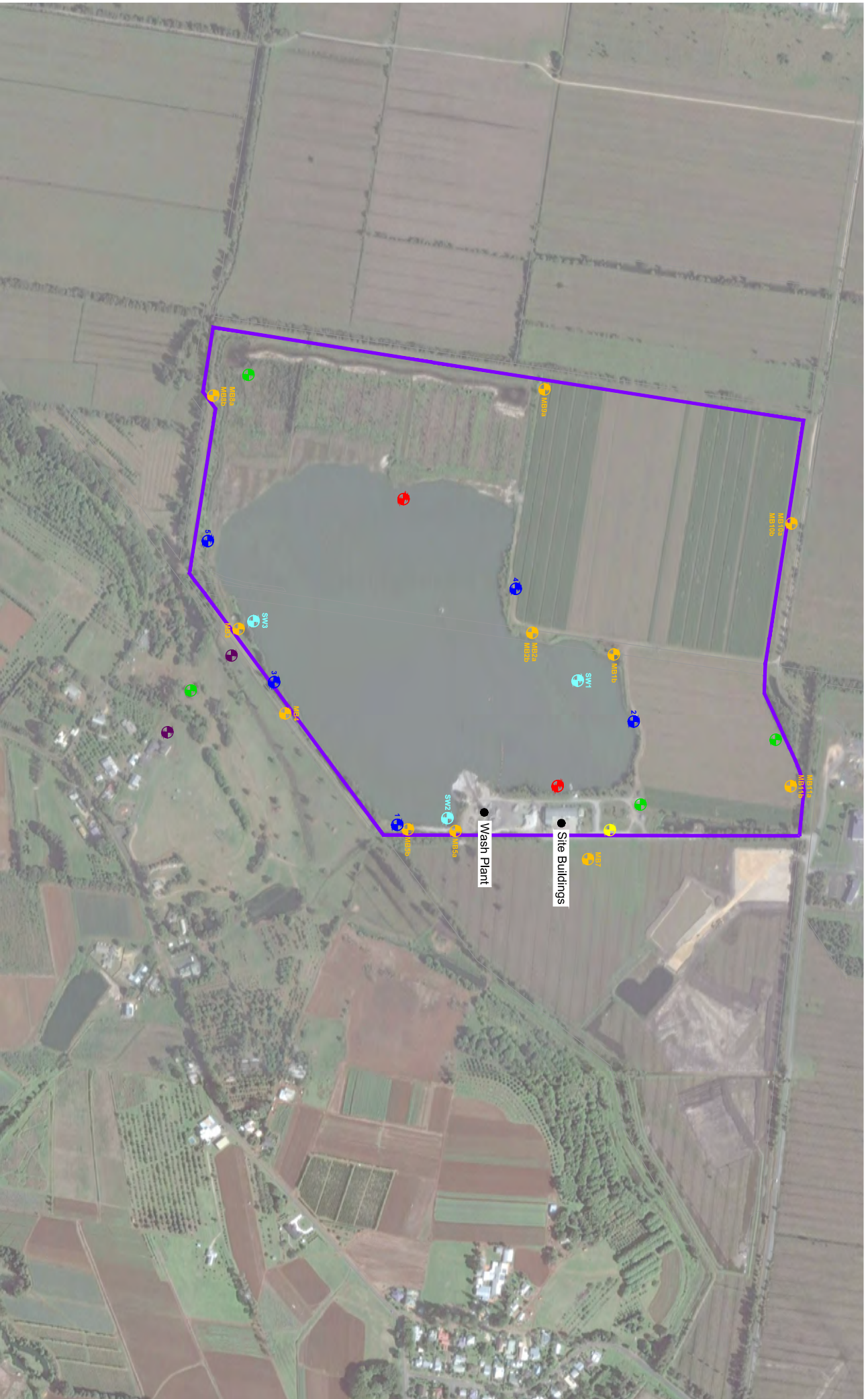
TWEED SHIRE COUNCIL  
Altona Road side  
Crescent Street, GUDGEN

Level Datum: Assumed  
LAKE LEVEL GAUGE  
Site BM 1 Drill hole in Conc RL 3-21

REVISED	DATE	BY	DATE
1	2.2.2018	AWB	11.2.2018

SCALE 1:2000 DWG. NO. 10338-02





**ORIENTATION**

SCALE 1:8 250



ROBINA

PO Box 415 Robina QLD 2300  
 Email: robina@accs.asjs  
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**LEGEND**

- Site Boundary
- Groundwater Monitoring Location
- Surface Water Sampling Locations
- Cyanobacteria Monitoring Location
- Noise Monitoring Location
- Vegetation Photo Monitoring
- Dust Deposition Gauge
- Vehicle Movement Monitoring

**SOURCES**

Image: Google Earth Pro 2016, Image date: 21/07/2017

**PROJECT**

TWEED SAND  
 PLANT - EMS

**CLIENT**

HANSON  
 CONSTRUCTION  
 MATERIALS

**DRAWING**

ENVIRONMENTAL  
 MONITORING  
 LOCATIONS

SCALE	DATE	DRAWN	CHECKED	PROJECT	DRAWING	REVISION
1:8 250/A3	23/02/2019	SNP	EH	11912	EMS_101	



## 10 Appendix 2 – Modification Notice DA 152-6-2005



# Notice of Modification

## Section 75W of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning, the Independent Planning Commission of NSW modifies the development consent referred to in Schedule 1, as set out in Schedule 2.



Dr. Peter Williams (Chair)  
**Member of the Commission**



Prof. Richard Mackay, AM  
**Member of the Commission**

Sydney

20 August 2018

### SCHEDULE 1

The Development Consent (DA 152-6-2005) for the Tweed Sand Quarry granted by the Minister for Planning on 31 July 2006.

### SCHEDULE 2

1. Delete all words after SCHEDULE 1 and replace with:

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## DEFINITIONS

AHD	Australian Height Datum
Annual Review	The review required by condition 11 of Schedule 5
Applicant	Hanson Construction Materials Pty Ltd, or any other person carrying out development to which this consent applies
Approved Disturbance Area	The area identified as such on the development layout
BCA	Building Code of Australia
CCC	Community Consultative Committee
Conditions of consent	Conditions contained in Schedules 2 to 5 inclusive
Construction	The demolition of buildings or works, carrying out of works and erection of buildings covered by this consent
Council	Tweed Shire Council
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Environment
Development	The development as described in the documents listed in condition 3 of Schedule 2
Development layout	The plan at Appendix 1 of this consent
Dol Water	Department of Industry - Water
DRG	Division of Resources and Geoscience within the Department
EA (Mod 1)	The Environmental Assessment titled <i>Tweed Sand Quarry – Annual Extraction Rate (DA 152-6-2005) Modification Application to Increase Extraction Rate – Environmental Assessment</i> , prepared by Gilbert and Sutherland and dated June 2017, and associated Response to Submissions titled <i>Tweed Sand Quarry (DA 152-6-2005 Application to Increase Extraction Limit – Environmental Assessment – Response to Submissions</i> , dated 10 October, and any additional information provided by the Applicant in support of the application
EIS	Environmental Impact Statement titled <i>P. Guiane Sand Quarry Expansion</i> prepared by Jim Glazebrook & Associates Pty Ltd and dated 2005, and associated Response to Submission titled <i>Development Application DA 152-6-2005 – Expansion of Sand Quarry – Crescent Street Cudgen (P Guinane Pty Ltd)</i> , dated November 2005, any additional information provided by the Applicant in support of the application
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence under the POEO Act
Evening	The period from 6pm to 10pm
Feasible	Means what is possible and practicable in the circumstances
Incident	A set of circumstances that: <ul style="list-style-type: none"> <li>• causes or threatens to cause material harm to the environment; or</li> <li>• results in non-compliance with this consent</li> </ul>
Laden Trucks	Trucks transporting quarry products or materials to or from the site
Land	Has the same meaning as the definition of the term in section 4 of the EP&A Act, except where the term is used in the noise and air quality conditions in Schedules 3 and 4 of this consent, where it is defined as 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 consent
Material harm	Is harm that: <ul style="list-style-type: none"> <li>• involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or</li> <li>• 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)</li> </ul> This definition excludes "harm" that is authorised under either this consent or any other statutory approval
Minister	NSW Minister for Planning (or delegate)
Mitigation	Activities associated with reducing the impacts of the development
Modification 1	The modification as described in EA (Mod 1)
Negligible	Small and unimportant, such as to be not worth considering
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
OEH	Office of Environment and Heritage
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency or a mining, petroleum or extractive industry company (or its subsidiary)
Public infrastructure	Linear and other infrastructure that provides services to the general public, such as roads, railways, water supply, drainage, sewerage, gas supply, electricity, telephone, telecommunications, etc.
Quarrying operations	The extraction, processing, stockpiling and transportation of extractive materials carried out on the site and the associated removal, storage and/or emplacement of vegetation, topsoil and overburden
Quarry products	Includes all saleable quarry products, but excludes tailings, other wastes and rehabilitation material

Reasonable	Means applying judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Rehabilitation	The restoration of land disturbed by the development to a good condition, to ensure it is safe, stable and non-polluting
RMS	Roads and Maritime Services
Secretary	Planning Secretary under the EP&A Act or nominee
Site	The land described in Schedule 1

## SCHEDULE 2 ADMINISTRATIVE CONDITIONS

### OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. In addition to meeting the specific performance measures and criteria established under this consent, the Applicant must implement all reasonable and feasible measures to prevent, and if prevention is not reasonable and feasible, minimise any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.

