



**Epic Mining Pty Limited
Luddenham Clay/Shale Quarry
Modification 4 of Development Consent DA315-7-2003
Response to Submissions – January 2017**

1 INTRODUCTION

This Response to Submissions Report (RTS) has been prepared by National Integrated Creative Solutions on behalf of Epic Mining Pty Limited (the applicant).

It is noted that whilst some aspects of the submissions warrant a response which is included in this document, other aspects have been considered to be either misunderstanding or out of context comments that do not require a formal response. In addition to the above, some aspects should be dealt with outside the Development Consent modification process where other processes are considered to be more appropriate to resolve these aspects. We believe that the Department of Planning and Environment (Department) should take into consideration our submission and the fact that this modification is a very simple modification of already approved activities and does not warrant the so many comprehensive assessments requested by certain Departments especially when comprehensive assessments were previously undertaken for these previously approved activities.

1.1 BACKGROUND

On 23 May 2004, the NSW Department of Infrastructure and Planning (now Department of Planning and Environment) granted a Development Consent for a Major Project No 513-7-2003 (Consent) for a clay and shale quarry at 275 Adams Road, Luddenham in the State of New South Wales.

The Consent was modified three times in accordance with the provisions included in the Environmental Planning and Assessment Act 1979 (EP&A Act).

1.2 APPROVED DEVELOPMENT

The original development consent for works at the subject site was issued on 23 May 2004 to undertake the following activities:

“The development and operation of a clay/shale quarry on Lot 3, DP 623 799 and the construction and use of an access road and service facilities on Lot 1, DP 838 361.”

Subsequent Modifications included stockpiling activities and small scale composting activities.

1.3 SITE DETAILS

The approved site is legally identified as Lot 3 in DP 623799 and part of Lot 1 in DP 838361, and its street address is No 275 Adams Road, Luddenham. The subject site is battle-axe in shape and benefits from approved truck access off Elizabeth Drive via a Right Of Way (ROW) over the adjoining Commonwealth Government land.

Given the authorised access from Elizabeth Drive, the subject site is known by clients and Government Authorities as No 2420 Elizabeth Drive, Badgerys Creek NSW 2555.

A summary of site details are provided in **Table 1-1**.

Table 1-1 - Summary of Site Details

Location	Lot 1 DP 838361 and Lot 3 DP 623799, 275 Adams Road, Luddenham
Total Area	Approximately 71 hectares
Topographic Maps	1:25000-scale Penrith 9030-3N & Warragamba 9030-3S
Grid Reference (GDA94 – MGA Zone 56)	289000E 6249400N (Penrith topographic map) (approximate)
Local Government Area	Liverpool City Council
Existing Land Use	The environment of the site and surrounding properties is modified rural, consisting of grazing, poultry farms, crops in hot house environments and some dwellings (Douglas Nicolaisen & associates 2003)
Current Zoning	RU1 – Primary Production
Approved Development	Clay/Shale Quarry

The site is also known to use its access from Elizabeth Drive as its physical address to facilitate finding the site by clients.

1.4 PROPOSED DEVELOPMENT MODIFICATIONS

The proposed modifications as part of this Consent Modification No 4 are listed below.

- to relocate the approved stockpiling of clay and shale in combination with the approved work at the adjacent land known as 285 Adams Road, Luddenham which is also known as 2470 Elizabeth Drive, Luddenham (Lot 281 in DP 571171),
- to relocate the approved composting activities to the northern portion of the applicant's approved site,
- to review the locations of all environmental monitoring and discharge points due to the construction and future operation of the proposed Western Sydney Airport on the

Commonwealth land located east and south of the applicant's site where most monitoring and discharge points are currently located,

- to review current monitoring and reporting requirements in accordance with previous consultation with both the Department and the NSW Environment Protection Authority (EPA),
- modify the parameters of Air Quality Assessment to reflect current NSW parameters due to changes in the Air Assessment parameters,
- to modify relevant Consent Conditions associated with the Luddenham Quarry Community Consultative Committee to reflect the alternative method approved by the Department, and
- to review the current noise criteria specified in the Consent due to the many ongoing changes in the local environment surrounding the applicant's site including the construction and operation of Western Sydney Airport, the increase of industrial activities in the adjacent suburbs and the significant increase in traffic on Elizabeth Drive.

1.5 PROPOSED SITE

The proposed stockpiling site is located at 285 Adams Road which as mentioned before is also known to be 2470 Elizabeth Drive in the suburb of Luddenham and the Local Government area of Liverpool City Council in the State of New South Wales. Full details of the proposed stockpiling site location are provided in **Table 1-2**.

Table 1-2 - Summary of Proposed New Site Details

Location	285 Adams Road or 2470 Elizabeth Drive, Luddenham - Lot 281 DP 571171
Total Area	Approximately 11 hectares or 110,000 m ²
Grid Reference (GDA94 – MGA56)	Middle of site = Easting: 288979 Northing: 6249826 Elevation: 65
Local Government Area	Liverpool City Council
Existing Land Use	The environment of the site and surrounding properties is modified rural, consisting of grazing, poultry farms, crops in hot house environments and some dwellings
Current Zoning	RU1 – Primary Production
Proposed Development	Relocation of stockpiling activities

1.6 ENVIRONMENTAL ASSESSMENT EXHIBITION

The Department of Planning and Environment (Department) placed the proposal on public exhibition from 15 September until 14 October 2016. The Department encourages the community to participate in the public consultation and exhibition process.

1.7 IMPACT OF PROPOSED MODIFICATIONS

The proposed modifications will have positive rather than negative impacts on human health and the environment due to the fact that there are no changes to the existing approved activities and no expansion of activities. On the contrary, there will be reduction in stockpiling activities and there will be more comprehensive mitigation measures installed at the proposed sites to assist in minimising the potential of impacts from noise, air and water perspective.

The proposed modifications will provide certainty for Epic Mining Pty Limited (the applicant) as to the continuation of the quarrying activities within the approved site since there is a pressure with potential uncertainties due to the construction and operation of Western Sydney Airport in the adjacent land.

1.8 SUBMISSIONS

As a result of the exhibition of the modification application and the notification undertaken by the Department, a total of nine (9) submissions were received from Government agencies whilst no public submissions were received. The list of Government agencies which provided a submission in addition to the Department is included below. It should be noted that there were no objections to the proposed modification application by any stakeholder.

- 1 Department of Infrastructure and Regional Development
- 2 NSW Department of Planning and Environment
- 3 NSW Department of Industry
- 4 NSW Environment Protection Authority
- 5 NSW Department of Primary Industries
- 6 Heritage Council of NSW
- 7 Liverpool City Council
- 8 NSW Office of Environment and Heritage
- 9 NSW Transport – Roads & Maritime Services
- 10 Water NSW

Copies of all submissions received by the Department, including its own are included in **Attachment A** of this document.

1.9 STRUCTURE OF RESPONSE TO SUBMISSIONS

The response to submissions is outlined below in a very clear manner to ensure that every issue raised by every Government agency is addressed.

2 SUBMISSIONS & RESPONSES

As previously stated, in addition to the Department's submission, nine (9) other submissions were received from other Government Departments and none received from the public. This Section provides Epic's Response to these submissions.

It should be noted that the Department requested that Epic arranges meetings with the Department of Primary Industries – Water, the Environment Protection Authority (EPA) and Liverpool City Council (LCC) to discuss further their submissions in an attempt to resolve most of their comments on the Environmental Assessment Report.

We have managed to meet with LCC in a reasonable time (10 November 2016) but not so with the EPA (17 November 2016) or with DPI-Water (did not meet) for a variety of reasons. It was agreed that Epic will provide responses to DPI-Water's submissions in the formal process and as part of the Response to submissions.

2.1 Department of Infrastructure and Regional Development

Submission

The Department of Infrastructure and Regional Development (the Department) provides the following comments in relation to DA 315-7-2003 Mod 4 by Epic Mining Pty Limited.

The Western Sydney Airport development is an important one for the Western Sydney region both in terms of economic benefits in investment through business growth and the creation of jobs for the people of Western Sydney.

The Western Sydney Airport Environmental Impact Statement (EIS) has now been finalised. The assessment outlines a number of mitigation and management measures to protect the environmental value of the airport site and surrounding Western Sydney region. There is, however, no specific reference to quarry mine activity or stockpiling of shale.

Epic Mining is a former tenant on the Western Sydney Airport site. As the shale quarry is located on the boundary of the airport site and access to the quarry is required from the airport site, the Department has provided Epic Mining with a short term access licence arrangement until such time as other suitable access arrangements can be made by Epic Mining.

The Department supports this modified development application and accompanying Environmental Assessment as it will assist Epic Mining in putting in place access arrangements to the quarry from quarry-owned land and the removal of existing clay and shale stockpiles from the airport site.

The request for consideration of an appropriate transitional period for movement of the shale in the submission is noted. The Australian Government is committed to providing a tenant-free site and, where feasible, obstacle-free for the proposed Western Sydney Airport site. Therefore, removal of the shale from airport land in a timely manner is important in relation to moving forward with the airport development.

Response

Noted. We confirm that there is a new lease between the Commonwealth and Epic for the use of the access road, administration facilities and utilities only. The lease is ongoing but conditional on the commencement of construction of Western Sydney Airport.

The Commonwealth has requested that stockpiling activities must cease on Commonwealth land and transferred to other land such as the proposed site at 285 Adams Road.

2.2 NSW Department of Planning and Environment

Submission

1. Water

In addition to the Department of Primary Industries and Liverpool City Council's comments on water, the Department requests further information or clarification with respect to the following water-related matters:

- a. Section 6.2 of the EA describes Epic Mining's 'Nil Water Discharge Policy'. The Department understands that this internal policy should be considered as a target or initiative as water discharges may be required during adverse weather conditions. Appendix H of the EA further states that excess water would be treated and released into the existing watercourse if the storage ponds reach full capacity. Considering that water discharges may be required, please provide additional information on the licensed water discharge point.*
- b. With regards to the proposed surface water management system, please provide:*
 - a revised schematic flowchart (Figure 6-4) to reflect the potential water discharges into Oaky Creek and provide a revised map (Figure 6-6) showing the licensed discharge point;*
 - additional information regarding the "pump out" of surface water from the composting area (as shown in Figure 6-4); and*
 - additional information on the proposed management of clean vs non-clean surface water on site.*

Response

In relation to the "licensed water discharge point" as mentioned above, Epic cannot provide such description since any discharge point is not licensed until it is included on the Epic's EPL by the EPA. We confirm that Epic's target is to prevent any non-clean water from being discharged into Oaky Creek. This will be easily achieved if waters are being used on site and being pumped between sediment ponds and sump pit. As stated in the EA report, the capacity of the Sump pit itself can hold more than 30 times the annual runoff from the whole approved and proposed sites. Notwithstanding the above the discharge point from the stockpiling area will be the pond's spillway, if water is required to be discharged. For all the ponds 1, 2 and 3, discharge points will be flexible hose from the pond itself to the creek, if it is ever required.

In relation to existing "licensed water discharge point", there is one which is downstream of the quarry site as shown in Section 18 of the EA report (Figure 18-1 and Figure 18-2). There is also a water monitoring (not discharge) point located upstream of the quarry site as shown in Section 18 of the EA report (Figure 18-1 and Figure 18-2). Appendix G of the EA includes larger maps showing both existing discharge and monitoring points.

For the composting area, the proposed sediment pond would not collect water sufficient for watering that area due to the nature of the dry mulch received on site and the requirement for that mulch to be kept at a high moisture contents. In addition, the water will evaporate at a very high rate based on the last data obtained from the closest weather monitoring station at Badgerys Creek.

Figures 6-4 and 6-6 of the EA have been amended to reflect the possibility of water being discharged to Oak Creek from sediment ponds. Refer to new figures in **Attachment B** of this document.

Due to the fact that we need to ensure that we have covered all possible scenarios including both extreme scenarios for the composting area; one extreme scenario is when the sediment pond/leachate collection pond is approaching 80-85% capacity and we can no longer use the water on that area due to soil saturation as a result of very heavy rainfalls, we will have to arrange for that water to be collected by a licensed liquid waste transporter so the liquid can be transported to a lawfully licensed liquid waste facility for treatment.

Basically, all active working areas for stockpiling and composting activities are considered to have non-clean water even if the contaminant is only sediment. These areas are defined in the site layout by their footprints. All other areas outside these footprints are considered clean surface water areas since they will have only clean rainwater runoff. All clean water and non-clean water areas are separated by earth mounds, diversion drains or natural topography to ensure that non-clean water is diverted to existing and proposed water collection/treatment systems whilst clean water is diverted away from the no-clean water areas. Refer to the drawings in the EA as well as **Attachment B** of this document.

Refer to **Attachment B** of this document for new figures, maps, plans, etc.... as requested above.

2. Biodiversity

The Department requests additional information or clarification with respect to the following biodiversity-related matters:

- a. With reference to the proposed mitigation and management measures in Section 7.3.3 of the EA, please provide additional information on how the vegetated riparian zone would not be adversely impacted.*
- b. The Lesryk Flora & Fauna Report in Appendix I mentions that there will be a buffer of tree plantings along the northern and western boundaries of the site to minimise visual and noise impacts. This statement conflicts with the recommendations in Section 7.2.4 of the EA. Please clarify whether this tree planting is or is not proposed.*

Response

In relation to the vegetated riparian zone, as part of visual, water management, air pollution minimisation and noise management, a landscaped earth mound of 5-5.5m high with 13-14 m wide base and 3 m wide top ridge will be constructed along the eastern side (Oak Creek side), northern side (Elizabeth Drive side) and western side (Adams Road side). On the eastern side and due to the presence of trees and the requirements of buffer zone for the vegetated riparian zone, the earth mound will be constructed at between 20-40 m away from Oak Creek. This very strong and high earth mound will also serve a 5th purpose which is to prevent any employees with or without vehicles from being able to get closer to the vegetated riparian zone. As a 6th purpose, this earth mound will serve as a safety barrier just in case any

problems occur with vehicles used within that area. An additional fence will be installed between the riparian zone and the eastern earth mound to assist further in preventing access to the riparian zone.

In relation to the landscaping, we have stated in several Sections of the EA that a narrow strip (approximately 2 m wide) along the northern and western boundary of the site will be planted with trees and shrubs as an initiative of Epic in its attempt to soften the visual streetscape view. This landscaped strip will also mimic the existing streetscape in the neighbouring properties.

