NSW EPA

Your reference:
Our reference: DOC16/52378; EF13/3101
Contact: Karen Marler (02) 4908 6803
Electronic correspondence to: hunter.region@epa.nsw.gov.au

Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Attn: Mr Thomas Watt

Dear Mr Watt

Recommended Conditions of Approval
Dolwendee Sandstone and Gravel Quarry - Hollydeen (SSD 6519)

I refer to the document titled "Dolwendee Quarry Project Environmental Impact Statement Upper Hunter Holdings Pty Ltd" prepared by KMH Environmental and dated 3 December 2015 (the EIS) received by the Environment Protection Authority (EPA) on 11 December 2015.

The EPA has reviewed the EIS and provides the comments and recommended conditions of approval (at **Attachment 1**) based on this review.

The proponent will need to make application to the EPA, if consent is granted, for an Environment Protection Licence (EPL) to authorise both scheduled development works and the operation of the proposed Dolwendee Quarry.

Wastewater

Minimal information is provided in the EIS regarding the proposed siting of the package sewage treatment plant and irrigation area. For this reason the EPA has been unable to make an assessment of the suitability of the proposal plant. Given the plant will service a maximum of 8-10 people, the EPA is satisfied that information regarding the placement and design of the plant and effluent management system can be provided with the Environment Protection Licence (EPL) application. This information will need to include details of the irrigation area including an assessment of the soils, a water balance, nutrient balances, and details of appropriate application rates.

Air quality

The EPA has reviewed Appendix L of the EIS '*Air Quality Impact Assessment*' (AQIA), dated 7 September 2015.

While some of the required information can be extracted from the AQIA, the best practice assessment required by the EPA's SEARS has not been directly addressed in the AQIA. The EPA will require the Proponent to undertake this assessment prior to the commencement of operations.

The AQIA assessment does indicate that the top emissions sources for the proposal are:

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1. Wind erosion from exposed areas – 37 tonne / year over 10.7ha
2. Hauling product gravel material off site – 37 tonne/year
3. Screening gravel material – 3 tonne/year and
4. Hauling overburden to emplacement areas – 0.9 tonne/year

The top emission source is hauling, followed closely by wind erosion of exposed areas. This is similar to coal mine assessment in the Hunter Valley.

The EPA notes that the AQIA assumes a haul road control efficiency of 75%. Coal mines have demonstrated that a minimum 80% control efficiency through watering alone is achievable. The recommended conditions at Attachment 1 recommend a minimum 80% control efficiency.

The EPA is primarily concerned about the dust generating potential and air quality impacts arising from these types of developments. For this reason, the EPA will require the proponent to report their exposed area annually against the commitment made in the EIS.

The AQIA also indicates that no control efficiency has been applied to the 3rd highest emission source – being screening gravel material. The EPA considers that water sprays would be practical for an operation of this size. A condition requiring air emissions controls to processing equipment has been included at Attachment 1.

Surface water

The EIS indicates that discharge from sediment dams may be required (EIS, Table 73 pp159-156) and suggests water quality criteria for planned discharges. The proponent states in the EIS that a tributary impact assessment for proposed discharges was not completed (as required by the EPA's Secretary's Environmental Assessment Requirements (SEARS)) because saline discharges are not proposed.

However, the Protection of the Environment (Hunter River Salinity Trading Scheme) Regulation 2002 defines saline water as water having an electrical conductivity (EC) of 400uS/cm or greater. Given the current site conditions is likely that sediment dam discharges would exceed this level of salinity.

The proponent must be aware that if it is intended that any discharges are authorised by the conditions on the EPL, discharge can only occur in accordance with the Hunter River Salinity Trading Scheme (HRSTS) operating rules. This includes holding sufficient salinity credits to authorise the discharge, installing real-time flow and conductivity monitoring at the point of discharge and only discharging when the HRSTS is operating.

As the EIS has made no assessment of the impact on the receiving tributary of off-site discharges, the EPA will not authorise any discharge from the site in the EPL until an adequate tributary impact assessment has been completed in accordance with the SEARS.