### TERMS OF CONSENT

2. The Applicant, in acting on this consent, must carry out the development:
  - (a) in compliance with the conditions of this consent;
  - (b) in accordance with all written directions of the Secretary; and
  - (c) in accordance with the development layout.
3. The Applicant, in acting on this consent, must carry out the development:
  - (a) generally in accordance with the EIS; and
  - (b) generally in accordance with EA (Mod 1).
4. The conditions of this consent and directions of the Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document referenced in condition 3 of this Schedule. In the event of an inconsistency, ambiguity or conflict between any of the documents referenced in condition 3 of this Schedule, the most recent document prevails.
5. Consistent with the requirements of this consent, the Secretary may make written directions to the Applicant in relation to:
  - (a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Secretary; and
  - (b) the implementation of any actions or measures contained in any such document referred to in (a) above.

*Note: For the purposes of this condition, there will be an inconsistency between documents if it is not possible to comply with both documents, or in the case of a condition of consent or direction of the Secretary, and a document, if it is not possible to comply with both the condition or direction, and the document.*

### LIMITS ON CONSENT

#### Quarrying Operations

6. The Applicant may carry out quarrying operations on the site until 1 July 2036.

*Note: Under this consent, the Applicant is required to rehabilitate the site and carry out additional requirements and undertakings to the satisfaction of the Secretary. Consequently, this consent will continue to apply in all respects other than the right to conduct quarrying operations until the rehabilitation of the site and those requirements and undertakings have been carried out to the standard required by the applicable conditions.*

7. The Applicant must not undertake extraction of extractive materials to a depth greater than 20 m below the natural ground surface.
8. The Applicant must not transport more than 500,000 tonnes of quarry products from the site in any financial year.

#### Quarry Product Transport

9. The Applicant must not dispatch more than 10 laden trucks from the site in any hour until the upgrades of Altona Road and the Tweed Coast Road / Crescent Street intersection, as required under conditions 21 and 23 of Schedule 3, have been completed.

Following these road upgrades, the Applicant must not dispatch more than 18 laden trucks from the site in any hour.

#### Hours of Operation

10. The Applicant must comply with the operating hours set out in Table 1.

Table 1: Operating Hours

<b>Activity</b>	<b>Permissible Hours</b>
Quarrying operations (excluding loading and dispatch of trucks)	<ul style="list-style-type: none"> <li>• 7 am to 5 pm Monday to Friday</li> <li>• 7 am to 4 pm Saturday</li> <li>• At no time on Sundays or public holidays</li> </ul>
Loading and dispatch of trucks	<ul style="list-style-type: none"> <li>• 7 am to 5 pm Monday to Friday</li> <li>• 7 am to 12 pm Saturday</li> <li>• At no time on Sundays or public holidays</li> </ul>
Maintenance	<ul style="list-style-type: none"> <li>• May be conducted at any time, provided that these activities are not audible at any privately-owned residence</li> </ul>

11. The following activities may be carried out outside the hours specified in Table 1 above:
- delivery or dispatch of materials as requested by Police or other public authorities; and
  - emergency work to avoid the loss of lives, property or to prevent environmental harm.

In such circumstances, the Applicant must notify the Secretary and affected residents prior to undertaking the activities, or as soon as is practical thereafter.

### STRUCTURAL ADEQUACY

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

Notes:

- Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works; and
- Part 8 of the EP&A Regulation sets out the requirements for the certification of the development or project.

### DEMOLITION

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

### PROTECTION OF PUBLIC INFRASTRUCTURE

14. Unless the Applicant and the applicable authority agree otherwise the Applicant must:
- repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and
  - relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

Note: This condition does not apply to damage to roads caused as a result of general road usage or as otherwise addressed by contributions required by condition 16 of Schedule 2.

### OPERATION OF PLANT AND EQUIPMENT

15. The Applicant must ensure that all the plant and equipment used at the site, or to monitor the performance of the development is:
- maintained in a proper and efficient condition; and
  - operated in a proper and efficient manner.

### CONTRIBUTIONS

16. The Applicant must pay to Council a financial contribution toward the upgrade of local roads (other than Altona Road and the Tweed Coast Road / Crescent Street intersection). The contribution must be:
- determined in accordance with the *Tweed Road Contribution Plan September 2016* (as indexed);
  - paid prior to the dispatch of more than 10 laden trucks from the site in any hour; and
  - reported in the Annual Review.

Note: The upgrade and maintenance of Altona Road is subject to conditions 21 and 22 of Schedule 3. The upgrade of the Tweed Coast Road / Crescent Street intersection is subject to condition 23 of Schedule 3.

### COMPLIANCE

17. The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.

## **PRODUCTION DATA**

18. The Applicant must:
  - (a) from the commencement of quarrying operations provide calendar year annual quarry production data to DRG using the standard form for that purpose; and
  - (b) include a copy of this data in the Annual Review.

## **LIMITS OF EXTRACTION**

19. The Applicant must ensure that the surveyed boundaries of the approved limits of extraction 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 includes the area described in the documents listed in condition 3 of Schedule 2, and shown conceptually on the development layout plan in Appendix 1.*

20. The Applicant must maintain a minimum buffer of 10 metres between extraction operations and the boundaries of the site. The buffer may be used for minor activities such as drainage works, access, bunds, and landscaping.
21. The Applicant must vary the buffer distance to the site boundary to achieve a stable, natural-looking final lake bank design with curved boundaries, to the satisfaction of the Secretary.

## **NOTIFICATION**

22. Prior to dispatching more than 10 laden trucks from the site in any hour, the Applicant must provide written notification to the Department and Council that condition 16(b) of Schedule 2 and conditions 3, 21, 22, 23 and 25 of Schedule 3 have been completed to the satisfaction of the relevant authority.

**SCHEDULE 3  
SPECIFIC ENVIRONMENTAL CONDITIONS**

**NOISE**

**Operational Noise Criteria**

1. The Applicant must ensure that the noise generated by the development does not exceed the criteria in Table 2 at any residence on privately-owned land.

*Table 2: Noise criteria dB(A)*

<b>Receiver</b>	<b>Day</b> <i>L<sub>Aeq</sub> (15 minute)</i>
Any residence on privately owned land	40

Noise generated by the development is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the *NSW Industrial Noise Policy*. Appendix 2 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

However, the noise criteria in Table 2 do not apply if the Applicant has an agreement with the relevant landowner to exceed the noise criteria, and the Applicant has advised the Department in writing of the terms of this agreement.

**Operating Conditions**

2. The Applicant must:
- (a) implement best practice management to minimise the construction, operational and road transportation noise of the development;
  - (b) minimise the noise impacts of the development during meteorological conditions when the noise criteria in this consent do not apply (see Appendix 2);
  - (c) carry out attended noise monitoring (at least every 3 months or as otherwise agreed by the Secretary) to determine whether the development is complying with the relevant conditions of this consent (see Appendix 2); and
  - (d) regularly assess noise monitoring data and modify and/or stop operations on site to ensure compliance with the relevant conditions of this consent, to the satisfaction of the Secretary.