3. Aboriginal Cultural Heritage

Section 8 of the EA notes that there is an identified area of Aboriginal cultural significance within the riparian zone of the existing approved site. This site is fenced and protected as part of an Aboriginal cultural heritage exclusion area. As the riparian zone continues north, along Oaky Creek, into Lot 281 DP 571171, the Department considers that, in absence of a due diligence archaeological assessment, there is potential for unidentified artefacts to occur within this zone. Whilst the proposed stockpile area has been positioned on cleared land >20 metres away from the vegetated riparian zone, the Department requests that additional avoidance measures be considered.

Response

Based on the above information, we do not consider it necessary to build other structures on that side of the site since a landscaped earth mound of 5-5.5 m high with 13-14 m wide base and 3 m wide top ridge will be constructed along that side (Oaky Creek side) and no unauthorised access to that area would be required by employees or contractors. Furthermore, the whole site is fenced off and has an employee who resides on site permanently and is on duty 24/7. This means that unauthorised access to any area of the site is near impossible which is much better than what it has been the case for over 60 years. However, we are willing to install a fence between the riparian zone and the eastern earth mound to assist further in preventing access to the riparian zone, if it is considered necessary, reasonable and justified.

4. Noise

The Department shares a number of concerns raised by the Environment Protection Authority (EPA) regarding the noise impact assessment in Section 9 of the EA. The Department requests further information or clarification with respect to the following noise-related matters:

- a. The EPA's submission notes that the noise impact assessment did not meet appropriate guidelines and standards and insufficiently assessed potential noise impacts. The Department agrees with the EPA's comments and considers that the methodology used and the assumptions made are unclear and insufficient.*

The Department notes that it previously advised Epic Mining that a simplified noise assessment would be appropriate considering the minimal impacts and associated risk. This advice remains; however the Department wishes to clarify that any noise modelling, if undertaken, must generally follow industry guidelines and standards, such as the NSW Industrial Noise Policy (INP). Any alternate methodologies used must be thoroughly justified.

b. Epic Mining has requested that the noise criteria in the consent be reviewed to reflect the likely increased background noise limits from changes to surrounding land uses and the proposed construction and operation of the adjacent Western Sydney Airport.

The Department appreciates that background noise levels may have increased, however it is not in a position to consider the proposed project specific noise levels (PSNLs) in Table H2 of Appendix H of the EA unless the levels are supported by adequate noise modelling. Please provide additional information to support the proposed noise criteria.

c. Please provide further justification for not considering Hubertus Country Club as a sensitive receiver in the noise impact assessment.

Response

In relation to noise assessment and following the meeting with the EPA, the EPA has not rejected the methodology used and is willing to accept any justified methodology. The EPA's view was simply that they could not replicate the calculations presented despite the fact that the formulas used in the assessment are the same formulas used in all noise computer models (Environmental Noise Model, SoundPlan, etc.) and within the EPA's guidelines such as the "NSW Industrial Noise Policy – January 2000", "NSW Road Noise Policy – March 2011" and the "Interim Construction Noise Guideline – July 2009". Refer to our response to the EPA's noise comments. We have included detailed information to simply justify that most noise computer models do not take into consideration the double noise diffraction factors (thick continuous noise barriers (earth mounds)) that have been proven on an international scale to give an additional noise reduction of 4-5 dB.

The 2015 meteorological weather data were also obtained and compared with the 2013 data. There was no great difference in the prevailing weather conditions to warrant any major changes. More scenarios have been included in **Attachment D** of this document to demonstrate compliance with the existing noise criterion.

In relation to the project specific noise levels (PSNL), the data submitted is sufficient to determine the PSNL in accordance with the NSW INP 2000. Computer modelling is not and has never been required to determine PSNL.

Hubertus Country Club was no longer considered to be a sensitive receiver following advice from the EPA several years ago. The EPA officers reviewed noise and air monitoring data for approximately 10 rounds and determined that the data collected from the dust gauge does not reflect the quarrying activities but rather the club's activities since it was situated in its car park. Similarly, the noise results were mostly reflective of the club's activities including cars and patrons. At that time, it was determined to place an additional dust deposition gauge near a resident within the now proposed stockpiling site. Epic complied with that request. Furthermore, during the last modification, Epic and the Department agreed that the Hubertus Country Club was no longer considered to be a sensitive receiver as far as the Luddenham quarry is concerned since its activities may have greater impact on the environment than the quarry's activities. This was the main reason for the removal of this receiver from the Development Consent conditions as part of Modification No 3.

5. Visual Amenity

The EA includes a visual impact assessment in Section 15 and a Visual Analysis in Appendix J. The photo montages show the current landscape; however they do not show the predicted visual impacts of proposed activities. Please provide additional photo montages that demonstrate how the proposed landscape earth berms would reduce the visual impacts of the stockpile and composting areas.

Response

A new photo montage which includes an illustration of the proposed landscaping and landscaped earth mounds is presented in **Attachment C** of this document. The methodology used to draw the earth mounds on the photos used for the visual assessment is outlined below.

Some physical features (i.e. tree, power pole, dwelling, sign) seen in each photo were manually measured on site to obtain the number of pixels that represent that physical feature dimensions in that specific photo. The earth mound specific for that photo is then drawn based on the pixels calculated from the ratio of pixels to the existing features and the existing feature to the earth mound. Example is that if the tree is 11 m high and in that particular photo represented 220 pixels, the 5 m earth mound will be equivalent to 100 pixels. We considered that this method will provide the most accurate representation of the proposed earth mounds with a very good accuracy

6. Agency submissions

The Department requests the RTS consider and respond to all agency submissions received, including advice presented and recommendations made therein.

Response

The applicant has considered all submissions and provided responses to all submissions. The responses are included in this document. All amended and additional maps, drawings, site layouts, etc.... are included in **Attachment B** of this document.

2.3 NSW DEPARTMENT OF INDUSTRY

Submission

I refer to your email of 14 September 2016 requesting comments from the Division of Resources & Energy (the Division) relating to an application for modification to the Luddenham Clay/shale Quarry (the Project) from Epic Mining Pty Limited (the Proponent).

As clay/shale is a prescribed mineral under the Mining Act 1992, the proponent is required to hold appropriate mining titles from the Division in order to mine this mineral. The Proponent has lodged Mining Lease (Mineral Owner) Application No.3 (pending approval) with the Division for the proposed mining activities.

The Division has reviewed the document Environmental Assessment Report Luddenham Clay & Shale Quarry Epic Mining Pty Limited 275 Adams Road Luddenham NSW dated August 2016 and understands the proponent proposes to modify its existing consent DA No 315-7-2003 to relocate a clay and shale stockpile to an adjacent site.

As the proposed stockpiling area is not within the boundaries of the Proponent's proposed mining lease and is outside the area of the original resource and given the temporary nature of both the proposed stockpiling and composting activities, the Division has assessed minimal of potential resource sterilisation.

It is recommended that a final land use plan be provided to the Division prior to this Modification being determined or, alternatively that a condition of approval be "that a final land use plan that addresses the site (Lot 281 DP 571171 - Northern Stockpile Area) be submitted and approved to the satisfaction of the Division".

The Division does not object to the approval of the Project provided the above recommendations are taken into account and implemented.

Response

The proposed stockpiling site is located within the land use zone RU1 – Primary Production under Liverpool Local Environmental Plan 2008.

Any proposed land uses must be consistent with the objectives of that zone within Liverpool City Council area. Furthermore, due to the fact that the proposed stockpiling site is located at the boundary of Western Sydney Airport footprint, the final land use may need approval from the Commonwealth to ensure compatibility with the Airport activities. The applicant and/or the landlord may not have much say in relation to the preferred final land use.

2.4 NSW ENVIRONMENT PROTECTION AUTHORITY

Following several communications with the EPA's representative to arrange a meeting in accordance with the Department's instructions, a meeting was held on 17 November 2016. During the meeting, the EPA's representatives raised other aspects and sought clarifications on other matters that were not included in the EPA's official submission as part of the statutory public notification and exhibition process. The applicant will attempt to address some of these matters as part of this process and others outside this process as we believe some matters should be dealt with under the provisions of the POEO Act 1997 not the EP&A Act 1979. Furthermore, due to the numerous changes within the EPA's Section responsible for administering the quarry activities, several aspects have previously been dealt with and addressed on more than one occasion. We consider it unreasonable that the applicant should not have to address these matters several times in a period of less than three (3) years due to reasons that are beyond the applicant's control. These matters should be left outside this modification application process.

Submission

The EPA has reviewed the documentation entitled "Environment Assessment Report – Luddenham Clay and Shale Quarry" prepared by National Integrated Creative Solutions dated 25 August 2016.

The comments provided detail where analysis is limited and where additional information is requested.

Water Quality

It is suggested that NSW Department of Planning and Environment (DPE) update condition 24 to include an additional section "Leachate Storage System Management" within the Site Water Management Plan.

Response

Agreed. The leachate management is already included in the proposed Site Water Management System.

Submission

Noise Impact

Although noise sources within the boundary are expected to be similar to previous acoustic studies, the impact assessment did not meet appropriate standards. The proponent must ensure that all noise monitoring is undertaken in accordance with Australian Standard AS 2659.1-1998: Guide to the use of sound-measuring equipment – Portable sound level metres, or any revision of that standard which may be made by Standards Australia, and the compliance monitoring guidance provided within the NSW Industrial Noise Policy.

It is suggested that any potential noise impacts are predicted through the use of computer noise modelling. Noise models take into account noise attenuation due to distance, atmospheric absorption, barriers, effects of intervening ground types and weather conditions.

Response

All noise monitoring undertaken in last 5 years of operations has always and continues to be undertaken by highly experienced and suitably qualified consultants in accordance with the NSW EPA Industrial Noise Policy (INP) and all other relevant Australian Standards. These consultants were approved by the Department as well. This matter has never been questioned by the EPA despite the fact that we have so far provided the EPA with over 20 quarterly reports.

Similarly, the noise measurements undertaken as part of this assessment were undertaken in accordance with the INP and relevant Australian Standards. The meteorological conditions are correct except the wind speed which was presented in km/h rather than being converted to m/s as to be consistent with the unit of measurements. In this instance, the wind speed should have been 3.055 m/s or 11 km/h. Simply this was a typo and would not have any impact on human health or the environment.

The approach for this assessment was used in the previous modification in accordance with advice from both the NSW Environment Protection Authority and Department of Planning and Environment (Department). A full noise impact assessment including comprehensive noise modelling was undertaken at the time of the introduction of stockpiling and composting activities. The predicted noise levels did comply with the specified noise criterion at all approved monitoring locations. Furthermore, noise monitoring was undertaken for more than 20 rounds/quarters and all results demonstrated compliance with the specified noise criterion at all locations without the need to install any additional noise mitigation measures. The

Department's recent advice was to undertake similar approach to demonstrate compliance with the specified noise criterion at the potentially sensitive residential receivers. We have added very high, thick and long noise barriers along most of the perimeter of the site and used the same approach as it is stated in the INP. Section 6.2 (page 36) of the INP states: *"For small or simple projects, the predicted noise level from the source to the receiver may be calculated manually, taking into account the distance from the source to receiver and any shielding between the source and receiver."*

We consider this proposal to be a small and simple project on noise grounds for the following reasons:

- There are only two (2) potentially sensitive receivers who have never expressed any concerns on Epic's activities. These receivers are located at 265 Adams Road, Luddenham and 2111 Elizabeth Drive, Luddenham,
- The levels of noise emanating from both the stockpiling and composting activities are very well known and confirmed on more than 20 occasions in addition to the initial computer modelling undertaken when the two (2) activities were introduced,
- The locations of the two (2) potentially sensitive receivers as shown in the noise assessment of the EA, in relation to the proposed locations of both the stockpiling and composting activities do provide additional advantage in noise mitigation due to existing topography and structures,
- The activities have been complying with the noise criterion for more than 5 years at all specified environmental monitoring locations with similar topography and distances without the need for noise barriers higher than 2 m,
- There will be decrease rather than increase in stockpiling activities which should reduce the overall noise levels by a small value (1-2 dBA).

We have also used the same formulas currently used in the Acoustics industry including computer models and are also used in the EPA's *"Interim Construction Noise Guideline – July 2009"* (worked example on page 17 and other worked examples) in combination with the most up-to-date attenuation models for noise barriers. We have used also the most reliable and comprehensive noise barrier formulas (and drawings) currently available in the literature to ensure that the results are as accurate as possible. We believe that by easily complying with the specified noise criterion, no further assessment is required since both the stockpiling and composting activities have been subjected to comprehensive computer modelling and numerous rounds of monitoring at different locations and the fact that the same activities will be undertaken without any change.

Based on our extensive experience with similar assessments and noise computer modelling using the Environmental Noise Model and SoundPlan, the insertion loss for an unbroken earth mound could provide up to 25 dB(A) of noise attenuation depending of several factors including the locations of noise source and receivers, dimensions and materials of the earth mounds as well as meteorological conditions. We have undertaken several scenarios by modifying all parameters to demonstrate that the proposed noise mitigation measures will provide sufficient attenuation for the activities to proceed with full compliance with the specified criterion at any residential received. Refer to **Attachment D** of this document for more details of the additional works undertaken considering that the double diffraction

mentioned below was not factored in the results due to the limitations of the formulas used. We have managed to obtain a copy of the meteorological data for the 2015 and believe that there will be no noticeable changes to the predicted levels based on the prevailing wind of either 2013 or 2015.

Following the review of all presented scenarios, it is clearly evident that by changing the temperature between 0-40 °C and the relative humidity between 20-100%, the highest change in calculated noise levels is a reduction of 0.6 dB(A) which is considered to be positive rather than negative change.

By changing the ground from hard (factor of 0) to soft (factor of 1), the change in calculated noise levels is a reduction of only 0.7 dB(A) which is considered to be positive rather than negative change since most of the areas between the noise source and receivers are soft rather than hard except the roadway.

Furthermore, when reconsidering the dimensions of the earth mounds, the northern residence will be at least 113 m to the closest noise source (stockpiling); $92 + 2 + 13 + 5$ considering the noise source is located 5 m from the earth mound.

When reconsidering the dimensions of the earth mounds, the western residence will be at least 169 m to the closest noise source (composting); $153 + 11 + 5$ considering the noise source is located 5 m from the earth mound.