The EPA's recommended conditions of approval relate to the development as proposed in the EIS. In the event that the development is modified either by the applicant prior to the granting of consent or as a result of the conditions proposed to be attached to the consent, it will be necessary to consult with the EPA about the changes before the consent is issued. This will enable the EPA to determine whether the recommended conditions of approval need to be modified in light of the changes.

If you have any questions or wish to discuss this matter further contact Karen Marler on 4908 6803.

Yours sincerely

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KAREN MARLER
Head Regional Operations Unit - Hunter
Environment Protection Authority

Encl: **Attachment 1**: Dolwendee Quarry: Recommended conditions of approval: February 2016

ATTACHMENT 1

DOLWENDEE QUARRY (SSD 6519)
RECOMMENDED CONDITIONS OF APPROVAL

The conditions provided below are in response to the information detailed in the report titled "*Dolwendee Quarry Project Environmental Impact Statement Upper Hunter Holdings Pty Ltd*' (the EIS) prepared by KMH Environmental and dated 3 December 2015.

General

1. Except as provided by these conditions of approval below, the works and activities must be undertaken in accordance with the EIS.

AIR CONDITIONS

2. General Dust Conditions

2.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

2.2 Activities occurring in or on the premises must be carried out in a manner that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.

2.3 All trafficable areas, coal storage areas and vehicle manoeuvring areas in or on the premises must be maintained, at all times, in a condition that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.

2.4 The proponent must undertake a Best Practice Assessment in accordance with the 'Coal Mine Particulate Matter Control Best Practice Site-specific determination guideline' (EPA, 2011) prior to any commencement of scheduled development works at the premises. This assessment must be provided with the Environment Protection Licence application.

2.5 All haul roads must be constructed and maintained so that a minimum 80% control efficiency of haul road dust is achieved.

2.6 The proponent must provide with the Annual Return for each reporting period a report detailing the actual area of exposed (disturbed) land against the predictions made in the EIS.

3. Requirement to monitor weather

3.1 The licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.

Point 1 (actual point number to be confirmed in the Environment Protection Licence)

Parameter	Units of measure	Frequency	Averaging Period	Sampling Method
Rainfall	mm	continuous	1 hour	AM-4
Sigma theta	degrees	continuous	10 minute	AM-2 and AM-4
Siting				AM-1
Air Temperature	°C	continuous	10 minute	AM-4
Wind Direction at 10 metres	degrees	continuous	15 minute	AM-2 and AM-4
Wind Speed at 10 metres	metres per second	continuous	15 minute	AM-2 and AM-4

3.2 Monitoring of all parameters listed in Condition 3.1 Column 1 must commence prior to any earth moving activities being undertaken at the premises.

4. Requirement to monitor ambient particulate matter

4.1 The licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.

Point 2

Parameter	Units of measure	Frequency	Averaging Period	Method
PM_{10}	Micrograms per cubic metre	continuous	1-hour	AS 3580.9.8 - 2008

4.2 The number and location of PM_{10} monitors must be approved by the EPA prior to the installation of the monitoring equipment.

4.3 As a minimum continuous PM_{10} monitors must be placed in the upwind and downwind locations adjacent to quarrying operations.

4.4 Monitoring of all parameters listed in Condition 4.1 Column 1 must commence prior to any earth moving activities being undertaken at the premises.

WATER QUALITY CONDITIONS

5. Location of monitoring/discharge points and areas

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

Water and Land

EPA Identification No.	Type of monitoring point	Type of discharge point	Description of location
X (to be specified in the Environment Protection Licence)	Hunter River Salinity Trading Scheme discharge and monitoring point	Hunter River Salinity Trading Scheme discharge and monitoring point	To be specified in the Environment Protection Licence (location reference to be provided by the proponent)

Y (locations to be specified in the Environment Protection Licence)	Water quality monitoring		At locations upstream and downstream of the Hunter River Salinity Trading Scheme discharge point, and at other ambient locations located to determine the impact the of surface water discharge/runoff from quarrying operations at the premises (location references to be provided by the proponent)
Z (locations to be specified in the Environment Protection Licence	Groundwater quality monitoring		At locations BH5, BH7 and BH8 as described in the EIS. Detailed location details (and parameters to be monitored) are to be provided with the Environment Protection Licence application.