*Note: Monitoring under this consent is not required at all residences and the use of representative monitoring locations can be used to demonstrate compliance with criteria, if agreed to by the Secretary.*

**Noise Management Plan**

3. The Applicant must prepare a Noise Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary;
  - (b) be prepared in consultation with the EPA;
  - (c) describe the measures to be implemented to ensure:
    - compliance with the noise criteria and operating conditions of this consent;
    - best practice management is being employed; and
    - the noise impacts of the development are minimised during meteorological conditions under which the noise criteria in this consent do not apply (see Appendix 2);
  - (d) describe the proposed noise management system; and
  - (e) include a monitoring program to be implemented to measure noise from the development against the noise criteria in Table 2, and which evaluates and reports on the effectiveness of the noise management system on site.

The Applicant must not dispatch more than 10 laden trucks from the site in any hour until the Noise Management Plan is approved by the Secretary.

The Applicant must implement the Noise Management Plan as approved from time to time by the Secretary.

**AIR QUALITY**

**Air Quality Impact Assessment Criteria**

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



Table 3: Air quality criteria

Pollutant	Averaging Period	Criterion
Particulate matter < 10 µm (PM <sub>10</sub> )	Annual	<sup>a,c</sup> 25 µg/m <sup>3</sup>
	24-hour	<sup>b</sup> 50 µg/m <sup>3</sup>
Particulate matter < 2.5 (PM <sub>2.5</sub> )	Annual	<sup>a, c</sup> 8 µg/m <sup>3</sup>
	24-hour	<sup>b</sup> 25 µg/m <sup>3</sup>
Total suspended particulates (TSP)	Annual	<sup>a,c</sup> 90 µg/m <sup>3</sup>
<sup>d</sup> Deposited dust	Annual	<sup>b</sup> 2 g/m <sup>2</sup> /month <sup>a</sup> 4 g/m <sup>2</sup> /month

Notes:

<sup>a</sup> Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).

<sup>b</sup> Incremental impact (i.e. incremental increase in concentrations due to the development on its own).

<sup>c</sup> Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed by the Secretary.

<sup>d</sup> Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.

### Operating Conditions

5. The Applicant must:
  - (a) implement best management practice to minimise the dust emissions of the development, including routinely watering haul roads being used by heavy vehicles and equipment;
  - (b) regularly assess meteorological and air quality monitoring data to guide the day-to-day planning of operations and implementation of air quality mitigation measures to ensure compliance with the relevant conditions of this consent;
  - (c) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see Note c to Table 3 above);
  - (d) monitor and report on compliance with the relevant air quality conditions in this consent; and
  - (e) minimise surface disturbance of the site, other than as permitted under this consent, to the satisfaction of the Secretary.

### Air Quality Management Plan

6. The Applicant must prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:
  - (a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary;
  - (b) be prepared in consultation with the EPA;
  - (c) be submitted to the Secretary within three months of the determination of Modification 1;
  - (d) describe the measures to be implemented to ensure:
    - compliance with the air quality criteria and operating conditions of this consent;
    - best practice management is being employed; and
    - the air quality impacts of the development are minimised during adverse meteorological conditions and extraordinary events;
  - (e) describe the air quality management system in detail; and
  - (f) include an air quality monitoring program that:
    - is capable of evaluating the performance of the development against the air quality criteria;
    - adequately supports the air quality management system; and
    - includes a protocol for determining any exceedances of the air quality criteria.

The Applicant must implement the Air Quality Management Plan as approved from time to time by the Secretary.

### Meteorological Monitoring

7. For the life of the development, the Applicant must ensure that there is a suitable meteorological station operating in the vicinity of the site that complies with the requirements in the *Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales* guideline.

## Greenhouse Gas Emissions

8. The Applicant must implement all reasonable measures to minimise the release of greenhouse gas emissions from the site.

## SOIL AND WATER

### Water Supply

9. The Applicant must ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of operations under this consent to match its available water supply.

*Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain all necessary water licences for the development.*

### Water Discharges

10. Except as expressly provided by an EPA licence, the Applicant must comply with section 120 of the POEO Act during the carrying out of the development.

### Fines Management

11. The Applicant must ensure that:
  - (a) no potential acid sulfate soil is removed from the site, unless adequately neutralised in accordance with methods approved under the Soil and Water Management Plan (see condition 16 below);
  - (b) all excavated potential acid sulfate soil fines material is discharged into the dredge pond at a depth greater than 3 metres below the water surface as soon as possible to prevent oxidisation; and
  - (c) all fines are deposited to a final depth of at least 8 metres below the water surface, unless an alternative method(s) is approved by the EPA and the Secretary.

*Note: Acid sulfate soils are as defined in the NSW Acid Sulfate Soils Manual.*

### Flood Management

12. The Applicant must cease dredging and processing activities not less than 24 hours prior to the commencement of overflow from any dredge pond. No dredging or processing may occur when the dredge ponds are overflowing.
13. The Applicant must ensure that the flood storage capacity of the site is not less than the pre-existing flood storage capacity throughout all stages of the development. Monthly details of the available flood storage capacity must be reported in the Annual Review.

### Soil and Water Management Plan

14. Within three months of the determination of Modification 1, unless otherwise agreed by the Secretary, the Applicant must prepare a Soil and Water Management Plan for the development in consultation with EPA, DPI Water and Council, to the satisfaction of the Secretary. This plan must be prepared by a suitably qualified expert whose appointment has been approved by the Secretary, and include:
  - (a) a Site Water Balance;
  - (b) an Erosion and Sediment Control Plan;
  - (c) a Surface Water Monitoring Program;
  - (d) a Groundwater Monitoring Program; and
  - (e) a Blue-green Algae Management Plan.

The Applicant must implement the approved plan as approved from time to time by the Secretary.

15. The Site Water Balance must include details of:
  - (a) sources and security of water supply
  - (b) water use and management on site;
  - (c) any off-site water transfers;
  - (d) reporting procedures; and
  - (e) measures to be implemented to minimise clean water use on site.
16. The Erosion and Sediment Control Plan must:
  - (a) be consistent with the requirements of the Department of Housing's *Managing Urban Stormwater: Soil and Construction Manual*, the NSW Acid Sulfate Soil Advisory Committee's *Acid Sulfate Soil Manual*, and relevant Council codes including the *Code of Practice for Soil and Water Management on Construction Sites*, or most recent versions of these documents;
  - (b) describe construction and operational activities that could cause soil erosion, sedimentation or generation of acid sulfate soils;

- (c) describe the location, function, and capacity of soil and water management and control structures during construction, stabilisation and operational stages;
  - (d) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;
  - (e) define procedures for managing the potential acid sulfate soils on the site;
  - (f) define procedures for managing water releases from the site; and
  - (g) define procedures for the maintenance of soil and water management structures on the site during the life of the development.
17. The Surface Water Monitoring Program must include:
- (a) a detailed description of the surface water management system;
  - (b) surface water impact assessment criteria;
  - (c) a program to monitor bank and bed stability;
  - (d) a program to monitor and manage pH in the dredge pond;
  - (e) a program to monitor and report on adverse impacts of the project on surface water flows and quality, including any surface water discharges; and
  - (f) a protocol for the investigation, notification and mitigation of identified exceedances of the surface water impact assessment criteria.
18. The Groundwater Monitoring Program must include:
- (a) detailed baseline data on groundwater levels and quality, based on statistical analysis;
  - (b) groundwater impact assessment criteria;
  - (c) a program to monitor and report on adverse impacts of the project on groundwater flows and quality;
  - (d) a program to monitor groundwater level effects on vegetation, and on groundwater supply to adjoining properties; and
  - (e) a protocol for the investigation, notification and mitigation of identified exceedances of the groundwater impact assessment criteria.
19. The Blue-Green Algae Management Plan must:
- (a) be consistent with extant guidelines for blue-green algae management including the National Health and Medical Research Council's *Guidelines for Managing Risks in Recreational Water*;
  - (b) describe the measures that would be implemented to prevent and control the sources of algal blooms over the short, medium and long term;
  - (c) include a detailed recovery plan that aims to reduce algae levels to meet the water quality performance and completion criteria in the Rehabilitation Management Plan;
  - (d) include reasonable and feasible measures to reduce nutrient levels in the pond/s over the short, medium and long term, and include interim water quality targets for nutrients based on continual improvement and established water quality objectives for the Tweed River catchment; and
  - (e) define procedures for the management and notification of identified algal blooms.

## TRANSPORT

### Site Access

20. The Applicant must ensure that all heavy vehicle access to and from the site is via the Tweed Coast Road/Crescent Road/Altona Road route. Heavy vehicles must not travel via Crescent Street through Cudgen Village, except for local deliveries to Cudgen Village.