Notwithstanding the above and to provide even more confidence to all stakeholders, the applicant has decided to increase the dimensions of all earth mounds as follow:

- ❖ For the stockpiling area, the western, northern and eastern earth mounds will be at least 5-5.5 m high, at least 13-14 m wide base and 3 m wide top ridge. The southern earth mound will be at least 4 m high, 11m wide base and 3 m wide top ridge.
- ❖ For the composting area, there is already a landscaped earth mound (approved noise barrier) at the southern side of that area. This earth mound is 5 – 5.5 m high with 13-15 m wide base and 3 m wide top ridge. The northern and western sides will have an earth mound with at least 4 m high, 11m wide base and 3 m wide top ridge. The eastern side will be facing the Western Sydney Airport site but it will still have an earth mound of at least 2 m high, 5-6 m wide base and 1-2 m wide top ridge.
- ❖ This earth mound design will assist greatly in the double diffraction of sound which will help attenuating the noise even further by at least another 4-5 dB (Hans van Leeuwen and Renee Nota – 19th International Congress on Acoustic – at Madrid 2-7 September 2007) and (4.7 dB reduction from the experimental data of Maekawa). The height of the earth mounds will vary depending of the uneven grounds at the specific locations. However, the height will never be less than the minimum height provided above but rather more. Refer to **Attachment B** of this document for illustrations and schematic diagrams of the proposed earth mounds. For all scenarios, we have considered a very conservative sound power level L_w of 108 dB as the total noise generated by the stockpiling activities and 104 dB for the composting activities (only a medium size truck

and a small Front End Loader (or a small excavator) would be required), These values are much higher than the values previously obtained from calculations by NICS and modelling by the EPA.

When considering all above, we are confident that the proposed stockpiling and composting activities will easily comply with the specified criterion with a margin of at least 3-5 dB. This could be demonstrated during the regular noise monitoring required in the Consent and EPL.

Furthermore, the Department requested that the activities must comply with the specified noise criterion ($L_{Aeq,15minutes} = 41 \text{ dB(A)}$) until a new different noise criterion is agreed to.

As you are aware, all noise-related computer models use the same mathematical formulas used in the approach presented here, and due to the short distances to the potentially sensitive receivers, which are only two (2) (very small number compared with other sites), it can be easily demonstrated compliance with the criterion.

Due to the fact that the quarry operates only during the day time period as defined in the INP, only day time assessment was required.

Submission

Composting

It is suggested that DPE include the following condition:

the applicant shall prepare and implement a Composting Risk Management Protocol in consultation with the NSW EPA that meets the requirements outlined within Guidance on the Resource Recovery Order and Exemption for Mulch (NSW EPA, 2016); Environmental Guidelines: Composting and Related Organics Processing Facilities (DEC, 2003) AS 4454-2003 Composts, soil conditioners and mulches alongside relevant legislation and guidelines.

To assist in the assessment of this application, the proponent must provide further detail on the composition of the compost in order for the EPA to adequately assess and characterise any potential odour. The proponent must nominate which of the current Resource Recovery Orders and Exemptions are applicable under clauses 91 and 92 of the Protection of the Environment Operations (Waste) Regulation 2014.

The proponent must conduct a screening level odour assessment which identifies all potentially affected zones and details:

- *all phases of processing (i.e.: pre-treatment, decomposition, aeration and maturation),*
- *all associated impacts during receipt, stockpiling and storage.*

The proponent must ensure that the receipt and movement of raw organics and organic products is documented. At a minimum, the quantity of each category of organics received at the premises must be recorded together with its source.

Response

This matter has been the subject of numerous discussions and communications with the EPA and the Department. Some of the facts are outlined below.

The EPA approved these activities in 2011 provided that the quantity of dry mulch processing does not exceed 5,000 tonnes per year.

The Department approved officially this activity as part of the previous modification No 3. The EPA was consulted at that time as part of the formal notification/advertising process. The EPA did not express any concerns during that process.

Despite our request to the EPA to include the activity in the EPL, there was always a reason why not.

Despite the formal approval by the Department, in 2015 the EPA requested additional information and further assessments which Epic undertook and supplied the EPA with relevant reports. Furthermore, we understand that upon our request (and the EPA's request as well) the Department has sent the EPA a correspondence advising the EPA that this activity is approved as long as the composting activity does not exceed 5,000 tonnes per year.

Despite obtaining relevant approvals as instructed by the EPA and undertaken all relevant assessments as requested by the EPA, Epic was forced to suspend the receiving of dry mulch on site in approximately August 2015.

The EPA should have consulted the Department as Epic advised the EPA verbally and in writing on several occasions. The EPA could also have reviewed the Department's Assessment Report associated with Modification No 3. This report included all the approved modifications including the composting activities.

No odours have ever been generated from the materials since the materials are simply dry mulch and no putrescible waste or wastes from unknown sources are received on site. In addition, no odour related complaints have ever been received from any stakeholder for any Epic related activities including composting. Simply, the site is not open to the public for any aspect of its activities. The dry mulch/garden organics were received from Soilco which is a reputable company that has been in the composting business for many years. Soilco is also lawfully licensed by the EPA to produce a variety of approved products. We understand that most of Soilco's products are covered by Resource Recovery Orders and have been tested in accordance with these orders prior to being sent to clients such as Epic. The materials are not mixed or blended with any materials except when they are ready to be used on site and for workability purposes, some of the existing site soil may be added depending of many parameters such as location of use and weather conditions.

Notwithstanding the above, we have confirmed several times before that the materials received on site have already been subjected to all necessary treatments in accordance with the EPA's guidelines and tested in accordance with the EPA's policies. These materials are received from an EPA lawfully licensed facility that complies with all EPA's licensing and environmental requirements. So far, these materials have not had any contaminants above

the EPA's criteria and they are not expected to contain any such contaminants in future since we will continue to import these materials from the same generator/processor. These materials have been classified and are compliant with the Garden Organics Resource Recovery Order now but previously they were classified in accordance with the Dry Mulch Resource Recovery Exemption.

Most of the materials are used as they are received on site without any further processing is undertaken other than placing the materials in a systemic approach to ensure that the materials received first are used first. The best approach was considered to be the use of windrows which provide a clear and definite delineation between stockpiles.

Since all materials received on site comply with the EPA's policies and guidelines, no rejected materials will be generated.

The requirement for compliance with recently published guidelines is unreasonable since the activities were approved before publishing these guidelines. This should not be part of this modification but rather it should be dealt with under the POEO Act.

In addition, we undertook a comprehensive assessment of the relevant aspects and submitted the report as part of a Pollution Study (a copy of the report can be provided upon request). The EPA did not express any concerns about this assessment or the report in addition to the fact we are yet to receive a formal response from the EPA on that matter. We do not believe that new assessments are required for already approved activities that were approved by and in consultation with the EPA on more than one occasion.

Furthermore, these activities have been the subject of many inspections by authorised and highly experienced officer of the EPA as well as very highly qualified and experienced environmental consultants. All inspections confirmed that due to the non-putrescible dry nature of the mulch which has been received as a near finished product which was processed elsewhere, there were no odours emitted from the stockpiled dry mulch. A mild earthy odour can be detected within 1-1.5 m from the stockpiles. This odour is not considered as offensive odour as defined in the POEO Act and hence no further odour assessment is required for such a mild odour. The materials are simply screened and stockpiled in a systemic manner to ensure that the materials are used in a systematic manner starting from the oldest to the latest.

The EPA's officers involved in the qualitative odour assessment on site were:
Chris Kelly-compliance, Rod Fox, Steve Durrington, Alex Bowlay, Mark Hanneman.

The environmental Consultants involved in the qualitative odour assessment on site were:
Kieran Horkan and Nicolas Israel.

Further quantitative odour assessments will only be required if the qualitative odour assessments identify any offensive odour emitted from the activities. None of the residential receptors is within 1-1.5 m from the composting activities let alone the fact that the landscaped high and thick earth mounds proposed to be constructed between the composting

activities and the most potentially sensitive receptors act as wind breaks to prevent any odours, if any, from reaching these receptors.

Submission

Environment Protection Licence and Appropriate Regulatory Authority role

On review of the activities outlined within the assessment, the premises will require a variation to the existing Environmental Protection Licence issued under s48 Protection of the Environment Operations Act ("POEO Act").

Response

This will be subject to negotiations between Epic and the EPA as to what should be included in the EPL. This will be dealt with directly with the EPA outside this modification process.

2.5 NSW DEPARTMENT OF PRIMARY INDUSTRIES

Submission

I refer to your email of 14 September 2016 to the Department of Primary Industries (DPI) in respect to the above matter. Comment has been sought from relevant divisions of DPI.

Views were also sought from NSW Department of Industry - Lands that are now a division of the broader Department and no longer within NSW DPI.

Any further referrals to DPI can be sent by email to landuse.enquiries@dpi.nsw.gov.au.

DPI has reviewed the application and accompanying environmental assessment and provides the following recommendations:

Submission

- The proponent should distinguish between any earth dams and sediment ponds that are collecting surface water runoff from the disturbed areas within the site and any sediment ponds or dams that are collecting clean water runoff from undisturbed areas.*

Response

Figure 6-6 (Page 94) of the EA report shows clearly the footprints of existing and proposed disturbed areas with surface water runoff flows. It also shows where that water runoff is drained and collected and that none of the undisturbed areas is connected to this non-clean surface water management system but rather they are excluded. The same information is included in Appendix F of the EA report with a larger size map/drawing. All undisturbed areas will continue to drain naturally as before the proposed development except where they are likely to enter the disturbed areas. In this case the proposed diversion drains and earth mounds will prevent the water runoff from entering these areas and direct the clean water eventually to Oaky Creek or existing clean water dams.

Submission

- The proponent should clarify if any clean water is being collected in dams or sediment ponds for use as a water supply. If clean water is being collected, the proponent should consult with DPI Water to ensure appropriate licences are held.*

Response

As previously stated and shown in the drawings and figures, clean water from undisturbed areas is collected in clean water dams and is not included in the proposed management system for use in any part of the proposed development. Refer to previous response.

Submission

- *Clean water runoff from undisturbed areas should be permitted under the site's 'nil water discharge policy'. Clean water runoff should be diverted away from the development to the downstream catchments unless it is in accordance with an appropriate water access licence.*

Response

Yes, see response to the previous 2 points.

Submission

- *The proponent should clarify whether the term "existing earth dams" refers only to sediment ponds or also to dams. The proponent should provide further details to clarify if the clean water dams include the existing dams in the north-west corner of Lot 1 DP838361 and east of Sediment Pond 2 on Lot 1 DP838361.*

Response

The statement "existing earth dams" should have been "existing and proposed sediment ponds" to ensure that it is clear that water for use on site as part of dust suppression, rehabilitation, landscaping purposes, etc... will only be sourced from the sediment ponds collecting water from the active working areas. This was clearly stated in the Water Section of the EA as well as shown in the surface water schematic flow chart.

Clean water dams include the dams within Oaky Creek and these two existing earth dams. They are not included in the existing or proposed surface water management plans. Epic has not used any water from these dams. Epic will not need to use such a water source unless there is a very long drought, in which case, appropriate licensing arrangements will be made with DPI-Water, if required.

Submission

- *The proponent should clarify if a water supply is proposed to be sourced from the three existing small dams which are located on the stockpile site.*

Response

No. As stated in the report and shown in Table 6-3 (page 94) of the EA, the water to be used on site for dust suppression, landscaping and other similar purposes, is not drawn from any of these three small dams. Furthermore, the two larger of the three dams are outside the stockpiling footprint and will not be affected by the proposed development.

In addition to the above, the total capacity of sediment ponds and pit sump were included in Table 6-2 (Page 91) of the EA report, the capacity of these three small dams was not included in the calculation. The proposed sediment pond No4 was also not included in the calculation since the water from that pond will only be used within the composting area.

Submission

- *The proponent should provide further detail on the proposed location of the 4.5 m high earth mounds along Oaky Creek riparian corridor and whether the mounds will disturb or impact any part of the vegetated riparian corridor.*

Response

The proposed eastern earth mound is at least 20-40 m further away from the vegetated riparian zone. These details are included in several drawings within the EA report as well as Appendix F of the EA report. Refer also to Figure 6-11 (page 107) of the EA report.

Submission

- *Any approval for the project should consider a condition of consent requiring that at the close of operations land is rehabilitated to a level that provides future agricultural investment opportunities.*

Response

Based on previous discussions with Liverpool City Council's planners, the site is currently located within RU1 – Primary Production and any development within the site must be consistent with the objectives of that land zone. Following the completion of the development and rehabilitation of the land, future developments of the land will need to be approved by the Consent Authority for that proposed development at that time. The future development will need to be permitted under the Consent Authority's requirements but generally consistent with Liverpool LEP- permitted use of that land use zone. Since the Western Sydney Airport will be adjacent to this land, the final decision on the future use of the land may depend greatly on decisions made by the Commonwealth rather than any other party including the landlord.

We understand that Liverpool City Council is considering rezoning certain areas within its jurisdiction including this area. Hence any decisions on the future use of the land may depend on the new land use zoning.

2.6 HERITAGE COUNCIL OF NSW

Submission

I refer to your email dated 14 September, 2016 seeking the Heritage Council of NSW input into the abovementioned modification application.

The development is located in the Liverpool local government area. The proposal includes:

- *Relocation of stockpiling and composting activities from leased land to quarry-owned land;*
- *Review of environmental monitoring requirements in light of the revised development layout and the proposed construction of the Western Sydney Airport; and*
- *Minor revisions to the community consultation requirements.*

It is noted that the Heritage Division did not previously comment on the original Concept Plan (DA 315-7-2003) for the Luddenham Clay/Shale Quarry. The subject site is not listed on the State Heritage Register, is not a potential State Heritage Item and is not in the vicinity of any State Heritage Listed sites. Therefore, consultation with the Heritage Council is not required.

Response

As stated in the EAR, the site is not listed on the State Heritage Register, is not a potential State Heritage Item and is not in the vicinity of any State Heritage Listed sites; hence no further heritage-related assessment is required. Based on the above comments from the Heritage Council of NSW, no response is required.

2.7 LIVERPOOL CITY COUNCIL

Following several communications with relevant staff at Liverpool City Council, (Council) a meeting was held between representatives of the applicant and the Council on 10 November 2016. The meeting was extremely productive and resulted in agreement on almost all aspects raised in Council's submission. It was also agreed that the final decision to conditionally approve the modification is with the Department.

Submission

I write in response to your email dated 12 September 2016 in relation to the exhibition of the proposed modification to the consent for the Luddenham Clay/Shale Quarry described above. Council has considered the application and accompanying Environmental Assessment (EA) and supporting documentation and makes comments as follows in relation to the proposed development:

1. Potential site contamination

Clause 7 of State Environmental Planning Policy (SEPP) 55 – Remediation of Land stipulates that a consent authority must not consent to the carrying out of any development on land unless it has considered whether the land is contaminated. Furthermore, Clause 7(2) of SEPP 55 requires the consent authority to consider a report specifying the findings of a preliminary investigation of land if the proposed development involves a change of use on any land specified in subclause 4. This includes land on which a development for a purpose referred to in Table 1 of the contaminated land planning guidelines is being, or is known to have been carried out.