Limit Conditions

6. Pollution of Waters

6.1 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*.

6.2 For each monitoring/discharge point or utilisation area specified below (by point number), the concentration of al pollutant at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

6.3 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.

6.4 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table:

6.5 Water and/or land concentration limits

POINT X and Y (Point number to be specified in the Environment Protection Licence)

Parameter	Units of measure	100 percentile concentration limit
pH	pH	6.5-8.5
Total suspended solids	milligrams per litre	120
Oil and Grease	mg/L	5 and/or none visible

7. Volume and Mass Limits

7.1 For each discharge point or utilisation area specified below (by a point number), the volume/mass of:
(a) Liquids discharged to water, or;
(b) Solids or liquids applied to the area;

Must not exceed the volume/mass limit specified for that discharge point or area.

Point	Units of measure	Volume/Mass Limit
X	Megalitres per day	To be determined by the EPA following review of the tributary impact assessment to be provided with the Environment Protection Licence application.

8. Monitoring and Recording Conditions

8.1 Requirement to monitor concentration of pollutants discharged

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

Water and/or land monitoring requirements

POINT X (Point number to be specified in the Environment Protection Licence)

Pollutant	Units of measure	Frequency	Sampling Method
Conductivity	Microsiemens per centimetre	Continuous during discharge	A probe designed to measure the range 0 to 10,000 µS/cm
pH	pH	Daily during any discharge	Representative sample
Total suspended solids	milligrams per litre	Daily during any discharge	Representative sample

8.2 Requirement to monitor volume or mass

For each discharge point or utilisation area specified below, the licensee must monitor:
(a) The volume of liquids discharge to water or applied to the area;
(b) The mass of solids applied to the area;
(c) The mass of pollutants emitted to the air;
at the frequency and using the method and units of measure, specified below.

POINT X (Point number to be specified in the Environment Protection Licence)

Frequency	Units of measure	Sampling Method
Continuous during discharge	Megalitres per day	Ultrasonic flow meter

9. Hunter River Salinity Trading Scheme (HRSTS) Monitoring

9.1 The licensee must continuously operate and maintain communication equipment which makes the conductivity and flow measurements taken at Point X available to the NSW Office of Water (or other service provider as advised by the EPA) within one hour of those measurements being taken and makes then available in the format specified in the 'Hunter River Salinity Trading Scheme Discharge

Point Site Equipment" as published the (then) Department of Land and Water Conservation on 7 May 2002.

9.2 The licensee must ensure that all monitoring data is within a margin of error of 5% for conductivity measurements and 10% for discharge flow measurements.

9.3 The licensee must mark Point X with a sign which clearly indicates the name of the licensee, and that Point X is a monitoring point for the HRSTS.

9.4 The licensee must mark Points Y with signs which clearly indicates the name of the licensee, whether the monitoring point is upstream or downstream of discharge Point X and that it is a monitoring point for the HRSTS.

Reporting Condition

10. Hunter River Salinity Trading Scheme Reporting

10.1 The licensee must compile a written report of the activities under the Hunter River Salinity Trading Scheme (HRSTS) for each HRSTS year. The HRSTS year is from 1 July to 30 June each year. The written report must be submitted to the EPA's Newcastle Regional Office within 60 days after the end of each HRSTS year and be in a form and manner approved by the EPA. The information will be used by the EPA to compile an annual HRSTS report.

Special Conditions

11. Hunter River Salinity Trading Scheme

11.1 This licence authorises the discharge of saline water into the Hunter River Catchment from an authorised discharge point in accordance with the *Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002.*

11.2 For the purpose of clauses 23 and 29 of the *Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002* the licensee must apply the conversation factor of 0.6.