### Upgrade and Maintenance of Altona Road

21. The Applicant must upgrade Altona Road between the site entrance and intersection with Crescent Street. This upgrade must:
- (a) include two additional passing bays along the current alignment of Altona Road, each having sufficient length to readily accommodate a laden truck and dog trailer combination, to the satisfaction of the owners of the road; and
  - (b) be funded by the Applicant, or by a cost sharing agreement between the Applicant and the owner of the Cudgen Lakes Sand Quarry, in consultation with Council.
22. Within 12 months of the approval of Modification 1, the Applicant must enter into a cost sharing agreement with the owner of the Cudgen Lakes Sand Quarry, in consultation with Council, for the maintenance of Altona Road between the site entrance and intersection with Crescent Street. This agreement must:
- (a) provide for ongoing repairs and maintenance of the road;
  - (b) apply to the existing or any future approved alignment of Altona Road; and
  - (c) provide for proportionate and equitable contributions between the Applicant and the owner of the Cudgen Lakes Sand Quarry (based on actual annual product road transport or other measure/s agreed by the parties).

If a cost sharing agreement cannot be reached or if there is any dispute regarding the finalisation of the terms of the cost sharing agreement, or its implementation, then either party may refer the matter to the Secretary for resolution.

## Upgrade of the Crescent Street and Tweed Coast Road Intersection

23. The Applicant must upgrade the intersection of Crescent Street and Tweed Coast Road. This upgrade must:
- provide for the construction of an acceleration lane of not less than 200 metres in length on Tweed Coast Road, northbound from the intersection, to the satisfaction of Council (as roads authority);
  - provide for channelised right turn treatment (line marking only) on Tweed Coast Road for vehicles turning right into Crescent Street;
  - be designed and constructed in accordance with Austroads Guidelines, Australian Standards and RMS Supplements; and
  - be funded by the Applicant, or by a cost sharing agreement between the Applicant and the owner of the Cudgen Lakes Sand Quarry, in consultation with Council;

If a cost sharing agreement cannot be reached or if there is any dispute regarding the finalisation of the terms of the cost sharing agreement, or its implementation, then either party may refer the matter to the Secretary for resolution.

*Note: The proposed road works on Tweed Coast Road (MR450) will be captured by Section 138 of the Roads Act 1993. Concept Design is to be submitted to Tweed Shire Council for referral to Roads and Maritime for concurrence under Section 138 of the Roads Act 1993.*

## Operating Conditions

24. The Applicant must:
- provide sufficient parking on the site for all project-related traffic and visitors, in accordance with any applicable Council parking code and ensure that no on street parking is undertaken;
  - ensure that on-site parking and pedestrian facilities are adequately signposted;
  - ensure that all laden trucks entering or exiting the site have their loads covered;
  - ensure that all laden trucks exiting the site are cleaned of material that may fall from vehicles, before leaving the site;
  - use its best endeavours to ensure that appropriate signage is displayed on all trucks used to transport quarry products from the development so they can be easily identified by road users; and
  - keep accurate records of all laden truck movements to and from the site and publish a summary of these records on its website every month.

## Transport Management Plan

25. The Applicant must prepare a Traffic Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary;
  - be prepared in consultation with RMS and Council, and in accordance with the *RTA – Traffic Control at Worksites Manual*;
  - describe the processes in place for the management of truck movements entering and exiting the site;
  - prohibit trucks departing the site from turning right from Crescent Street to Tweed Coast Road;
  - include a Drivers' Code of Conduct that includes:
    - details of the safe and quiet driving practices that must be used by drivers travelling to and from the quarry;
    - a map of the primary haulage route;
    - safety initiatives for haulage through residential areas, school zones and along school bus routes;
    - an induction process for vehicle operators and regular toolbox meetings;
    - complaints resolution and disciplinary procedures; and
    - details of community consultation measures for peak haulage periods.
  - describe the measures to be put in place to ensure compliance with the Drivers' Code of Conduct;
  - include details of the measures to be implemented to minimise traffic safety issues and disruption to local road users during road upgrade works; and
  - propose measures to minimise the transmission of dust and tracking of material onto the surface of public roads from vehicles leaving the quarry.

The Applicant must not commence operations under Modification 1 until the Traffic Management Plan is approved by the Secretary.

The Applicant must implement the approved Traffic Management Plan as approved from time to time by the Secretary.

## REHABILITATION

### Rehabilitation Objectives

26. The Applicant must rehabilitate the site to the satisfaction of the Secretary. This rehabilitation must be generally consistent with the proposed rehabilitation activities described in the documents listed in condition 3 of Schedule 2, and comply with the objectives in Table 4.

Table 4: Rehabilitation Objectives

<b>Feature</b>	<b>Objective</b>
All areas of the site affected by the development	<ul style="list-style-type: none"><li>• Safe</li><li>• Hydraulically and geotechnically stable, including the dredge pond margins (particularly where subject to regular wind and wave action)</li><li>• Non-polluting</li><li>• Fit for the intended post-mining land use(s)</li><li>• Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land</li></ul>
Surface Infrastructure	<ul style="list-style-type: none"><li>• Decommissioned and removed, unless otherwise agreed by the Secretary</li></ul>
Dredge Pond and Final Lake	<ul style="list-style-type: none"><li>• Perimeter of dredge pond landscaped and vegetated using native tree and understorey species</li><li>• Natural looking bank design with curved lake boundaries, with a variety of bank treatments (eg beaches, wetlands) providing a variety of habitats</li><li>• Minimise the extent and persistence of algal blooms</li><li>• Water quality fit for the intended post-mining land use(s)</li></ul>

### Progressive Rehabilitation

27. The Applicant must rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready for final rehabilitation.

### Rehabilitation Management Plan

28. The Applicant must prepare a Rehabilitation Management Plan for the project to the satisfaction of the Secretary. This plan must:
- (a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;
  - (b) be prepared in consultation with DoI, Council and OEH;
  - (c) be submitted to the Secretary for approval within three months of the determination of Modification 1, unless the Secretary agrees otherwise;
  - (d) include a detailed final landform concept plan, showing the final lake and bank design;
  - (e) describe how the rehabilitation of the site would achieve the objectives identified in Table 4;
  - (f) describe the short, medium, and long-term measures that would be implemented to:
    - rehabilitate and stabilise the site; and
    - manage the restored vegetation and wetland habitat established on the site;
  - (g) include detailed performance and completion criteria for the rehabilitation and stabilisation of the site (including appropriate water quality criteria);
  - (h) include a detailed description of the measures to be implemented on the site to:
    - enhance existing vegetation and increase littoral and terrestrial habitat potential;
    - control terrestrial and aquatic pests and weeds;
    - control erosion;
    - control access; and
    - reduce the visual impacts of the development;
  - (i) include a vegetation clearance protocol;
  - (j) include a program to monitor, independently audit and report on the effectiveness of the measures in paragraph (f) above, and progress against the detailed performance and completion criteria in paragraph (g) above; and
  - (k) include a Long-Term Management Strategy which:
    - defines the objectives and criteria for quarry closure and post-extraction management;
    - investigates options for the future use of the site;

- describes the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and
  - describes how the performance of these measures would be monitored over time;
- (l) describe the potential risks to successful rehabilitation and/or revegetation, including a description of the contingency measures that would be implemented to mitigate these risks; and
- (m) detail of who is responsible for monitoring, reviewing, and implementing the plan.

The Applicant must implement the approved Rehabilitation Management Plan as approved from time to time by the Secretary.

*Note: The measures for stabilising the dredge pond and final lake must ensure the long-term stability of the banks from erosion and must be generally consistent with the rock stabilisation methods described in the report titled Cudgen Lake Slope Stability Review, prepared by International Coastal Management, dated December 2005, unless otherwise approved by the Secretary.*

### **Rehabilitation Bond**

29. Within 6 months of the approval of the Rehabilitation Management Plan, the Applicant must lodge a Rehabilitation Bond with the Department to ensure that the rehabilitation of the site is undertaken in accordance with the performance and completion criteria set out in the plan and the relevant conditions of consent. The sum of the bond must be an amount agreed to by the Secretary and determined by:
- (a) calculating the cost of rehabilitating all disturbed areas of the site, taking into account the likely surface disturbance over the next 3 years of quarrying operations; and
  - (b) employing a suitably, independent and experienced person to verify the calculated costs.

The calculation of the Rehabilitation Bond must be submitted to the Department for approval at least 1 month prior to the lodgement of the bond.