The Environmental Assessment Report prepared by National Integrated Creative Solutions dated 25 August 2016 indicated that the land was previously used for agricultural purposes including cropping and grazing. Table 1 of the contaminated land planning guidelines specifies that agricultural/horticultural activities are potentially contaminating activities. Therefore, the Council recommends that the applicant be required to engage the services of a suitably qualified and experienced contaminated land consultant to prepare a Stage 1-Preliminary Site Investigation of the land.

The Preliminary Site investigation should comply with applicable guidelines made or approved by the NSW EPA under the Contaminated Land Management Act 1997 and identify all past and present potentially contaminating activities; identify potential contamination types; discuss the site condition; provide a preliminary assessment of site contamination; and assess the need for further investigations.

If contaminating activities are suspected or known to have occurred, or if site history is incomplete, it may be necessary to prepare a Stage 2 – Detailed Site investigation. This investigation would give regard to the potential effects of any contaminants on public health, the environment and building structures and shall meet the sampling density outlined in the NSW EPA Contaminated Sites Sampling Design Guidelines (1995);

Should a Stage 2 – Detailed Site Investigation indicate that the site poses unacceptable risks to human health or the environment, a Remedial Action Plan (RAP) should be prepared by a suitably qualified and experienced Contaminated Land Consultant in accordance with applicable guidelines made or approved by the NSW EPA under the Contaminated Land Management Act 1997. In these circumstances, it is recommended that the RAP would be referred to Liverpool City Council for review.

Response

In addition to the information provided in the EA and based on the guidelines titled : *“Managing Land Contamination – Planning Guidelines – SEPP 55 – Remediation of Land – 1998 Department of Urban Affairs and Planning – Environment Protection Authority” (MLC Guidelines)*, we believe that the land is suitable for the proposed use as above ground stockpiling of extracted materials. It will be even made more suitable by capping the whole proposed active working area by a 300 – 700 mm of materials made of crushed concrete, sandstone and clay to ensure that the stockpiling activities are undertaken in an environmentally response manner and in a very safe working environment without compromising the safety of employees/contractors or the potential of harm to the environment. This approach was previously used on the previously leased Commonwealth land for both composting and stockpiling and is considered an essential part of establishing the proposed site. Despite the fact that we are very confident that there is no contamination on that land, by capping the whole active working area we comply with the guidelines and EPA's requirements as well. The MLC Guidelines state: *“..... development applications (DAs) are backed up by information demonstrating that the land is suitable for the proposed use or can be made suitable, either by remediation or by the way the land is used”*. Furthermore, the requirement for Phase 1: Preliminary Site Investigation is only required for a proposed development only in the case that *“the new use may increase the risk from contamination”*. In our case, this is totally the opposite since if we do nothing with the land and there is existing contamination, any maintenance work is likely to have greater impact than our proposed use with capping the site where any potential contamination, if any, is capped with suitable materials to prevent exposure to human or the environment.

We have undertaken a comprehensive desktop and site assessment of the historic and current status of site and believe that no contamination is present on site.

In addition, Council recently (March 2016) approved a Development Application (No DA1035/2015) for the same site and no such requirement was considered necessary.

The matter was discussed at length with relevant staff from both Liverpool City Council and the Department by providing further information in relation to the site current status and the work undertaken so far by very experienced environmental consultants who have in total over 60 years of experience in such matters. Based on inspections by several EPA officers in recent times including inspections of the proposed site, no potential contamination issues were raised by the EPA in its submission or directly to Epic.

The cropping and grazing has ceased at least 13 years ago and the site has since undergone normal maintenance work by the landlord and the two (2) families (with children) who lived there for many years.

We believe that due to the fact that the whole active working area will be covered with a 300-700 mm layer made of sandstone, crushed concrete and clay to provide a very strong semi-impervious foundation for the stockpiling activities and that no excavation works will be undertaken, there is minimal potential for any contaminants, if any, to have the potential to cause any harm to human health or the environment. Furthermore, if the cropping and grazing activities have ceased for more than 13 years now any potential contaminants associated with these activities will have either migrated downstream, dissolved or broke down due to the short life span for these fertilisers that may have been used during cropping.

Since water runoff from the proposed site drains into Oaky Creek as it has been for thousands of years, any contamination from the previous use of the site would have had a negative impact on the water quality in Oaky Creek. Water testing in the last 6 years, downstream and upstream of the quarry site off which it covers the proposed site, have demonstrated that the water quality downstream is much better than the water quality upstream of the site. This is again a confirmation that the site is free from any contamination as a result of the previous cropping and grazing activities.

The Stage 1 – Preliminary Site Investigation’s requirements have mostly been covered in the EA, have been confirmed by the Office of Environment & Heritage, the Heritage Council, the searches of existing databases with Local and State Government Departments and the inspections undertaken by highly qualified and experienced environmental consultants.

Based on the EPA’s guidelines: “Guidelines for Consultants Reporting on Contaminated Sites – Office of Environment & Heritage – 2011”, the requirements for “**Stage 1 – Preliminary site investigation report**” should:

- *identify all past and present potentially contaminating activities,*
- *identify potential contamination types,*
- *discuss the site condition,*
- *provide a preliminary assessment of site contamination,*
- *assess the need for further investigations.*

An appraisal of the site history is fundamental to the preliminary assessment and may be used to assess potential site contamination. It is important to review and assess all relevant information about the site, including information obtained during a site inspection.

Where a complete site history clearly demonstrates that site activities have been non-contaminating, there may be no need for further investigation or site sampling.”

When reviewing the requirements of both EPA and the Department guidelines in combination, we believe that we have undertaken more assessments than what is required in both guidelines let alone the fact that the site is suitable for the proposed use and will be made even more suitable by capping the whole active working area with suitable materials to ensure that if for any reason any residual contaminants (fertilisers) were still present, these will not be

disturbed but rather stabilised by capping which is the best approach recommended by the EPA in most of its relevant guidelines.

2. Referral of the modification to the environment Protection Authority (EPA) and Office of Water

The NSW Environment Protection Authority is the appropriate regulatory authority for extractive activities including stockpiling and composting at the subject premises. Epic Mining Pty Limited is currently required to comply with conditions imposed by Environment Protection Licence (EPL) Licence Number 12863.

Council recommends that pursuant to Section 91A(2) of the Environmental Planning and Assessment Act 1979 and Regulations, that the proposed modification application be referred to the NSW Environment Protection Authority (EPA) for comment. It is requested that the NSW EPA reviews the proposed changes to determine that the operation will be undertaken in an environmentally satisfactory manner consistent with conditions imposed by EPL Licence Number 12863.

Council does not raise any objections to the proposed mitigation measures, environmental monitoring and community consultation requirements provided that the modifications are made to the satisfaction of the Department and NSW EPA. It is recommended, however, that in addition to PM₁₀, THE Department and NSW EPA should also consider air quality impacts associated with the emission of fine particulate matter from the site to determine whether PM_{2.5} monitoring is required.

Council also recommends that the Office of Water is consulted with regard to any potential impacts on the riparian corridor traversing the site, and that any recommendations it makes are adopted.

Response

The modification application and supporting documents were referred to several Government Departments and placed on exhibition between 15 September and 14 October 2016. As previously stated, in addition to the Department's submission, nine (9) submissions were received from Government departments and none from the public/community. These departments included both the EPA and DPI-Water (formally Office of Water).

The proposed modifications were previously discussed with the EPA on at least two (2) formal occasions. The EPA did not express any concerns about the modifications

The Consent specifies TSS and PM₁₀ as the two parameters of concern and that any dust monitoring undertaken should include these two (2) parameters. During the EIS process, these were the parameters recommended and approved by most Government departments for many reasons including the fact that clay and shale particles are not fine such as sand but rather are large and heavy particles which make monitoring for TSS and PM₁₀ more relevant. In any case, the EPA itself has ceased several years ago to monitor for TSS in its own air quality monitoring stations.

3. Onsite Sewage Management System

Council's records indicate that the landholder of 2470 Elizabeth Drive, Luddenham NSW has not been issued an approval to install or construct a waste treatment device

or operate a system of sewage management at the subject premises. Consequently, the applicant is required to legitimise the installation and operation of the existing onsite sewage management system in accordance with the Local Government Act 1993.

The applicant is encouraged to contact Council's Environmental Health Section to discuss the application process in further detail. Additionally, the location of the onsite sewage management system and any associated surface/sub-surface irrigation areas, if present, must be carefully considered to ensure that stockpiling and composting activities do not interfere unreasonably with the operation of these systems.

Response

This is incorrect. As part of the recent Development Application No DA1035/2015 (for the proposed site), which was determined favourably on 23 March 2016, specific requirements were requested by Council including comprehensive on-site water management system. Council requested that a hydraulic engineer be engaged to prepare the on-site water management system and required scaled drawings prior to approving the above DA. Epic engaged the services of a qualified hydraulic engineer and all required additional works were completed and submitted to Council. Council was satisfied with the additional information provided and approved the DA. In any case, the stockpiling activities do not require any additional on-site sewage management since there is an occupied dwelling within the site that has been used for residential purposes for more than 60 years without any concerns.

No further work is required.

4. Flood Risk

The proposed additional site is located adjacent to the Oaky Creek. The applicant has indicated that 4.5m high earth mounds will be constructed along the 40m wide riparian zone and the site will be protected from potential flooding from the creek. The applicant has also indicated that site has not flooded in the last 5-6 years and the site is unlikely to be affected by flooding due to its topographical position.

In view of the fact that no flood study has been undertaken for the creek to assess flooding affectation of the property, Council recommends that the applicant should undertake a detailed flood study of Oaky Creek for all design events including the 1 in 100 year ARI events and up to the probable maximum flood (PMF) in accordance with the guidelines of the NSW Floodplain Development Manual. It is further requested that a revised flood impact assessment based on the flood study report be provided for Council's review and approval.

Response

Oaky Creek was subjected to comprehensive water studies and assessments as part of the preparation of the EIS prior to approving the quarrying activities. We understand that many Government Departments were involved in the assessment process including Liverpool Council. At that time, it was determined that Oaky Creek and premises in its vicinity is unlikely to be flood affected even in 1 in 100 ARI event.

Furthermore, despite the fact that we have stated in several sections of EA that Oaky Creek is an ephemeral waterway that flows only after heavy rainfall events in its upper catchment and

that the site is not included in any of Council's potentially flood prone zones, we have managed to find the latest flood study that was undertaken to confirm our findings. The study is included in the most recent EIS for Western Sydney Airport as *Appendix L1 – "Surface water hydrology and geomorphology"* dated August 2016. Extracts of the study are included in **Attachment D** of this document to demonstrate that the site will not be affected by any flood including the 1 in 100 year ARI event.

As stated in the EA report, based on Liverpool City Council's own flood maps, this area is not included in these flood prone maps.

5. Water Quality

A. *Groundwater contamination:*

The applicant has proposed to implement an on-site groundwater management strategy adopted for the previously approved site at 275 Adams Road Luddenham. Council recommends that a site specific groundwater impact assessment should be undertaken for the proposed site and that appropriate mitigation measures are implemented to ensure groundwater is not adversely impacted by the proposed development activities.

B. Surface water contamination:

The applicant has proposed to implement a "Nil Water Discharge" Policy on site through several mitigation measures including the installation of diversion drains, de-silting of existing sediment ponds and the use of a void to capture most of the water as per existing practice. The applicant has demonstrated that no surface water will be discharged into the adjoining Oak Creek and will be used onsite.

Council considers that prolonged rainfall could potentially exceed the capacity of the sediment ponds and stormwater runoff may discharge in to the creek. Council recommends that the applicant should undertake appropriate water quality modelling and provide appropriate water quality treatment facilities in accordance with the guidelines of Water Sensitive Urban Design (WSUD) satisfying water quality control requirements of Liverpool Development Control Plan 2008.

Response

As stated in relevant sections of the EA report, the potential of groundwater impact is associated with quarrying activities only not stockpiling above ground. We re-iterate that no changes to any of the approved activities will eventuate as a result of re-locating the stockpiling and composting activities. The proposed stockpiling site will be covered with at least 300-700 mm of sandstone, crushed concrete and clay to provide very strong compacted and semi-impervious base for the stockpiling. This is extremely important to avoid contaminating the selectively extracted materials of shale and clay with normal soil as this will have detrimental impact on the quality of bricks during their manufacturing. Only Virgin Excavated Natural Materials (VENM) that are extracted from the quarry (or VENM materials to be used on site) will be stockpiled on that site. These materials are not contaminated and hence, it is not possible to cause any water contamination from clean virgin materials.

Furthermore, any water runoff that may have been in contact with the stockpiled materials will be diverted to the proposed sediment pond. Further details are provided in the Water Section of the EA.

6. Traffic and access

The proposed relocation includes construction of a new driveway off Adams Road to a new carpark. However, heavy vehicle access to and from Elizabeth Drive is proposed to be maintained along an existing right of way or lease through the Badgerys Creek Airport site.

It is also noted that the modification application does not include a traffic impact assessment report. Information regarding access arrangements and traffic impact outlined in the EA is limited and does not provide details of the potential traffic impact of the proposed driveway and additional traffic that will be using Adams Road.

Impact on Adams Road – Adams Road is a local road and arrangements should be made to minimise the traffic impact of the proposal. Maintaining heavy vehicle access to and from Elizabeth Drive along an existing right of way or lease through the Badgerys Creek Airport site is supported. However, Council recommends that the applicant be requested to confirm that a lease arrangement has been agreed to by the Commonwealth Government, to ensure that heavy vehicles do not use Adams Road.

Maintaining the existing heavy-vehicle access off Elizabeth Drive requires advisory comments from RMS. It is recommended that the Department seeks RMS advisory comments prior to determination of the application.

The proposed driveway off Adams Road, requires Council approval under Section 138 of the Roads Act 1993. Hence, a detailed design of the driveway is to be submitted to Council for approval prior to the issue of a construction certificate for the new driveway. The proposed driveway is to include appropriate kerb and guttering. Localised road widening will also be required to ensure that northbound through traffic can bypass a stationary vehicle waiting to turn right into the development site.

It is further requested that the impact of additional traffic through the Elizabeth Drive/Adams Road intersection is assessed. This is to be carried out by a road safety audit. It is recommended that the applicant should engage an independent road safety auditor to prepare and submit a Road Safety Audit, with information on how to implement identified corrective actions as part of the proposed modification.