12. Saline Dispersion Study

12.1 During the licensee's next discharge under the Hunter River Salinity Trading Scheme (HRSTS) the licensee must monitor salinity levels at least at the following location, provided it is safe to do so:

- at the nearest downstream irrigation off-take point.

As far as practicable monitoring should be timed to coincide with the peak flow of discharge water. The results of this monitoring must be reported to the EPA's Regional Manager Hunter within 30 days of being collected. The report should detail the exact location, time and method of monitoring.

Note:- A handheld salinity probe is considered an adequate method of undertaking this monitoring.

13. Discharge Lag Time Study

13.1 Prior to any discharge of saline water from the premises, the licensee is to advise the Hunter Region Office of the EPA in writing of the estimated lag time (in hours) for discharges from the Hunter River Salinity Trading Scheme (HRSTS) discharge point to reach the Hunter River gauging station number 210055 (the HRSTS upper sector reference point which is located at Denman).

NOISE CONDITIONS

14. Construction Noise

14.1 All construction work at the premises must be conducted between 7am to 6pm Monday to Friday and between 8am to 1pm Saturdays and at no time on Sundays and public holidays. This condition does not apply in the event of a direction from police or other relevant authority for safety or emergency reasons.

Note: 'safety or emergency reasons' refers to emergency works which may need to be undertaken to avoid loss of life, property loss and/or to prevent environmental harm.

15. Operational Noise

15.1 All quarrying operations, including extraction, processing and loadings / transport must be conducted between 7am to 6pm Monday to Friday and 7am to 1pm Saturdays and at no time on Sundays and public holidays.

16. Limit Conditions

16.1 Noise generated at the premises must not exceed 35dB(A) $LA_{eq\ (15\ minute)}$ at any noise sensitive receiver.

16.2 The noise limits set out in condition 16.1 apply under all meteorological conditions except for the following:

a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or
b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
c) Stability category G temperature inversion conditions.

16.3 To determine compliance:

a) with the $L_{eq(15\ minute)}$ noise limit specified above, the noise measurement equipment must be located:
   - approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or
   - within 30 metres of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable
   - within approximately 50 metres of the boundary of a National Park or a Nature Reserve.

b) with the noise limits specified above, the noise measurement equipment must be located:
   - at the most affected point at a location where there is no dwelling at the location; or
   - at the most affected point within an area at a location prescribed by sections (a) or (b) of this condition.

16.4 A non-compliance of the noise limits specified above will still occur where noise generated from the premises in excess of the appropriate limit is measured:

- at a location other than an area prescribed by condition 16.3 (a) and 16 (b) above; and/or
- at a point other than the most affected point at a location.

16.5 For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.

16.6 For the purposes of condition 16.3:

a) Data recorded by the meteorological station identified as EPA Identification Point (Point number to be specified in the Environment Protection Licence) must be used to determine meteorological conditions; and
b) Temperature inversion conditions (determined using the Sigma Theta method) are to be determined by consistent with Part E4 of Appendix E to the NSW Industrial Noise Policy.

17. Requirement to Monitor Noise

17.1 To assess compliance with Condition 16.1, attended noise monitoring must be undertaken in accordance with Conditions 16.3 and:

a) At, or at a location representative of, the most-affected sensitive receiver(s);
b) occur quarterly in a reporting period;
c) occur 1.5 hours during operating hours
d) occur for three consecutive operating days.

(Note that if four rounds of quarterly monitoring show compliance with the noise limits in this licence the licensee may apply to the EPA to have the monitoring frequency reduced.)

18. Reporting Conditions

18.1 Noise Monitoring Report

A noise compliance assessment report must be submitted to the EPA with each Annual Return. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include:

a) an assessment of compliance with noise limit presented in Condition 16.1;
b) measurement and reporting of C-weighted noise levels; and
c) an outline of any management actions taken within the monitoring period to address any exceedences of the limits contained in Condition 16.1.

Additions to Definition of Terms of the licence

- NSW Industrial Noise Policy - the document entitled "New South Wales Industrial Noise Policy published by the Environment Protection Authority in January 2000."