30. The Rehabilitation Bond must be reviewed and if required, an updated bond must be lodged with the Department within 3 months following:
- (a) any update or revision to the Rehabilitation Management Plan;
  - (b) the completion of an Independent Environmental Audit; or
  - (c) in response to a request by the Secretary.

*Notes:*

- *If the rehabilitation of the site area is completed (or partially completed) to the satisfaction of the Secretary, then the Secretary will release the bond (or relevant part of the bond). If the rehabilitation of the site is not completed to the satisfaction of the Secretary, then the Secretary will call in all or part of the bond, and arrange for the completion of the relevant works.*
- *If capital and other expenditure required by the Rehabilitation Management Plan is largely complete, the Secretary may waive the requirement for lodgement of a bond in respect of the remaining expenditure.*

### **VISUAL**

31. The Applicant must maintain a tree screen along the southern boundary of the site.

*Note: Construction and maintenance of the tree screen must be described in the Rehabilitation Management Plan (see condition 28 above).*

32. The Applicant must implement all reasonable measures to minimise the visual and off-site lighting impacts of the development to the satisfaction of the Secretary.

### **WASTE**

33. The Applicant must:
- (a) manage on-site sewage treatment and disposal in accordance with the requirements of its EPL, and to the satisfaction of the EPA and Council;
  - (b) minimise the waste generated by the development;
  - (c) ensure that the waste generated by the development is appropriately stored, handled, and disposed of; and
  - (d) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary.
33. Except as expressly permitted in an EPL, the Applicant must not receive waste at the site for storage, treatment, processing, reprocessing or disposal.

### **LIQUID STORAGE**

34. The Applicant must ensure that all tanks and similar storage facilities (other than for water) are protected by appropriate bunding or other containment, in accordance with the relevant Australian Standards.

## **DANGEROUS GOODS**

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

**SCHEDULE 4  
ADDITIONAL PROCEDURES**

**NOTIFICATION OF EXCEEDANCES**

1. As soon as practicable and no longer than 7 days after obtaining monitoring results showing an exceedance of any criteria in Schedule 3 the Applicant must:
  - (a) notify the affected land owners and tenants in writing of the exceedance, and provide quarterly monitoring results, to each affected party until the development is again complying with the relevant criteria; and
  - (b) publish on its website the full details of the exceedance.

Any exceedance of any criteria in Schedule 3 is an incident that must be notified to the Department in accordance with conditions 9 to 12 of Schedule 5.

For any exceedance of the air quality criteria or air quality measures in Schedule 3, the Applicant must also provide to any affected land owners and tenants a copy of the fact sheet entitled "*Mine Dust and You*" (NSW Minerals Council, 2011).

**INDEPENDENT REVIEW**

2. If an owner of privately-owned land considers the development to be exceeding the relevant criteria in Schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the development on his/her land.

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

- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:
  - consult with the landowner to determine their concerns;
  - conduct monitoring to determine whether the development is complying with the relevant criteria in Schedule 3; and
  - if the development is not complying with that criteria, identify measures that could be implemented to ensure compliance with the relevant criteria;
- (b) give the Secretary and landowner a copy of the independent review; and
- (c) comply with any written requests made by the Secretary to implement any findings of the review.



**SCHEDULE 5**  
**ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING**

**ENVIRONMENTAL MANAGEMENT**

**Environmental Management Strategy**

1. The Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. The strategy must:
  - (a) be submitted to the Secretary for approval within three months of the determination of Modification 1;
  - (b) provide the strategic framework for environmental management of the development;
  - (c) identify the statutory approvals that apply to the development;
  - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
  - (e) describe the procedures to be implemented to:
    - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
    - receive, record, handle and respond to complaints;
    - resolve any disputes that may arise during the course of the development;
    - respond to any non-compliance; and
    - respond to emergencies; and
  - (f) include:
    - copies of any strategies, plans and programs approved under the conditions of this consent; and
    - a clear plan depicting all the monitoring to be carried out under the conditions of this consent.

The Applicant must implement the Environmental Management Strategy as approved from time to time by the Secretary.

**Management Plan Requirements**

2. The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:
  - (a) a summary of relevant background or baseline data;
  - (b) a description of:
    - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
    - any relevant limits or performance measures/criteria; and
    - 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) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
  - (d) a program to monitor and report on the:
    - impacts and environmental performance of the development; and
    - effectiveness of any management measures (see (c) above);
  - (e) 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;
  - (f) a program to investigate and implement ways to improve the environmental performance of the development over time;
  - (g) a protocol for managing and reporting any:
    - incidents;
    - complaints; and
    - non-compliances with statutory requirements;
  - (h) a protocol for periodic review of the plan; and
  - (i) a document control table that includes version numbers, dates when the management plan was prepared and reviewed, names and positions of the person/s who prepared and reviewed the management plan, a description of any revisions made and the date of the Secretary's approval.

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

**Application of Existing Management Plans**

3. The Applicant must continue to apply existing approved management plans, strategies or monitoring programs that have most recently been approved under this consent, until the approval of a similar plan, strategy or program following a modification to this consent.

## Revision of Strategies, Plans & Programs

4. Within 3 months of:
- the submission of an incident report under condition 10 of this Schedule;
  - the submission of an Annual Review under condition 13 of this Schedule;
  - the submission of an Audit report under condition 14 of this Schedule; or
  - the approval of any modification to the conditions of this consent.

the Applicant must review the suitability of all strategies, plans and programs required under this consent. Where this review leads to revisions in any such document, then within 6 weeks of the review the revised document must be submitted for the approval of the Secretary.

### Notes:

- This is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve the environmental performance of the development.*
- In the event of an inconsistency between condition 4(d) above and any condition in Schedule 3 of this consent, then the latter prevails.*

## Staging, Combining and Updating Strategies, Plans or Programs

5. With the approval of the Secretary, the Applicant may:
- prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);
  - combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and
  - update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).

## Evidence of Consultation

6. Where the conditions of this consent require consultation with an identified party, the Applicant must:
- consult with the relevant party prior to submitting the subject document to the Secretary for approval; and
  - provide details of the consultation undertaken, including:
    - the outcome of that consultation, matters resolved and unresolved; and
    - details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed any unresolved matters.
7. However, if the Secretary agrees, a strategy, plan or program may be prepared without consultation being undertaken with an identified party required under a condition of this consent.

## COMMUNITY CONSULTATIVE COMMITTEE

8. The Applicant must operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. The CCC must be operated in general accordance with the Department's *Community Consultative Committee Guidelines: State Significant Projects (2016)*, for the duration of quarrying operations and for at least 6 months following the completion of quarrying operations.

### Notes:

- The CCC is an advisory committee.*
- In accordance with the guidelines, the Committee should comprise an independent chair and appropriate representation from the Applicant, Council and the local community.*

## REPORTING

### Incident Notification, Reporting and Response

9. The Department must be notified in writing to [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) immediately after the Applicant becomes aware of an incident.
10. Within 7 days of the date of the incident, the Applicant must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested. This report must include the time and date of the incident, details of the incident, measures implemented to prevent re-occurrence and must identify any non-compliance with this consent.
11. Any written requirements of the Secretary or relevant public authority (as determined by the Secretary) which may be given at any point in time, to address the cause or impact of an incident must be complied with and within any timeframe specified by the Secretary or relevant public authority.

12. If statutory notification is provided to EPA as required under the POEO Act in relation to the project, such notification must also be provided to the Secretary within 24 hours after the notification was provided to EPA.

### **Annual Review**

13. By the end of September each year, or other timing as may be agreed by the Secretary, the Applicant must submit a report to the Department reviewing the environmental performance of the development, to the satisfaction of the Secretary. This review must:
- (a) describe the development (including any rehabilitation) that was carried out in the previous financial year, and the development that is proposed to be carried out over the current financial year;
  - (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous financial year, which includes a comparison of these results against the:
    - relevant statutory requirements, limits or performance measures/criteria;
    - requirements of any plan or program required under this consent;
    - monitoring results of years prior; and
    - relevant predictions in the documents listed in condition 3 of Schedule 2;
  - (c) detail any non-compliance over the past financial year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence;
  - (d) evaluate and report on:
    - the effectiveness of the noise and air quality management systems; and
    - compliance with the performance measures, criteria and operating conditions in this consent;
  - (e) identify any trends in the monitoring data over the life of the development;
  - (f) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
  - (g) describe what measures will be implemented over the current financial year to improve the environmental performance of the development.