The following conditions of consent are recommended, should the proposal receive consent:

- 1) A Construction Management Plan is to be submitted for Council's endorsement. During construction the endorsed plan is to be implemented.*
- 2) The proposed driveway off Adams Road is to be designed and constructed in accordance with Austroads Guidelines. The driveway is to include appropriate kerb and guttering and localised road widening to ensure that northbound through traffic can bypass a stationary vehicle waiting to turn right into the development site.*
- 3) Detailed design of the driveway is to be submitted to Council for approval prior to the issue of a construction certificate for the new driveway*

- 4) *Specified road works and access provisions are to be completed prior to occupation of the development.*
- 5) *The developer is to submit a Road Safety Audit, prepared by an independent road safety auditor, with information on how identified road treatments will be implemented as part of the proposed modification. Specified corrective actions are to be implemented prior to occupation of the development.*
- 6) *The proposed carpark is to be designed and constructed in accordance with AS2890. Prior to the issue of a construction certificate, a detailed design of the car park and the proposed driveway off Adams Road is to be submitted to Council for review and approval.*

Response

Following discussions with Liverpool Council, it was agreed that this is all misunderstanding of the proposed site since the proposed stockpiling site has an existing driveway that has been used by the previous landlord and families, who lived on site, for over 60 years. The car park was recently approved by Liverpool Council as part of the DA1035/2015 for the proposed stockpiling site. The car park will include six (6) car spaces whilst only four (4) employees are likely to use it. No access to the general public and all visitors will continue to use the main access road and the existing site office car park.

These 4 vehicles travelling from and to the site daily will have near 0 additional impact on Adams Road.

All heavy vehicles will continue to use the existing road network as they have been for six (6) years now. Simply, a small extension of the haul road will be constructed between the approved existing land and the proposed land.

2.8 NSW OFFICE OF ENVIRONMENT AND HERITAGE

Submission

Thank you for forwarding the above proposal to the Office of Environment and Heritage (OEH) for consideration.

After reviewing the relevant documents, OEH's Greater Sydney Planning Team has concluded that the matter does not contain biodiversity, natural hazards or Aboriginal cultural heritage issues that require a formal OEH response. We have no further need to be involved in the assessment of this project.

Response

Based on OEH's submission, it appears that OEH is satisfied with the assessments of biodiversity, natural hazards and Aboriginal cultural heritage aspects. No further response is required.

2.9 NSW TRANSPORT – ROADS & MARITIME SERVICES

Submission

Reference is made to Council's correspondence dated 14 September 2016, regarding the abovementioned Development Application which was referred to Roads and Maritime Services (Roads and Maritime) for comments.

Roads and Maritime has reviewed the development application and provides the following comments to Department for its consideration in the determination of the development:

- 1. Roads and Maritime has previously acquired land for road along Elizabeth Drive frontage of the subject property, as shown by blue colour on the attached Aerial – "X". All buildings and structures, together with any improvements integral to the future use of the site are to be wholly within the freehold property (unlimited in height or depth), along the Elizabeth Drive boundary.*

The subject property is also within an area in which Roads and Maritime is currently investigating the proposed Western Sydney Infrastructure Plan. The investigations have not yet advanced to the stage where options have been defined and accordingly it is not possible at this date to identify if any part of the subject property would be required to accommodate this proposal. The applicant should be advised of the above and to contact (Ph 1800 703 457 toll free or Email: wsp@rms.nsw.gov.au) if further information required.

Response

Based on the Roads & Maritime Services submission, a response is not required since there were no specific requirements associated with the proposed modifications.

In relation to Western Sydney Infrastructure Plan, the applicant will monitor the progress of this plan and will make the necessary inquiries in due course.

2.10 WATER NSW

Submission

WaterNSW has reviewed the information provided and notes that the development site is located outside of Sydney's declared catchment and not in close proximity to any WaterNSW infrastructure. As such, WaterNSW has no specific comments to make on this modification.

Response

Based on WaterNSW's submission, a response is not required since no additional specific requirements are required under their jurisdiction.

3 STATEMENT OF COMMITMENTS

Epic has always had open and frank communication and consultation approaches with all stakeholders at all levels. These stakeholders included the Commonwealth, State and Local Government and non-Government Agencies, and the community at large.

Epic has been operating the Luddenham quarry for 6 years now and have had one (1) single unsubstantiated/unfounded complaint in 2011. This demonstrates Epic's management and staff commitments to the protection of the environment and human health.

Epic will continue to excel in all aspects of quarrying activities and the supply of top quality products to the construction industry including the brick manufacturing industry.

As a result of the proposed modifications Epic is committed to the following:

- 1 Continue to comply with all Development Consent conditions,
- 2 Continue to comply with the Environment Protection Licence,
- 3 Continue to comply with the provisions of the Environmental Planning & Assessment Act and its subordinate Regulations,
- 4 Continue to comply with the provisions of the Protection of the Environment Operations Act and its subordinate regulations,
- 5 Continue to comply with the requirements of Work Health & Safety Act and its subordinate Regulations,
- 6 Continue to comply with all other statutory requirements, where relevant,
- 7 Construct a 2 m wide landscaping strip along the northern and western sides of the proposed stockpiling site,
- 8 Construct a 5-5.5 m high with 13-14 m wide base and 3 m wide top ridge landscaped earth mound at the western, northern and eastern side of the proposed stockpiling site,
- 9 Construct a 4-4.5 m high with 11-12 m wide base and 3 m wide top ridge landscaped earth mound at most of the southern side of the proposed stockpiling site (it is also the northern side of the proposed composting site),
- 10 Construct a 4 m high with 11 wide base and 3 m wide top ridge landscaped earth mound at the most western side of the proposed composting site,
- 11 Construct a sediment pond at the most south eastern corner of the proposed stockpiling activities to capture all excess water runoff from the stockpiling active working area. Refer to the proposed site layout for accurate location of the pond,
- 12 Construct a sediment pond/leachate collection pond at the most eastern side of the proposed composting site. Refer to the proposed site layout for accurate location of the pond,
- 13 Undertake servicing of the haul roads network within the approved site and between the approved and proposed sites to ensure that they are suitable for the heavy vehicles travelling between the sites,
- 14 Provide training sessions to all its employees and contractors on all obligations associated with the proposed sites including speed limits, water pollution & usage, vegetated riparian zones, landscaping and vegetation activities, minimisation of noise & dust generation, driving behaviours within and outside the boundaries of the site and obeying to all work health & safety requirements at all times,
- 15 Update any relevant plans and programs as may be considered necessary to ensure that they reflect the proposed modifications.

4 CONCLUSIONS

Based on the meetings held and discussions undertaken between the applicant and relevant Government Departments as instructed by the Department, we believe that all matters raised have been addressed in this report as far as it is feasible and reasonable without compromising the safety of employees and financial viability of the facility.

It was also evident that information in some of the submissions was based on misinterpretation and misunderstanding of certain aspects due to the focus of each Government Department on its main role and responsibility without reviewing all other aspects/sections of the EA. These matters have also been clarified as far as it is possible.

In our response, we have attempted to explain the intention of some unclear statements, maps, drawings and assessments in accordance with the agreed positions despite the fact that we may disagree with some of the technical and scientific aspects since we have provided evidence to support our previously submitted assessments.

Notwithstanding the above, the proposed modifications do not bring in any additional activities or non-approved activities but rather reduce some of the activities to below those previously approved.

It is of utmost importance to note that during the last six (6) years of operations, there was only one (1) unsubstantiated complaint from the community. This complaint was investigated by both the EPA and the applicant, and rejected as being associated with the applicant's activities. Furthermore, all water testing conducted in the last six (6) years upstream and downstream of the applicant's site has demonstrated that the water is much cleaner downstream than upstream of the site. All air and noise testing results have always been in compliance with the criteria specified in the Consent and EPL unless there was a contribution from an external factor that was beyond the control of the applicant.

We believe that during the normal operations of the activities and as a result of the regular compliance monitoring of noise, air and water aspects, the applicant will easily comply with the specified criteria with a greater margin than it is predicted and surely with a greater margin than before the modifications due to the additional proposed environmental mitigation measures.

We believe that rather than delaying the modification approval, the Department may consider varying some existing conditions to ensure that any unresolved matters, if any, can be resolved within a certain timeframe. Such requirements could include verification assessment reports to verify compliance with the specified criteria during normal operations. Alternatively, the conditions may require resolving these matters directly with relevant Government Departments within specified timeframes outside this modification process.

5 LIMITATIONS

Our services for this project are carried out in accordance with our current professional standards for undertaken environmental assessments, and the preparation of Environmental Assessment (EA) and Response to Submission (RTS) Reports. No guarantees are either expressed or implied.

This RTS has been prepared solely for the use of Epic Mining Pty Limited (Epic), as per our agreement for providing environmental services. Only Epic is entitled to rely upon the information provided in this RTS within the scope of work described in this RTS. Otherwise, no responsibility is accepted for the use of any part of the RTS by another in any other context or for any other purpose.

Although all due care has been taken in the preparation of this RTS, no warranty is given, nor liability accepted (except what is otherwise required by law) in relation to any of the information contained within this document. We accept no responsibility for the accuracy of any data or information provided to us by Epic for the purposes of preparing this RTS.

Any opinions and judgements expressed herein, which are based on our understanding and interpretation of current regulatory standards, should not be construed as legal advice.

ATTACHMENTS

Attachment A - Submissions

A1 Department of Infrastructure and Regional Development



Australian Government

Department of Infrastructure and Regional Development

File Reference: F16390-07

Planning Services
Resource Assessment and Compliance
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

COMMENTS TO DA 315-7-2003 MOD 4 RELOCATE STOCKPILING AND COMPOSTING ACTIVITIES SUBMISSION

The Department of Infrastructure and Regional Development (the Department) provides the following comments in relation to DA 315-7-2003 Mod 4 by Epic Mining Pty Limited.

The Western Sydney Airport development is an important one for the Western Sydney region both in terms of economic benefits in investment through business growth and the creation of jobs for the people of Western Sydney.

The Western Sydney Airport Environmental Impact Statement (EIS) has now been finalised. The assessment outlines a number of mitigation and management measures to protect the environmental value of the airport site and surrounding Western Sydney region. There is, however, no specific reference to quarry mine activity or stockpiling of shale.

Epic Mining is a former tenant on the Western Sydney Airport site. As the shale quarry is located on the boundary of the airport site and access to the quarry is required from the airport site, the Department has provided Epic Mining with a short term access licence arrangement until such time as other suitable access arrangements can be made by Epic Mining.

The Department supports this modified development application and accompanying Environmental Assessment as it will assist Epic Mining in putting in place access arrangements to the quarry from quarry-owned land and the removal of existing clay and shale stockpiles from the airport site.

The request for consideration of an appropriate transitional period for movement of the shale in the submission is noted. The Australian Government is committed to providing a tenant-free site and, where feasible, obstacle-free for the proposed Western Sydney Airport site. Therefore, removal of the shale from airport land in a timely manner is important in relation to moving forward with the airport development.

A blue ink signature, appearing to read 'Garth Taylor', written over a horizontal line.

Garth Taylor
General Manager, Communications, Environment and Legal Branch
Western Sydney Unit

14 October 2016

GPO Box 394 Canberra ACT 2601 Australia • Telephone: 02 6274 7111 • Facsimile: 02 6257 2505
Website: www.infrastructure.gov.au • ABN 86 267 354 017

A2 NSW Department of Planning and Environment



Planning & Environment

Planning Services
Resource Assessments & Compliance
Contact: Megan Dawson
Phone: 9274 6391
Email: megan.dawson@planning.nsw.gov.au

Mr Samuel Tarabori
Operations Manager
Epic Mining Pty Ltd
PO Box 177
KEMPS CREEK NSW 2178

Dear Mr Tarabori

Luddenham Clay/Shale Quarry – Modification 4 (DA 315-7-2003 MOD 4) Request for Response to Submissions

The public exhibition of the Environmental Assessment (EA) for Modification 4 concluded on Friday 14 October 2016. The Department received nine submissions from government agencies. No public submissions were received.

The Department has also identified several areas where further assessment or additional information is required (see **Attachment A**).

The Secretary requests that you prepare and submit a report detailing your responses to the issues raised in submissions, at your earliest convenience. The submissions can be viewed on the Department's website www.majorprojects.planning.nsw.gov.au.

If you wish to discuss this matter, please contact Megan Dawson on 9274 6391.

Yours sincerely,

Howard Reed
Director
Resource Assessments

19.10.16

Attachment A

1. Water

In addition to the Department of Primary Industries and Liverpool City Council's comments on water, the Department requests further information or clarification with respect to the following water-related matters:

- a. Section 6.2 of the EA describes Epic Mining's 'Nil Water Discharge Policy'. The Department understands that this internal policy should be considered as a target or initiative as water discharges may be required during adverse weather conditions. Appendix H of the EA further states that excess water would be treated and released into the existing watercourse if the storage ponds reach full capacity. Considering that water discharges may be required, please provide additional information on the licensed water discharge point.
- b. With regards to the proposed surface water management system, please provide:
 - a revised schematic flowchart (Figure 6-4) to reflect the potential water discharges into Oak Creek and provide a revised map (Figure 6-6) showing the licensed discharge point;
 - additional information regarding the "pump out" of surface water from the composting area (as shown in Figure 6-4); and
 - additional information on the proposed management of clean vs non-clean surface water on site.

2. Biodiversity

The Department requests additional information or clarification with respect to the following biodiversity-related matters:

- a. With reference to the proposed mitigation and management measures in Section 7.3.3 of the EA, please provide additional information on how the vegetated riparian zone would not be adversely impacted.
- b. The Lesryk Flora & Fauna Report in Appendix I mentions that there will be a buffer of tree plantings along the northern and western boundaries of the site to minimise visual and noise impacts. This statement conflicts with the recommendations in Section 7.2.4 of the EA. Please clarify whether this tree planting is or is not proposed.

3. Aboriginal Cultural Heritage

Section 8 of the EA notes that there is an identified area of Aboriginal cultural significance within the riparian zone of the existing approved site. This site is fenced and protected as part of an Aboriginal cultural heritage exclusion area. As the riparian zone continues north, along Oak Creek, into Lot 281 DP 571171, the Department considers that, in absence of a due diligence archaeological assessment, there is potential for unidentified artefacts to occur within this zone. Whilst the proposed stockpile area has been positioned on cleared land >20 metres away from the vegetated riparian zone, the Department requests that additional avoidance measures be considered.