19. Blasting and Vibration

19.1 Blasting activities at the premises may only be conducted under the following conditions:
(a) Between the hours of 9am to 5pm Monday to Friday. No blasting is permitted Saturdays, Sundays or public holidays;
(b) Blasting is not permitted simultaneous with adjacent quarry(s); and
(c) Blasting outside of the hours specified above can only take place with the written approval of the EPA.

19.2 The airblast overpressure level from blasting operations at the premises must not exceed 120dB (Lin Peak) at any time at any noise sensitive locations. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

19.3 The airblast overpressure level from blasting operations at the premises must not exceed 115dB (Lin Peak) at any noise sensitive locations for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to

measure this are not to be taken into account in determining whether or not the limit has been exceeded.

19.4 Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 10mm/sec at any time at any noise sensitive locations. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

19.5 Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 5mm/sec at any noise sensitive locations for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

19.6 The airblast overpressure and ground vibration levels in the conditions above do not apply at noise sensitive locations that are owned by the licensee or subject to a private agreement, relating to airblast overpressure and ground vibration levels, between the licensee and land owner.

19.7 The proponent must monitor all blasts carried out in or on the premises at or near the nearest residence or noise sensitive location (such as a school or hospital) that is likely to be most affected by the blast and that is not owned by the licensee or subject of a private agreement between the owner of the residence or noise sensitive location and the licensee relating to alternative blasting limits. Details of the blast monitoring locations must be provided with the EPL application.

19.8. The proponent must report any exceedence of the blasting limits to the regional office of the EPA as soon as practicable after the exceedence becomes known to the licensee or to one of the licensee's employees or agents.

19.9. The proponent must supply annually a Blast Monitoring Report with the Annual Return, which must include the following information relating to each blast carried out within the premises during the respective reporting period:

a) the date and time of the blast;
b) the location of the blast on the premises;
c) the blast monitoring results at each blast monitoring station; and
d) an explanation for any missing blast monitoring results.

20. Wastewater Management

Effluent application to land

20.1 The proponent must submit with the Environment Protection Licence application details of the proposed sewage treatment and effluent management/disposal system. This must include detailed design drawings, site plans showing the position and layout of the facilities on site and a land capability assessment where land irrigation of treated effluent is proposed.

20.2 The proponent must demonstrate to the EPA that the proposed treatment and disposal of effluent on site is in accordance with the EPA's '*Environmental Guidelines Use of Effluent by Irrigation*' (2004).

20.3 The quantity of effluent/solids applied to the utilisation area must not exceed the capacity of the area to effectively utilise the effluent/solids.

For the purposes of this condition, 'effectively utilise' includes the use of the effluent/solids for pasture or crop production, as well as the ability of the soil to absorb the nutrient, salt, hydraulic load and organic material.

20.4 Effluent application to the utilisation area(s) must not occur in a manner that causes surface run-off from the utilisation area(s).

20.5 Spray from effluent application to the utilisation area(s) must not drift beyond the boundary of the utilisation area(s) to which it has been applied.

21. Sediment and erosion controls

21.1 The licensee must, before undertaking any earthmoving or vegetation removal works, implement erosion and sediment control measures to prevent pollution of waters in accordance with *Soils and Construction: Managing Urban Stormwater 2004* (Landcom, 2004).

21.2 Stormwater from the premises which has the potential to mobilise sediments and must be controlled and diverted through the appropriate sediment and erosion control and/or pollution control measures/structures, so as not to cause, permit or allow water pollution to occur.

22. Bunding

22.1 All above ground tanks containing material that is likely to cause environmental harm must be bunded or have an alternative spill containment system in place.

22.2 Bunds must:
a) have walls and floors constructed of impervious materials;
b) be of sufficient capacity to contain 110% of the volume of the tank (or 110% volume of the largest tank where a group of tanks are installed);
c) have floors graded to a collection sump; and
d) not have a drain valve incorporated in the bund structure,
or be constructed and operated in a manner that achieves the same environmental outcome.

23. Waste

23.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by a licence.

23.2 The condition above only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if those activities require an environment protection licence.

Environment Protection Authority
February 2016.