The Applicant must ensure that copies of the Annual Review are submitted to Council and are available to the Community Consultative Committee and any interested person upon request.

### **INDEPENDENT ENVIRONMENTAL AUDIT**

14. Within a year of the commencement of quarrying operations and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. The primary purposes of the audit are to ascertain information in relation to the environmental performance of the development and the adequacy of strategies, plans and programs. Audits must:
- (a) be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
  - (b) include consultation with the relevant agencies and the CCC;
  - (c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant EPL or water licences for the development (including any assessment, strategy, plan or program required under these approvals);
  - (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals;
  - (e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any assessment, strategy, plan or program required under the abovementioned approvals; and
  - (f) be conducted and reported to the satisfaction of the Secretary.

*Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.*

15. Within 12 weeks of commencing each audit, unless otherwise agreed by the Secretary, the Applicant must submit a copy of the Audit report to the Secretary and any other agency that requests it, together with its response to any recommendations contained in the Audit report, and a timetable for the implementation of the recommendations. The Applicant must implement these recommendations, to the satisfaction of the Secretary.

### **ACCESS TO INFORMATION**

16. Within 1 month of the determination of Modification 1, and for the life of the development, the Applicant must:
- (a) make the following information and documents (as they are obtained or approved) publicly available on its website:
    - the documents listed in conditions 2 and 3 of Schedule 2;
    - current statutory approvals for the development;
    - all approved strategies, plans and programs required under the conditions of this consent;

- regular reporting on the environmental performance of the development in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent;
  - a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
  - a summary of the current stage and progress of the development;
  - contact details to enquire about the development or to make a complaint;
  - a complaints register, updated monthly;
  - the Annual Review's of the development;
  - any Independent Environmental Audit as described in condition 12 above, and the Applicant's response to the recommendations in any audit; and
  - any other matter required by the Secretary; and
- (b) keep this information up-to-date, to the satisfaction of the Secretary.



## APPENDIX 2 NOISE COMPLIANCE ASSESSMENT

### Applicable Meteorological Conditions

1. The noise criteria in Table 2 are to apply under all meteorological conditions except the following:
  - (a) wind speeds greater than 3 m/s at 10 m above ground level; or
  - (b) temperature inversion conditions between 1.5°C and 3°C/100 m and wind speed greater than 2 m/s at 10 m above ground level; or
  - (c) temperature inversion conditions greater than 3°C/100 m.

### Compliance Monitoring

2. A noise compliance assessment must be undertaken prior to the dispatch of more than 10 laden trucks from the site in any hour. The assessment must be conducted by a suitably qualified and experienced acoustical practitioner and must assess compliance with noise criteria presented above. A report must be provided to the Department and EPA prior to the dispatch of more than 10 laden trucks from the site in any hour.
3. Unless the Secretary agrees otherwise, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the *NSW Industrial Noise Policy* (as amended from time to time), in particular the requirements relating to:
  - (a) monitoring locations for the collection of representative noise data;
  - (b) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment;
  - (c) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration; and
  - (d) the use of an appropriate modifying factor for low frequency noise to be applied during compliance testing at any individual residence if low frequency noise is present (in accordance with the *NSW Noise Policy for Industry* (2017, or its latest version) Fact Sheet C) and before comparison with the specified noise levels in the consent.

## 11 Appendix 3 – Hanson Environmental Policy



# Environmental Policy

**Effective Date:** 1 May 2016  
(Supersedes all previous related policies)

## PRINCIPLES

Hanson accepts the responsibility for environmental protection which is integral to the conduct of its commercial operations.

Hanson is committed to:

- **Operating practices** which seek to minimise impacts, prevent pollution and minimise the likelihood of environmental harm through work and management practices, continual improvement, training and the use of new technology;
- **Compliance** with all applicable environmental laws and regulations and Codes of Practice in existing operations, new developments and upgrades;
- **Management review** of environmental objectives and targets;
- **Waste management** to minimise wastes, develop viable recycling opportunities, and ensure proper handling and disposal methods;
- **Product development** which seeks to combine commercial viability and efficient use and conservation of resources;
- **Environmental assessment** of new projects, asset purchases, sales and existing operations;
- **Environmental Incident Response** – contingency plans to minimise health, safety and environmental risks;
- **Rehabilitation** of areas affected by business operations;
- **Communication** of the Hanson environmental policy;
- Striving to meet **Community Expectations** through consultation within Hanson and with other relevant bodies, community groups and neighbours about environmental matters of common concern;
- **Water Management** which is integral to achieving sustainability, balancing today's needs with those of the future (refer to Water Policy for more information); and
- **Energy management** which is integral to managing greenhouse gas emissions from our operations and thus abating the impact of our business on the climate (refer to Energy Management Policy for more information).

Hanson will encourage concern and respect for the environment and will emphasise every employee's responsibility for environmental performance.



**Phil Schacht**  
**Chief Executive**

1 May 2016  
Replaces version 1/1/2014



## 12 Appendix 4 – Environmental Protection Licence

# Environment Protection Licence



Licence - 11453

## Licence Details

Number:	11453
Anniversary Date:	27-July

## Licensee

HANSON CONSTRUCTION MATERIALS PTY LTD

LOCKED BAG 5260

PARRAMATTA NSW 2124

## Premises

HANSON CONSTRUCTION MATERIALS PTY LTD

CRESENT STREET

CUDGEN NSW 2487

## Scheduled Activity

Extractive Activities

## Fee Based Activity

## Scale

Water-based extractive activity	> 100000-500000 m3 extracted
---------------------------------	------------------------------

## Region

North - North Coast

NSW Govt Offices, 49 Victoria Street

GRAFTON NSW 2460

Phone: (02) 6640 2500

Fax: (02) 6642 7743

PO Box 498 GRAFTON

NSW 2460

# Environment Protection Licence



Licence - 11453

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# Environment Protection Licence

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Licence - 11453



## 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).

# Environment Protection Licence



Licence - 11453

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:

<b>HANSON CONSTRUCTION MATERIALS PTY LTD</b>
--

<b>LOCKED BAG 5260</b>
------------------------

<b>PARRAMATTA NSW 2124</b>
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subject to the conditions which follow.

# Environment Protection Licence



Licence - 11453

## 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	Water-based extractive activity	> 100000 - 500000 m3 extracted

A1.2 Notwithstanding A1.1, the scale of the water-based extractive activity authorised under this licence must not exceed 150,000 meters cubed per annum, being the amount equivalent to the extraction limit approved by the development consent granted under the Environmental Planning and Assessment Act 1979 for the premises specified in A2.

### A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
HANSON CONSTRUCTION MATERIALS PTY LTD
CRESENT STREET
CUDGEN
NSW 2487
LOT 22 DP 1082435

### A3 Other activities

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

Ancillary Activity
Extractive Industries

### 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:

# Environment Protection Licence



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- 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 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 Noise limits

- L2.1 Noise from the premises must not exceed an LA10 (15 minute) noise emission criterion of 40 dB(A), except as expressly provided by this licence.
- L2.2 The noise emission limits identified in L6.1 apply for prevailing meteorological conditions (winds up to 3m/s), except under conditions of temperature inversions. 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 inversions conditions should be developed and implemented.
- L2.3 Noise from the premises is to be measured at any effected residence to determine compliance with this condition.
- L2.4 Unless otherwise agreed to in writing by the EPA, works covered by this Licence must only be carried out between the hours of 0700 and 1800 Monday to Friday, and 0700 and 1300 Saturday, and at no time on Sundays and Public Holidays. For the purpose of this licence, the term "works" refers to all dredging operations, maintenance, deliveries, barge movements, fueling and associated heavy transport.

## 3 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.

# Environment Protection Licence

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Licence - 11453



## **O2 Maintenance of plant and equipment**

- O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:
- a) must be maintained in a proper and efficient condition; and
  - b) must be operated in a proper and efficient manner.

## **4 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 Recording of pollution complaints**

- M2.1 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.
- M2.2 The record must include details of the following:
- a) the date and time of the complaint;
  - b) the method by which the complaint was made;
  - c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
  - d) the nature of the complaint;
  - e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
  - f) if no action was taken by the licensee, the reasons why no action was taken.
- M2.3 The record of a complaint must be kept for at least 4 years after the complaint was made.
- M2.4 The record must be produced to any authorised officer of the EPA who asks to see them.



# Environment Protection Licence



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## **M3 Telephone complaints line**

- M3.1 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.
- M3.2 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.
- M3.3 The preceding two conditions do not apply until 3 months after:
- the date of the issue of this licence or
  - if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.