4. Noise

The Department shares a number of concerns raised by the Environment Protection Authority (EPA) regarding the noise impact assessment in Section 9 of the EA. The Department requests further information or clarification with respect to the following noise-related matters:

- a. The EPA's submission notes that the noise impact assessment did not meet appropriate guidelines and standards and insufficiently assessed potential noise impacts. The Department agrees with the EPA's comments and considers that the methodology used and the assumptions made are unclear and insufficient.

The Department notes that it previously advised Epic Mining that a simplified noise assessment would be appropriate considering the minimal impacts and associated risk. This advice remains; however the Department wishes to clarify that any noise modelling, if undertaken, must generally follow industry guidelines and standards, such as the NSW *Industrial Noise Policy* (INP). Any alternate methodologies used must be thoroughly justified.

- b. Epic Mining has requested that the noise criteria in the consent be reviewed to reflect the likely increased background noise limits from changes to surrounding land uses and the proposed construction and operation of the adjacent Western Sydney Airport.

The Department appreciates that background noise levels may have increased, however it is not in a position to consider the proposed project specific noise levels (PSNLs) in Table H2 of Appendix H of the EA unless the levels are supported by adequate noise modelling. Please provide additional information to support the proposed noise criteria.

- c. Please provide further justification for not considering Hubertus Country Club as a sensitive receiver in the noise impact assessment.

5. Visual Amenity

The EA includes a visual impact assessment in Section 15 and a Visual Analysis in Appendix J. The photo montages show the current landscape; however they do not show the predicted visual impacts of proposed activities. Please provide additional photo montages that demonstrate how the proposed landscape earth berms would reduce the visual impacts of the stockpile and composting areas.

6. Agency submissions

The Department requests the RTS consider and respond to all agency submissions received, including advice presented and recommendations made therein.

A3 NSW Department of Industry



Ms Megan Dawson
Planning Officer
Resource Assessments
NSW Department of Planning & Environment
GPO BOX 39 SYDNEY NSW 2001

Megan.dawson@planning.nsw.gov.au

Dear Ms Dawson

Luddenham Clay/shale Quarry Modification 4 (DA 315-7-2002) Environmental Assessment Exhibition

I refer to your email of 14 September 2016 requesting comments from the Division of Resources & Energy (the Division) relating to an application for modification to the Luddenham Clay/shale Quarry (the Project) from Epic Mining Pty Limited (the Proponent).

As clay/shale is a prescribed mineral under the Mining Act 1992, the proponent is required to hold appropriate mining titles from the Division in order to mine this mineral. The Proponent has lodged Mining Lease (Mineral Owner) Application No.3 (pending approval) with the Division for the proposed mining activities.

The Division has reviewed the document Environmental Assessment Report Luddenham Clay & Shale Quarry Epic Mining Pty Limited 275 Adams Road Luddenham NSW dated August 2016 and understands the proponent proposes to modify its existing consent DA No 315-7-2003 to relocate a clay and shale stockpile to an adjacent site.

As the proposed stockpiling area is not within the boundaries of the Proponent's proposed mining lease and is outside the area of the original resource and given the temporary nature of both the proposed stockpiling and composting activities, the Division has assessed minimal of potential resource sterilisation.

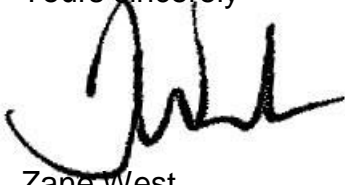
It is recommended that a final land use plan be provided to the Division prior to this Modification being determined or, alternatively that a condition of approval be "that a final land use plan that addresses the site (Lot 281 DP 571171 - Northern Stockpile Area) be submitted and approved to the satisfaction of the Division".

The Division does not object to the approval of the Project provided the above recommendations are taken into account and implemented.

Should you have any enquires regarding this matter please contact Steve Cozens, Senior Project Officer, Royalty & Advisory Services on 9842 8573.

Division of Resources and Energy
PO Box 344 Hunter Region Mail Centre NSW 2310
516 High St Maitland NSW 2323
Tel: 02 4931 6666 Fax: 02 4931 6776 www.industry.nsw.gov.au
ABN 72 189 919 072

Yours sincerely

A handwritten signature in black ink, appearing to read 'Zane West', with a stylized, cursive script.

Zane West
Manager Royalties & Advisory Services

A4 NSW Environment Protection Authority



Our Ref: DOC16/462924

Department of Planning and the Environment
Resource Assessments
GPO Box 39
SYDNEY NSW 2001

Dear Ms Dawson

**Luddenham Clay/Shale Quarry
Epic Mining Pty Ltd 275 Adams Road, Luddenham
DA 315-7-2003 MOD 4**

I refer to your email received by the NSW Environment Protection Authority (EPA) on 14 September 2016 in regards to the abovementioned modification application.

The EPA has reviewed the documentation entitled “Environment Assessment Report – Luddenham Clay and Shale Quarry” prepared by National Integrated Creative Solutions dated 25 August 2016.

The comments provided detail where analysis is limited and where additional information is requested.

Water Quality

It is suggested that NSW Department of Planning and Environment (DPE) update condition 24 to include an additional section “Leachate Storage System Management” within the *Site Water Management Plan*.

Noise Impact

Although noise sources within the boundary are expected to be similar to previous acoustic studies, the impact assessment did not meet appropriate standards. The proponent must ensure that all noise monitoring is undertaken in accordance with Australian Standard AS 2659.1-1998: *Guide to the use of sound-measuring equipment – Portable sound level metres*, or any revision of that standard which may be made by Standards Australia, and the compliance monitoring guidance provided within the NSW Industrial Noise Policy.

It is suggested that any potential noise impacts are predicted through the use of computer noise modelling. Noise models take into account noise attenuation due to distance, atmospheric absorption, barriers, effects of intervening ground types and weather conditions.

Composting

It is suggested that DPE include the following condition:

the applicant shall prepare and implement a Composting Risk Management Protocol in consultation with the NSW EPA that meets the requirements outlined within *Guidance on the Resource Recovery Order and Exemption for Mulch* (NSW EPA, 2016); *Environmental Guidelines: Composting and Related Organics Processing Facilities* (DEC, 2003) AS 4454- 2003 *Composts, soil conditioners and mulches* alongside relevant legislation and guidelines.

To assist in the assessment of this application, the proponent must provide further detail on the composition of the compost in order for the EPA to adequately assess and characterise any potential odour. The proponent must nominate which of the current *Resource Recovery Orders and Exemptions* are applicable under clauses 91 and 92 of the *Protection of the Environment Operations (Waste) Regulation 2014*.

The proponent must conduct a screening level odour assessment which identifies all potentially affected zones and details:

all phases of processing (i.e: pre-treatment, decomposition, aeration and maturation), all associated impacts during receipt, stockpiling and storage.

The proponent must ensure that the receipt and movement of raw organics and organic products is documented. At a minimum, the quantity of each category of organics received at the premises must be recorded together with its source.

Environment Protection Licence and Appropriate Regulatory Authority role

On review of the activities outlined within the assessment, the premises will require a variation to the existing Environmental Protection Licence issued under s48 *Protection of the Environment Operations Act* ("POEO Act").

Should you have any further questions please contact Tenille Lawrence 9995 6107 for assistance.

Yours sincerely



STUART CLARK
Acting Unit Head - Sydney Industry
Environment Protection Authority

Enclosure

A5 NSW Department of Primary Industries

OUT16/38257

Ms Megan Dawson
Resource Assessments
NSW Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Megan.dawson@planning.nsw.gov.au

Dear Ms Dawson

**DPI response to request for comment on proposed Modification to
Luddenham Quarry (DA 315-7-2003 MOD 4)**

I refer to your email of 14 September 2016 to the Department of Primary Industries (DPI) in respect to the above matter. Comment has been sought from relevant divisions of DPI. Views were also sought from NSW Department of Industry - Lands that are now a division of the broader Department and no longer within NSW DPI. Any further referrals to DPI can be sent by email to landuse.enquiries@dpi.nsw.gov.au.

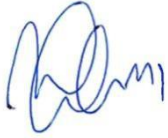
DPI has reviewed the application and accompanying environmental assessment and provides the following recommendations:

- The proponent should distinguish between any earth dams and sediment ponds that are collecting surface water runoff from the disturbed areas within the site and any sediment ponds or dams that are collecting clean water runoff from undisturbed areas.
- The proponent should clarify if any clean water is being collected in dams or sediment ponds for use as a water supply. If clean water is being collected, the proponent should consult with DPI Water to ensure appropriate licences are held.
- Clean water runoff from undisturbed areas should be permitted under the site's 'nil water discharge policy'. Clean water runoff should be diverted away from the development to the downstream catchments unless it is in accordance with an appropriate water access licence.
- The proponent should clarify whether the term "existing earth dams" refers only to sediment ponds or also to dams. The proponent should provide further details to clarify if the clean water dams include the existing dams in the north-west corner of Lot 1 DP838361 and east of Sediment Pond 2 on Lot 1 DP838361.
- The proponent should clarify if a water supply is proposed to be sourced from the three existing small dams which are located on the stockpile site.
- The proponent should provide further detail on the proposed location of the 4.5 m high earth mounds along Oaky Creek riparian corridor and whether the mounds will disturb or impact any part of the vegetated riparian corridor.

NSW Department of Primary Industries
Level 11, 323 Castlereagh Street Sydney NSW 2000
Tel: 02 9934 0805 landuse.enquiries@dpi.nsw.gov.au ABN: 72 189 919 072

- Any approval for the project should consider a condition of consent requiring that at the close of operations land is rehabilitated to a level that provides future agricultural investment opportunities.

Yours sincerely



Mitchell Isaacs
Director, Planning Policy & Assessment Advice
14 October 2016



Ref No: DOC16/462232

Megan Dawson
Planning Officer – Resource Assessments/Planning Services
Department of Planning & Environment
GPO Box 39
Sydney NSW 2001

Sent via email to: megan.dawson@planning.nsw.gov.au

Dear Ms Dawson

RE: Luddenham Clay/Shale Quarry - Modification 4 (DA 315-7-2003 MOD 4)

I refer to your email dated 14 September, 2016 seeking the Heritage Council of NSW input into the abovementioned modification application.

The development is located in the Liverpool local government area. The proposal includes:

- Relocation of stockpiling and composting activities from leased land to quarry-owned land;
- Review of environmental monitoring requirements in light of the revised development layout and the proposed construction of the Western Sydney Airport; and
- Minor revisions to the community consultation requirements.

It is noted that the Heritage Division did not previously comment on the original Concept Plan (DA 315-7-2003) for the Luddenham Clay/Shale Quarry. The subject site is not listed on the State Heritage Register, is not a potential State Heritage Item and is not in the vicinity of any State Heritage Listed sites. Therefore, consultation with the Heritage Council is not required.

If you have any questions regarding the above matter please contact Anna London Heritage Assets Officer, at the Heritage Division, Office of Environment and Heritage on 9873 8608 or at anna.london@environment.nsw.gov.au

Yours sincerely

Rajeev Maini
Acting Manager, Conservation
Heritage Division
Office of Environment & Heritage
As Delegate of the NSW Heritage Council
14 October 2016

A7 Liverpool City Council

14 October 2016

Megan Dawson
Resource Assessments/Planning Services
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Dear Ms Dawson

Re: Luddenham Clay/Shale Quarry – Modification 4 (DA 315-7-2003 MOD4)

I write in response to your email dated 12 September 2016 in relation to the exhibition of the proposed modification to the consent for the Luddenham Clay/Shale Quarry described above. Council has considered the application and accompanying Environmental Assessment (EA) and supporting documentation and makes comments as follows in relation to the proposed development:

1. Potential site contamination

Clause 7 of State Environmental Planning Policy (SEPP) 55 – Remediation of Land stipulates that a consent authority must not consent to the carrying out of any development on land unless it has considered whether the land is contaminated. Furthermore, Clause 7(2) of SEPP 55 requires the consent authority to consider a report specifying the findings of a preliminary investigation of land if the proposed development involves a change of use on any land specified in subclause 4. This includes land on which a development for a purpose referred to in Table 1 of the contaminated land planning guidelines is being, or is known to have been carried out.

The Environmental Assessment Report prepared by National Integrated Creative Solutions dated 25 August 2016 indicated that the land was previously used for agricultural purposes including cropping and grazing. Table 1 of the contaminated land planning guidelines specifies that agricultural/horticultural activities are potentially contaminating activities. Therefore, the Council recommends that the applicant be required to engage the services of a suitably qualified and experienced contaminated land consultant to prepare a Stage 1- Preliminary Site Investigation of the land.

The Preliminary Site Investigation should comply with applicable guidelines made or approved by the NSW EPA under the Contaminated Land Management Act 1997 and identify all past and present potentially contaminating activities; identify potential contamination types; discuss the site condition; provide a preliminary assessment of site contamination; and assess the need for further investigations.

If contaminating activities are suspected or known to have occurred, or if site history is incomplete, it may be necessary to prepare a Stage 2 – Detailed Site Investigation. This investigation would give regard to the potential effects of any contaminants on public health, the environment and building structures and shall meet the sampling density outlined in the NSW EPA Contaminated Sites Sampling Design Guidelines (1995).



Customer Service Centre Ground floor, 33 Moore Street, Liverpool NSW 2170 DX 5030 Liverpool

All correspondence to Locked Bag 7064 Liverpool BC NSW 1871 Call Centre 1300 36 2170

Fax 9621 9333 Email icc@liverpool.nsw.gov.au

Web www.liverpool.nsw.gov.au NRS 13 36 77 ABN 84 161 162 471

Should a Stage 2 – Detailed Site Investigation indicate that the site poses unacceptable risks to human health or the environment, a Remedial Action Plan (RAP) should be prepared by a suitably qualified and experienced Contaminated Land Consultant in accordance with applicable guidelines made or approved by the NSW EPA under the Contaminated Land Management Act 1997. In these circumstances, it is recommended that the RAP would be referred to Liverpool City Council for review.

2. Referral of the modification to the Environment Protection Authority (EPA) and Office of Water

The NSW Environment Protection Authority is the appropriate regulatory authority for extractive activities including stockpiling and composting at the subject premises. Epic Mining Pty Limited is currently required to comply with conditions imposed by Environment Protection Licence (EPL) Licence Number 12863.

Council recommends that, pursuant to Section 91A(2) of the Environmental Planning and Assessment Act 1979 and Regulations, that the proposed modification application be referred to the NSW Environment Protection Authority (EPA) for comment. It is requested that the NSW EPA reviews the proposed changes to determine that the operation will be undertaken in an environmentally satisfactory manner consistent with conditions imposed by EPL Licence Number 12863.

Council does not raise any objections to the proposed mitigation measures, environmental monitoring and community consultation requirements provided that the modifications are made to the satisfaction of the Department and NSW EPA. It is recommended, however, that in addition to PM₁₀, the Department and NSW EPA should also consider air quality impacts associated with the emission of fine particulate matter from the site to determine whether PM_{2.5} monitoring is required.

Council also recommends that the Office of Water is consulted with regard to any potential impacts on the riparian corridor traversing the site, and that any recommendations it makes are adopted.

3. Onsite Sewage Management System

Council's records indicate that the landholder of 2470 Elizabeth Drive, Luddenham NSW has not been issued an approval to install or construct a waste treatment device or operate a system of sewage management at the subject premises. Consequently, the applicant is required to legitimise the installation and operation of the existing onsite sewage management system in accordance with the Local Government Act 1993.

The applicant is encouraged to contact Council's Environmental Health Section to discuss the application process in further detail. Additionally, the location of the onsite sewage management system and any associated surface/sub-surface irrigation areas, if present, must be carefully considered to ensure that stockpiling and composting activities do not interfere unreasonably with the operation of these systems.

4. Flood Risk

The proposed additional site is located adjacent to the Oaky Creek. The applicant has indicated that 4.5m high earth mounds will be constructed along the 40m wide riparian zone and the site will be protected from potential flooding from the creek. The applicant has also indicated that site has not flooded in the last 5-6 years and the site is unlikely to be affected by flooding due to its topographical position.

In view of the fact that no flood study has been undertaken for the creek to assess flooding affectation of the property, Council recommends that the applicant should undertake a detailed flood study of Oaky Creek for all design events including the 1 in 100 year ARI events and up to the probable maximum flood (PMF) in accordance with

the guidelines of the NSW Floodplain Development Manual. It is further requested that a revised flood impact assessment based on the flood study report be provided for Council's review and approval.

5. Water Quality

A. Groundwater contamination:

The applicant has proposed to implement an on-site groundwater management strategy adopted for the previously approved site at 275 Adams Road Luddenham. Council recommends that a site specific groundwater impact assessment should be undertaken for the proposed site and that appropriate mitigation measures are implemented to ensure groundwater is not adversely impacted by the proposed development activities.

B. Surface water contamination:

The applicant has proposed to implement a "Nil Water Discharge" Policy on site through several mitigation measures including the installation of diversion drains, de-silting of existing sediment ponds and the use of a void to capture most of the water as per existing practice. The applicant has demonstrated that no surface water will be discharged into the adjoining Oaky Creek and will be used onsite.

Council considers that prolonged rainfall could potentially exceed the capacity of the sediment ponds and stormwater runoff may discharge in to the creek. Council recommends that the applicant should undertake appropriate water quality modeling and provide appropriate water quality treatment facilities in accordance with the guidelines of Water Sensitive Urban Design (WSUD) satisfying water quality control requirements of Liverpool Development Control Plan 2008.

6. Traffic and access

The proposed relocation includes construction of a new driveway off Adams Road to a new carpark. However, heavy vehicle access to and from Elizabeth Drive is proposed to be maintained along an existing right of way or lease through the Badgerys Creek Airport site.

It is also noted that the modification application does not include a traffic impact assessment report. Information regarding access arrangements and traffic impact outlined in the EA is limited and does not provide details of the potential traffic impact of the proposed driveway and additional traffic that will be using Adams Road.

Impact on Adams Road - Adams Road is a local road and arrangements should be made to minimise the traffic impact of the proposal. Maintaining heavy vehicle access to and from Elizabeth Drive along an existing right of way or lease through the Badgerys Creek Airport site is supported. However, Council recommends that the applicant be requested to confirm that a lease arrangement has been agreed to by the Commonwealth Government, to ensure that heavy vehicles do not use Adams Road.

Maintaining the existing heavy-vehicle access off Elizabeth Drive requires advisory comments from RMS. It is recommended that the Department seeks RMS advisory comments prior to determination of the application.

The proposed driveway off Adams Road, requires Council approval under Section 138 of the Roads Act 1993. Hence, a detailed design of the driveway is to be submitted to Council for approval prior to the issue of a construction certificate for the new driveway. The proposed driveway is to include appropriate kerb and guttering. Localised road

widening will also be required to ensure that northbound through traffic can bypass a stationary vehicle waiting to turn right into the development site.

It is further requested that the impact of additional traffic through the Elizabeth Drive/Adams Road intersection is assessed. This is to be carried out by a road safety audit. It is recommended that the applicant should engage an independent road safety auditor to prepare and submit a Road Safety Audit, with information on how to implement identified corrective actions as part of the proposed modification.

The following conditions of consent are recommended, should the proposal receive consent:

- 1) A Construction Management Plan is to be submitted for Council's endorsement. During construction the endorsed plan is to be implemented.
- 2) The proposed driveway off Adams Road is to be designed and constructed in accordance with Austroads Guidelines. The driveway is to include appropriate kerb and guttering and localised road widening to ensure that northbound through traffic can bypass a stationary vehicle waiting to turn right into the development site.
- 3) Detailed design of the driveway is to be submitted to Council for approval prior to the issue of a construction certificate for the new driveway
- 4) Specified road works and access provisions are to be completed prior to occupation of the development.
- 5) The developer is to submit a Road Safety Audit, prepared by an independent road safety auditor, with information on how identified road treatments will be implemented as part of the proposed modification. Specified corrective actions are to be implemented prior to occupation of the development.
- 6) The proposed carpark is to be designed and constructed in accordance with AS2890. Prior to the issue of a construction certificate, a detailed design of the car park and the proposed driveway off Adams Road is to be submitted to Council for review and approval.

Conclusion

Thank you for your consideration of these issues. Council would be pleased to discuss these matters further if required. Should you require any further information on this matter, please contact Graham Matthews, Senior Strategic Planner, on 9821 9156.

Yours sincerely



Toni Averay
Director-Planning and Growth

A8 NSW Office of Environment and Heritage

From: Dana Alderson
Sent: Wednesday, 21 September 2016 11:05 AM
To: Megan Dawson <Megan.Dawson@planning.nsw.gov.au>
Subject: RE: Exhibition Notice - Luddenham Quarry Modification 4 (DA 315-7-2003 MOD 4)

Hi Megan,

Thank you for forwarding the above proposal to the Office of Environment and Heritage (OEH) for consideration.

After reviewing the relevant documents, OEH's Greater Sydney Planning Team has concluded that the matter does not contain biodiversity, natural hazards or Aboriginal cultural heritage issues that require a formal OEH response. We have no further need to be involved in the assessment of this project.

Kind regards,
Dana

Dana Alderson
Planning Team
Regional Operations Group
Office of Environment and Heritage
T: 02 8837 6304
F: 02 9995 6900
W: www.environment.nsw.gov.au

Please note my work days are Mon-Thurs



Please consider the environment before printing this e-mail

A9 NSW Transport – Roads & Maritime Services



14 October 2016

Our Ref: SYD09/00807/03
Department Ref: DA 315-7-2003 MOD 4

Planning Officer
Resource Assessments
Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

Attention: Megan Dawson

**LUDDENHAM CLAY/SHALE QUARRY - MODIFICATION
275 ADAMS ROAD, LUDDENHAM**

Dear Sir/Madam,

Reference is made to Council's correspondence dated 14 September 2016, regarding the abovementioned Development Application which was referred to Roads and Maritime Services (Roads and Maritime) for comments.

Roads and Maritime has reviewed the development application and provides the following comments to Department for its consideration in the determination of the development application:

1. Roads and Maritime has previously acquired land for road along the Elizabeth Drive frontage of the subject property, as shown by blue colour on the attached Aerial – "X". All buildings and structures, together with any improvements integral to the future use of the site are to be wholly within the freehold property (unlimited in height or depth), along the Elizabeth Drive boundary.

The subject property is also within an area in which Roads and Maritime is currently investigating the proposed Western Sydney Infrastructure Plan. The investigations have not yet advanced to the stage where options have been defined and accordingly it is not possible at this date to identify if any part of the subject property would be required to accommodate this proposal. The applicant should be advised of the above and to contact (Ph 1800 703 457 toll free or Email: wsip@rms.nsw.gov.au) if further information required.

Further enquiries on this matter can be directed to the nominated Land Use Planner Ravi Ravendra on phone 8849 2540 or by email at Development.Sydney@rms.nsw.gov.au.

Yours sincerely,

Pahee Rathan
**Senior Land Use Planner
Network and Safety**

Roads and Maritime Services

Development Application 03-0315 DOP

SYD09-00807-3

Subject : Proposed development at 275 Adams Road Luddenham

Obj. Ref.: A14595362

DATE FORWARDED TO RMS
DATE RECEIVED IN L&DU
DATE COMPLETED BY L&DU

14th September, 2016
19th September, 2016
26th September, 2016

See previous Property Memo (copy herewith) in regard to Lot 1 DP 838361.

The subject property for this modification comprises Lot 281 DP 571171, Lot 3 DP 623799 and part of Lot 1 DP 838361.

RMS has previously acquired land for road along the Elizabeth Drive frontage of the subject property, as shown by blue colour on the attached Aerial – "X".

The Roads & Maritime Services has no other approved proposal that requires any part of the subject property for road purposes.

Therefore there are no objections to the development proposal on property grounds provided all buildings and structures, together with any improvements integral to the future use of the site are wholly within the freehold property (unlimited in height or depth), along the Elizabeth Drive boundary.

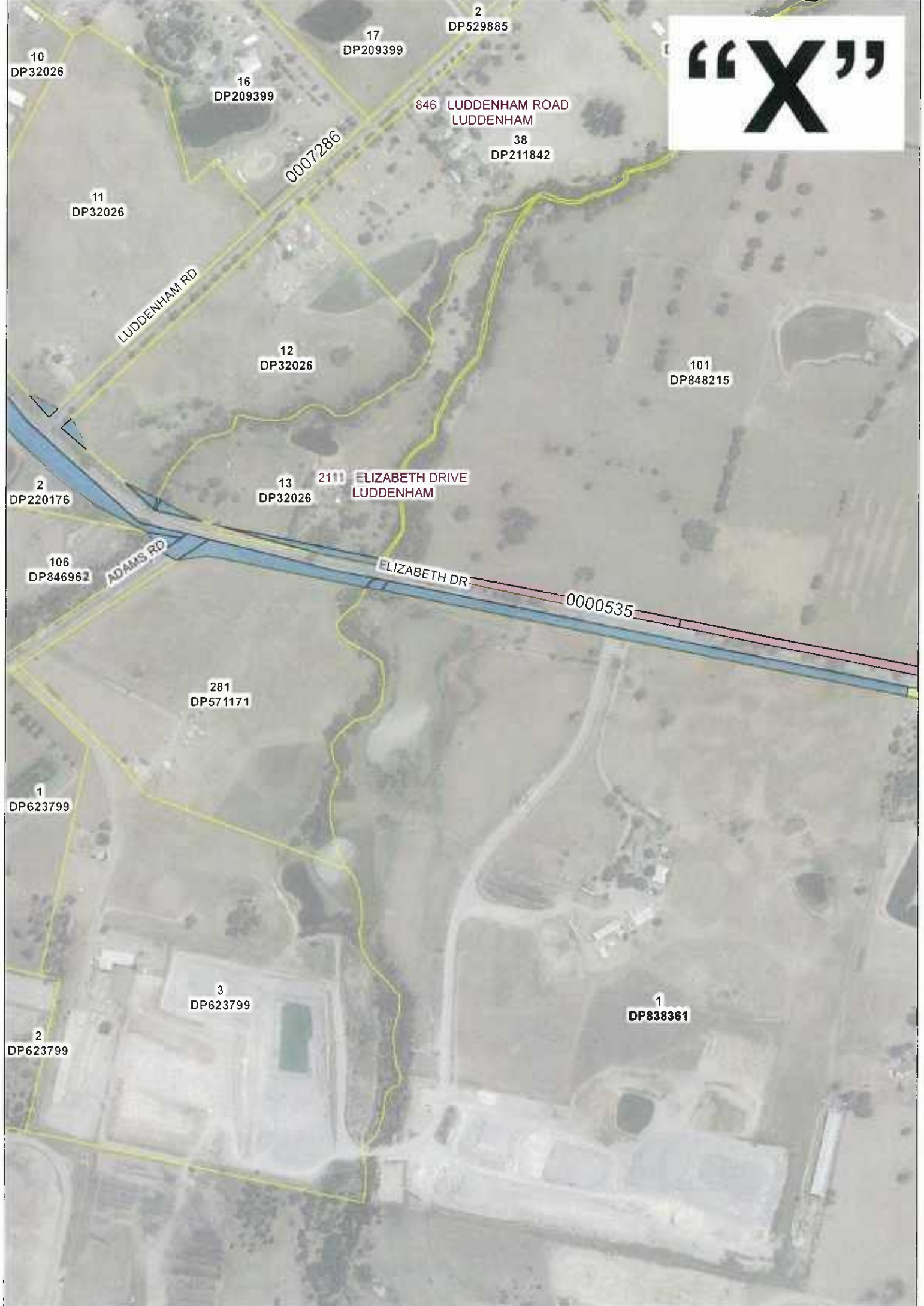
The subject property is also within an area in which RMS is currently investigating the proposed Western Sydney Infrastructure Plan. The investigations have not yet advanced to the stage where options have been defined and accordingly it is not possible at this date to identify if any part of the subject property would be required to accommodate this proposal. The applicant should be advised of the above and to contact (Ph 1800 703 457 toll free or E mail: wsip@rms.nsw.gov.au) if further information is required.

This application should be referred to Emma Davies for info/comment.



Peter Naumovski
A/Land & Development Unit Manager

26/9/16



“X”

10 DP32026

16 DP209399

17 DP209399

2 DP529885

846 LUDDENHAM ROAD
LUDDENHAM

38 DP211842

11 DP32026

LUDDENHAM RD

0007286

12 DP32026

101 DP848215

2 DP220176

106 DP846962

ADAMS RD

2111 ELIZABETH DRIVE
LUDDENHAM

13 DP32026

ELIZABETH DR

0000535

281 DP571171

1 DP623799

3 DP623799

2 DP623799

1 DP838361



Development Application 03-0315 DOP

SYD09-00807

Subject : Proposed development at 275 Adams Road Luddenham

DATE FORWARDED TO RMS
DATE RECEIVED IN L&DU
DATE COMPLETED BY L&DU

28th November, 2014
4th December, 2014
9th December, 2014

RMS has previously acquired land for road widening along the Elizabeth Drive frontage of the subject property, as shown by blue colour on the attached Aerials "A" – "D".