## **5 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:
- a Statement of Compliance; and
  - a Monitoring and Complaints Summary.
- At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.
- 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:
- 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
  - 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 ending on:
- in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
  - 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 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.

# Environment Protection Licence



Licence - 11453

- R1.7 Within the Annual Return, the Statement 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;
  - 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.

# Environment Protection Licence

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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.

## 6 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.

# Environment Protection Licence



Licence - 11453

## Dictionary

### General Dictionary

<b>3DGM [in relation to a concentration limit]</b>	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
<b>Act</b>	Means the Protection of the Environment Operations Act 1997
<b>activity</b>	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
<b>actual load</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>AM</b>	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> .
<b>AMG</b>	Australian Map Grid
<b>anniversary date</b>	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.
<b>annual return</b>	Is defined in R1.1
<b>Approved Methods Publication</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>assessable pollutants</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>BOD</b>	Means biochemical oxygen demand
<b>CEM</b>	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> .
<b>COD</b>	Means chemical oxygen demand
<b>composite sample</b>	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.
<b>cond.</b>	Means conductivity
<b>environment</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>environment protection legislation</b>	Has the same meaning as in the Protection of the Environment Administration Act 1991
<b>EPA</b>	Means Environment Protection Authority of New South Wales.
<b>fee-based activity classification</b>	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
<b>general solid waste (non-putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

# Environment Protection Licence



Licence - 11453

<b>flow weighted composite sample</b>	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
<b>general solid waste (putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>grab sample</b>	Means a single sample taken at a point at a single time
<b>hazardous waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>licensee</b>	Means the licence holder described at the front of this licence
<b>load calculation protocol</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>local authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>material harm</b>	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
<b>MBAS</b>	Means methylene blue active substances
<b>Minister</b>	Means the Minister administering the Protection of the Environment Operations Act 1997
<b>mobile plant</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>motor vehicle</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>O&amp;G</b>	Means oil and grease
<b>percentile [in relation to a concentration limit of a sample]</b>	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.
<b>plant</b>	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
<b>pollution of waters [or water pollution]</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>premises</b>	Means the premises described in condition A2.1
<b>public authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>regional office</b>	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
<b>reporting period</b>	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.
<b>restricted solid waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>scheduled activity</b>	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
<b>special waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>TM</b>	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> .

# Environment Protection Licence



Licence - 11453

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

Mr Jon Keats

Environment Protection Authority

(By Delegation)

Date of this edition: 27-July-2001

## End Notes

- 1 Licence transferred through application 144797, approved on 13-Mar-2007, which came into effect on 01-Feb-2007.
- 2 Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
- 3 Licence varied by legislative change to Sched. Act. name, issued on 28-Apr-2008, which came into effect on 28-Apr-2008.
- 4 Licence varied by notice 1524081 issued on 08-Aug-2014

## 13 Appendix 5 – Groundwater licences





### Approval details

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Approval number	30WA319538
Status	CURRENT*
Approval kind	Water Supply Works
Date of effect	01/Jul/2016
Expiry date	30/Jun/2019
Approval holder(s)	Schedule 1
Water supply works	Schedule 2
Conditions	Schedule 3

### Contact for service of documents

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Name	HANSON CONSTRUCTION MATERIALS PTY LIMITED
Address	Commercial Manager Locked Bag 5260 PARRAMATTA NSW 2124

\* Note: An approval has effect for such period as is specified in the approval, or if the period is extended under section 105, that extended period. If an application for extension of an approval is lodged before the approval expires, the term of the expiring approval is extended until either the date of the final decision on the application, or a date fixed by the Minister for the approval, whichever is the later date. An approval which has expired can be the subject of an application to extend it but it needs to be accompanied by a statutory declaration of the reasons for the delay in making the application. If the Minister accepts these reasons the term of the approval is taken to have been extended, and the application may be dealt with, as if the application had been made before the approval expired.

It is an offence under the Water Management Act 2000 to breach a term or condition of the approval or to construct and use works to which the approval does not relate. It is also an offence to use works the subject of an approval if the approval has expired, been surrendered or cancelled.



### Schedule 1 - Approval holders

The holders of this approval are:

Approval holder(s)	ACN (if applicable)
HANSON CONSTRUCTION MATERIALS PTY LIMITED	009 679 734

#### Important notice - change of landholder or contact

Please advise the Office in the event of any of the following, as soon as practicable:

- If there is a change in the ownership or occupation of the land benefited by this approval (see Schedule 2). Under the Water Management Act 2000, an approval is typically held by the owner or lawful occupier of the benefited land. Consequently, a change in occupation may cause a change in your legal obligations as an approval holder.\*
- If there is a change to the contact person. You will be required to lodge a written statement signed by all the holders.\*
- If there is a change to the mailing address for the nominated contact person. This should be done by the contact person in writing.

*\* An updated Statement of Approval will be issued free of charge*

**Schedule 2 - Water supply works**

---

**Part A: Authorised water supply works**

Subject to the conditions of this approval, in relation to each numbered work in the table, the holders of this approval are authorised to construct and use a water supply work of the type shown at the location specified:

**Work 1**

---

<b>Specified work</b>	EXCAVATION - GROUNDWATER
<b>Specified location</b>	22//1082435            Whole Lot
<b>Management zone (if applicable)</b>	
<b>Water source</b>	TWEED-BRUNSWICK COASTAL SANDS GROUNDWATER SOURCE
<b>Water sharing plan</b>	NORTH COAST COASTAL SANDS GROUNDWATER SOURCES 2016

**Schedule 3 - Conditions**

The approval is subject to the following conditions:

**Plan conditions**

*No plan conditions applicable*

**Other conditions**

*No other conditions applicable*

**General Notes**

All conditions on an approval require compliance. An appeal to the Land and Environment Court against a decision to impose certain conditions on an approval can be made within 28 days after the date the decision is made. Conditions identified with the first letter "D" are those that can be appealed during the appeal period.

The words in this approval have the same meaning as in the *Water Management Act 2000*

**Note: The words in this approval have the same meaning as in the WMA**

**END OF STATEMENT**



# Statement of Conditions

as at Wednesday, 14 December 2016  
Issued under Water Management Act 2000

**WAL number** 38106

**Reference number** 30AL319537

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## Contact for service of documents

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**Name** HANSON CONSTRUCTION MATERIALS PTY LIMITED

**Address** Commercial Manager  
Locked Bag 5260  
PARRAMATTA NSW 2124

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## All holders

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**Name(s)** HANSON CONSTRUCTION MATERIALS PTY LIMITED

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## Licence details

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**Water source** TWEED-BRUNSWICK COASTAL SANDS GROUNDWATER SOURCE

**Water sharing plan** NORTH COAST COASTAL SANDS GROUNDWATER SOURCES 2016

**Management zone**

**Category** AQUIFER

**Share component** 1 units

**Nominated work(s)** 30WA319538

**Tenure type** Continuing

## Conditions

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The water access licence with Reference No 30AL319537 is subject to the following conditions:

### Plan conditions

*No plan conditions applicable*

### Other conditions

*No other conditions applicable*

### General Notes

All conditions on a water access licence require compliance. An appeal to the Land and Environment Court against a decision to impose certain conditions on an approval can be made within 28 days after the date the decision is made. Conditions identified with the first letter "D" are those that can be appealed during the appeal period.

Certain dealings and other matters relating to this water access licence or a holding in this water access licence must be registered in the Access Register in accordance with section 71A of the Water Management Act 2000. For information about the Access Register, contact Land and Property Information (<http://www.lpi.nsw.gov.au>).





### Approval details

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Approval number	30CA319526
Status	CURRENT*
Approval kind	Water Supply Works Water Use
Date of effect	01/Jul/2016
Expiry date	30/Jun/2019
Approval holder(s)	Schedule 1
Water supply works	Schedule 2
Water use	Schedule 3
Conditions	Schedule 4

### Contact for service of documents

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Name	HANSON CONSTRUCTION MATERIALS PTY LIMITED
Address	Commercial Manager Locked Bag 5260 PARRAMATTA NSW 2124

\* Note: An approval has effect for such period as is specified in the approval, or if the period is extended under section 105, that extended period. If an application for extension of an approval is lodged before the approval expires, the term of the expiring approval is extended until either the date of the final decision on the application, or a date fixed by the Minister for the approval, whichever is the later date. An approval which has expired can be the subject of an application to extend it but it needs to be accompanied by a statutory declaration of the reasons for the delay in making the application. If the Minister accepts these reasons the term of the approval is taken to have been extended, and the application may be dealt with, as if the application had been made before the approval expired.

It is an offence under the Water Management Act 2000 to breach a term or condition of the approval or to construct and use works to which the approval does not relate. It is also an offence to use works the subject of an approval if the approval has expired, been surrendered or cancelled.

**Schedule 1 - Approval holders**

The holders of this approval are:

<b>Approval holder(s)</b>	<b>ACN (if applicable)</b>
HANSON CONSTRUCTION MATERIALS PTY LIMITED	009 679 734

**Important notice - change of landholder or contact**

Please advise the Office in the event of any of the following, as soon as practicable:

- If there is a change in the ownership or occupation of the land benefited by this approval (see Schedule 2). Under the Water Management Act 2000, an approval is typically held by the owner or lawful occupier of the benefited land. Consequently, a change in occupation may cause a change in your legal obligations as an approval holder.\*
- If there is a change to the contact person. You will be required to lodge a written statement signed by all the holders.\*
- If there is a change to the mailing address for the nominated contact person. This should be done by the contact person in writing.

*\* An updated Statement of Approval will be issued free of charge*

**Schedule 2 - Water supply works**

**Part A: Authorised water supply works**

Subject to the conditions of this approval, in relation to each numbered work in the table, the holders of this approval are authorised to construct and use a water supply work of the type shown at the location specified:

**Work 1**

<b>Specified work</b>	EXCAVATION - GROUNDWATER
<b>Specified location</b>	22//1082435            Whole Lot
<b>Management zone (if applicable)</b>	
<b>Water source</b>	TWEED-BRUNSWICK COASTAL SANDS GROUNDWATER SOURCE
<b>Water sharing plan</b>	NORTH COAST COASTAL SANDS GROUNDWATER SOURCES 2016

**Work 2**

<b>Specified work</b>	EXCAVATION - GROUNDWATER
<b>Specified location</b>	22//1082435            Whole Lot
<b>Management zone (if applicable)</b>	
<b>Water source</b>	TWEED-BRUNSWICK COASTAL SANDS GROUNDWATER SOURCE
<b>Water sharing plan</b>	NORTH COAST COASTAL SANDS GROUNDWATER SOURCES 2016



**Schedule 3 - Water Use**

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Subject to the conditions of this approval, the holder(s) of this approval is authorised to use water for the following purpose(s) and location(s):

**Purpose 1**

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**Specified purpose** INDUSTRIAL - SAND & GRAVEL

**Specified location** 22//1082435

**Purpose 2**

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**Specified purpose** IRRIGATION

**Specified location** 22//1082435

**Schedule 4 - Conditions**

The approval is subject to the following conditions:

**Plan conditions**

*No plan conditions applicable*

**Other conditions**

*No other conditions applicable*

**General Notes**

All conditions on an approval require compliance. An appeal to the Land and Environment Court against a decision to impose certain conditions on an approval can be made within 28 days after the date the decision is made. Conditions identified with the first letter "D" are those that can be appealed during the appeal period.

The words in this approval have the same meaning as in the *Water Management Act 2000*

**Note: The words in this approval have the same meaning as in the WMA**

**END OF STATEMENT**



# Statement of Conditions

as at Wednesday, 14 December 2016  
issued under Water Management Act 2000

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**WAL number** 38097

**Reference number** 30AL319525

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## Contact for service of documents

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**Name** HANSON CONSTRUCTION MATERIALS PTY LIMITED

**Address** Commercial Manager  
Locked Bag 5260  
PARRAMATTA NSW 2124

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## All holders

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**Name(s)** HANSON CONSTRUCTION MATERIALS PTY LIMITED

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## Licence details

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**Water source** TWEED-BRUNSWICK COASTAL SANDS GROUNDWATER SOURCE

**Water sharing plan** NORTH COAST COASTAL SANDS GROUNDWATER SOURCES 2016

**Management zone**

**Category** AQUIFER

**Share component** 108 units

**Nominated work(s)** 30CA319526

**Tenure type** Continuing

## Conditions

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The water access licence with Reference No 30AL319525 is subject to the following conditions:

### Plan conditions

*No plan conditions applicable*

### Other conditions

*No other conditions applicable*

### General Notes

All conditions on a water access licence require compliance. An appeal to the Land and Environment Court against a decision to impose certain conditions on an approval can be made within 28 days after the date the decision is made. Conditions identified with the first letter "D" are those that can be appealed during the appeal period.

Certain dealings and other matters relating to this water access licence or a holding in this water access licence must be registered in the Access Register in accordance with section 71A of the *Water Management Act 2000*. For information about the Access Register, contact Land and Property Information (<http://www.lpi.nsw.gov.au>).

## 14 Appendix 6 – TSP Complaint pro-forma



## Tweed Sand – Complaint Proforma

Your Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone / Email: \_\_\_\_\_

Date of Incident: \_\_\_\_\_

Detail of  
Complaint: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

### Site Contact

Site Manager: John McQueen

Email: [john.mcqueen@hanson.com.au](mailto:john.mcqueen@hanson.com.au)

Mobile: 0407 180 038

## 15 Appendix 7 – Operational Traffic management plan

## 16 Appendix 8 – Noise management plan



## 17 Appendix 9 – Air quality management plan

## 18 Appendix 10 – Soil and water management plan

## 19 Appendix 11 – Rehabilitation and landscaping management plan

## 20 Appendix 12 – Pollution Incident Response Management Plan

Prepared by Hanson Construction Materials Pty Ltd.

# Pollution Incident Response Management Plan



## Tweed Sand Quarry

Dated: 18/09/2013

# STOP

## **Instigate the TWEED SAND QUARRY**

### **Site Emergency Plan**

**(Located at multiple locations around the quarry including the site office)**

As soon as the alarm is raised “Emergency, Emergency, Emergency” implement the Site Specific Emergency Plan.

When coordinating procedures to combat any pollution caused by the incident this will follow the **SITE EMERGENCY TEAM PROTOCOL** located in the **YELLOW** section of the **Site Emergency Plan**, where the communications officer will be responsible for contacting the required authorities and relay all necessary information back to persons at the incident location.

Further details relating to Pollution Incidents at the quarry are contained in the Integrated Environmental Management System (IEMS) located in the site office. This document includes the following details relevant to pollution management:

- Description of site specific hazards;
- Pre-emptive actions to be taken to prevent a pollution incident;
- Inventory of pollutants;
- Safety equipment;
- Minimising harm to persons on the premises;
- Maps of the site;
- Staff training; and
- Testing and implementation of the plan.

## CONTACTING THE RELEVANT AUTHORITIES

The appropriate regulatory authority for the Tweed Sand Quarry is the NSW Environmental Protection Agency (NSW EPA). Notification to the NSW EPA is required under Section 147 Protection of the Environment Operations (POEO) Act 1997 when there is a risk of material harm to the environment.

The relevant persons or departments will be notified immediately of a pollution incident. The responsible person for notifying the relevant authorities is the Site Supervisor.

Contact	Number
Site Supervisor - John McQueen	0407 180 038 / (02) 6674 2916
Hanson Construction Materials (NSW Regional Office)	(02) 9354 2600
NSW EPA Pollution Reporting	13 15 55
NSW Ministry of Health	(02) 9391 9000
The WorkCover Authority NSW	13 10 50
The Local Council: Tweed Shire Council	1300 292 872 / 1800 818 326
Emergency Services & Fire and Rescue (NSW)	000

For information relating to plan implementation and contact information for liaising managers and site contact information refer to the **Site Emergency Plan** and the **Crisis Management Contact list** (located in the **Red Crisis Management Folder**).

## COMMUNITY NOTIFICATION

In the event of a pollution incident, all neighbours and the surrounding community that is likely to be impacted by the incident will be notified. The extent of notification will be determined on a case by case basis depending on the type of pollution incident, community that may be notified include;

- Neighbours directly adjoining the site.
- Neighbours located downstream of the site.
- Nearby community places such as schools and churches.
- Any other general public within close proximity to the site likely to be impacted by the incident such as passing cars and pedestrians.

Community notification will be carried out by telephone, face to face contact or by information left at place of residence by Hanson representative to notify of the situation, convey any possible impacts and procedures in place to rectify the situation.

Hanson conduct community consultation meetings twice per year where information and contact details for neighbours are gathered to assist with notification in the event of an incident.