Land has also previously been dedicated as Public Road (road widening) by private subdivision along the Elizabeth Drive frontage of the subject property, as shown by yellow colour on the attached Aerials "A" – "D".

RMS has previously dedicated or vested land as road widening along the Elizabeth Drive frontage of the subject property, as shown by grey colour on the attached Aerials "A" – "D"

The subject property is affected by a road proposal for continuity of the road widening, as shown by pink colour on the attached Aerial – "D"

However the Roads & Maritime Services would raise no objections on Property grounds to the submitted application provided any new building or structures, together with any improvements integral to the future use of the site, are erected clear of the above road widening land (unlimited in height or depth).

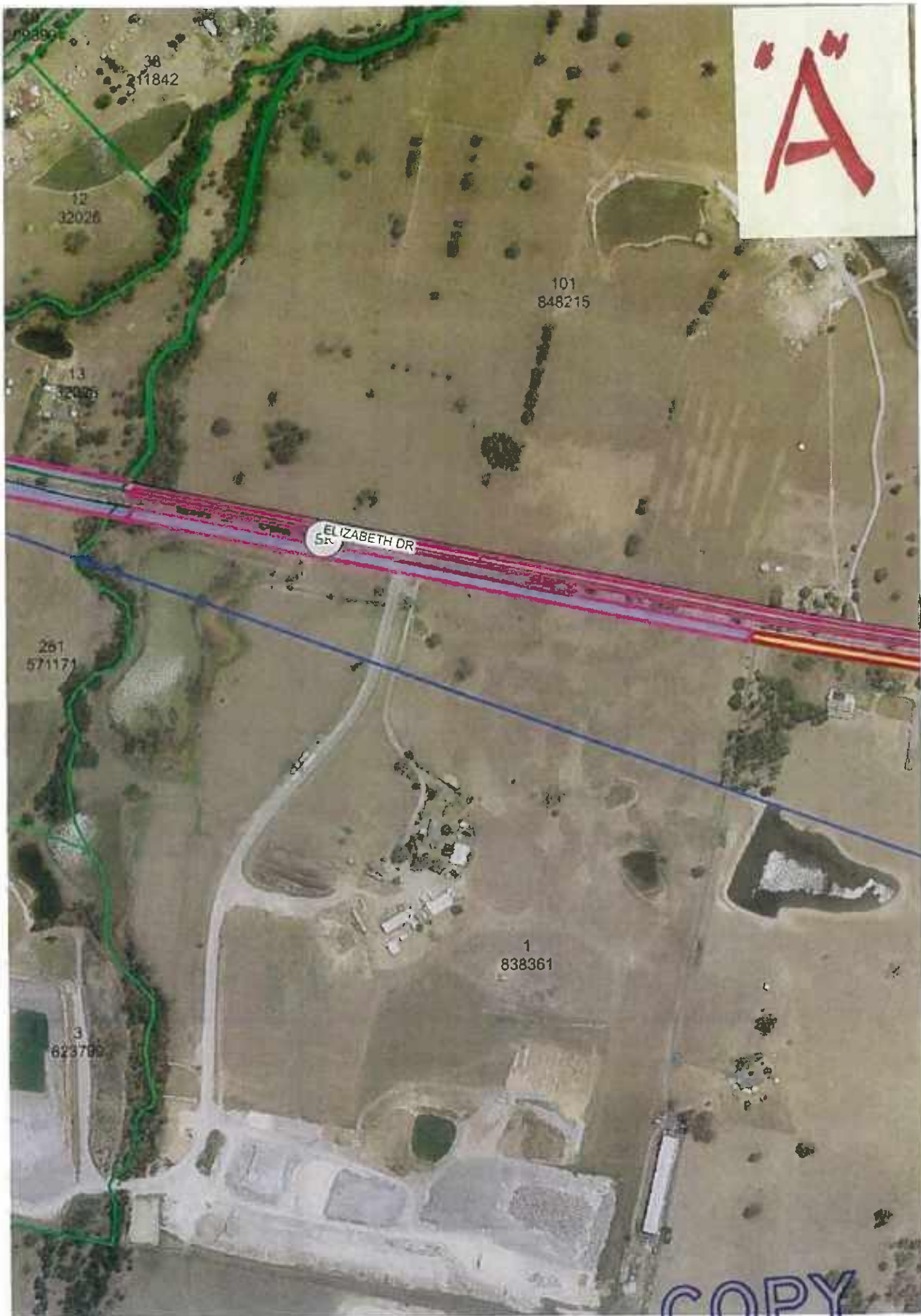
It should also be noted that the subject property is also within an area that RMS is currently investigating in regard to the proposed Western Sydney Infrastructure Plan (see attached Project Plan). The investigations have not yet advanced to the stage where options have been defined and accordingly it is not possible at this date to identify if any part of the subject property would be required to accommodate this proposal. The proponent should be advised to contact (Ph 1300 660 275 or E mail wsip@rms.nsw.gov.au), if further information is required.

Subject to comment by Kate Lunney, Planning should be advised in the above terms.

John Hudson
Land & Development Unit Manager



COPY



A

ELIZABETH DR
SR

COPY

"B"

101

63
1087838

ELIZABETH DR

SR

1
838361

TAYLOR'S RD

COPY



COPY

Handwritten red 'D' with a checkmark and two small red marks above it.



63
1087838

1783 ELIZABETH DRIVE
BADGERYS CREEK

542395

240718

2
240718

SR

ELIZABETH DR

996425

126575

392531

23
552531

13
531743

539313

1084967

1
104049

6
3050

75 LAWSON ROAD
BADGERYS CREEK

6
3050

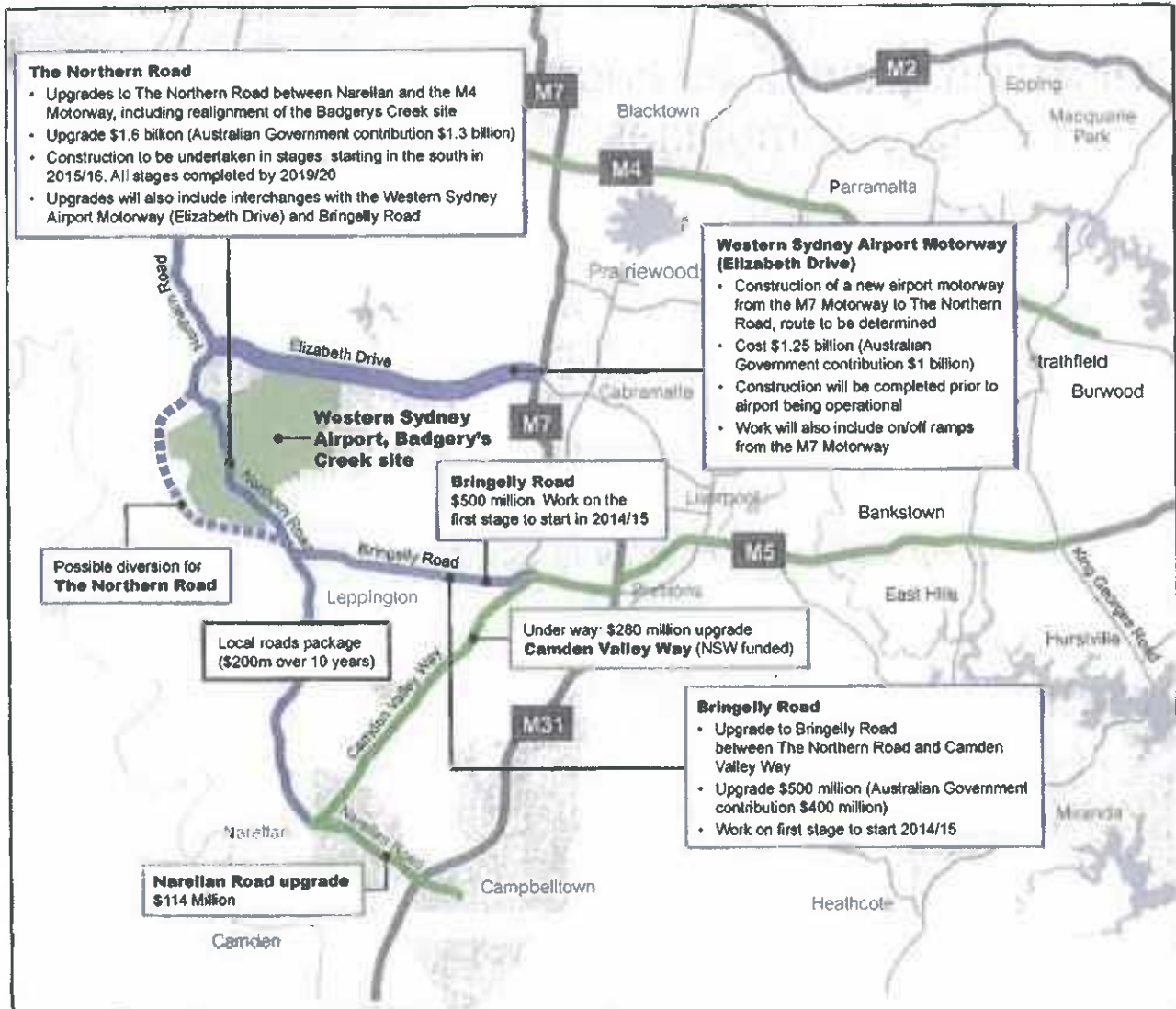
67 LAWSON ROAD
BADGERYS CREEK

63 LAWSON ROAD
BADGERYS CREEK

COPY

Western Sydney Infrastructure Plan

Western Sydney Infrastructure Projects



This document contains important information about road projects in

your area. If you require the services of an interpreter, please contact the Translating and Interpreting Service on 131 450 and ask them to call the project team on 1300 660 275. The interpreter will then assist you with translation.



COPY

DARKE Tracie M

From: AMIN Ahsanul
Sent: Monday, 19 September 2016 11:37 AM
To: SYDNEY PROPERTY - DA; LANCE David C
Subject: RFC for SYD09/00807/03 - Modification for Luddenham Clay/Shale Quarry - 275 Adams Road - Luddenham - DA-315-7-2003 MOD 4
Attachments: SYD09_00807_03 - Modification for Luddenham Clay_Shale Quarry - 275 Adams Road - Luddenham - DA-315-7-2003 MOD 4.obr

Dear All,

Please find the attached proposed development proposal for you to review & comments.

Regards,

Ahsanul.

A10 Water NSW

Ref: ID2016/110664

Ms Megan Dawson
Planning Officer
Resource Assessments
Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

Dear Ms Dawson

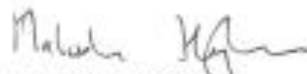
**Re: WaterNSW Response to exhibition of Modification 4 (DA 315-7-2003 MOD 4),
Luddenham Clay/Shale Quarry**

Thank you for your email on 14 September 2016 inviting WaterNSW to submit comments to the above modification application at the Luddenham Clay/Shale Quarry.

WaterNSW has reviewed the information provided and notes that the development site is located outside of Sydney's declared catchment and not in close proximity to any WaterNSW infrastructure. As such, WaterNSW has no specific comments to make on this modification.

If you have any queries regarding the above please contact Alison Kniha, Environmental Policy and Planning Manager on 4724 2451 or at alison.kniha@waternsw.com.au.

Yours sincerely,



MALCOLM HUGHES
Manager Environment and Planning

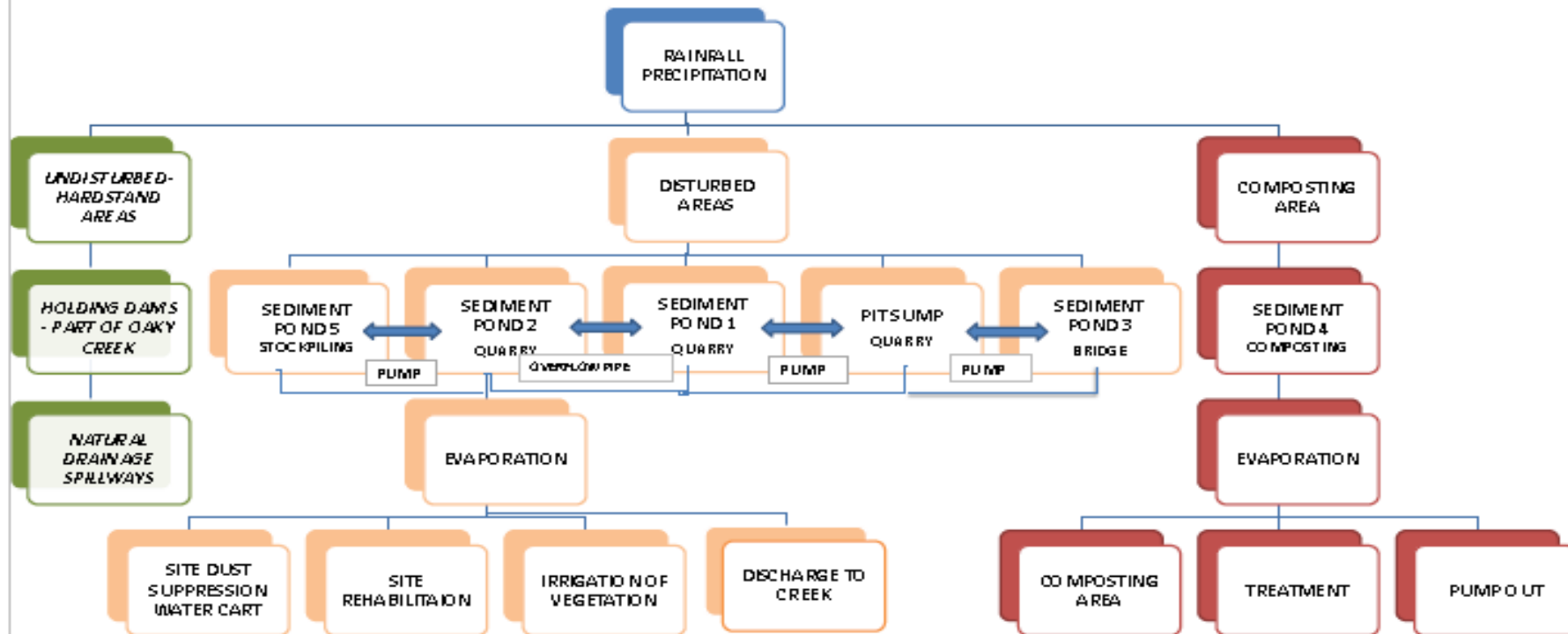
10/10/16

Attachment B – Revised Drawings, Maps, Figures

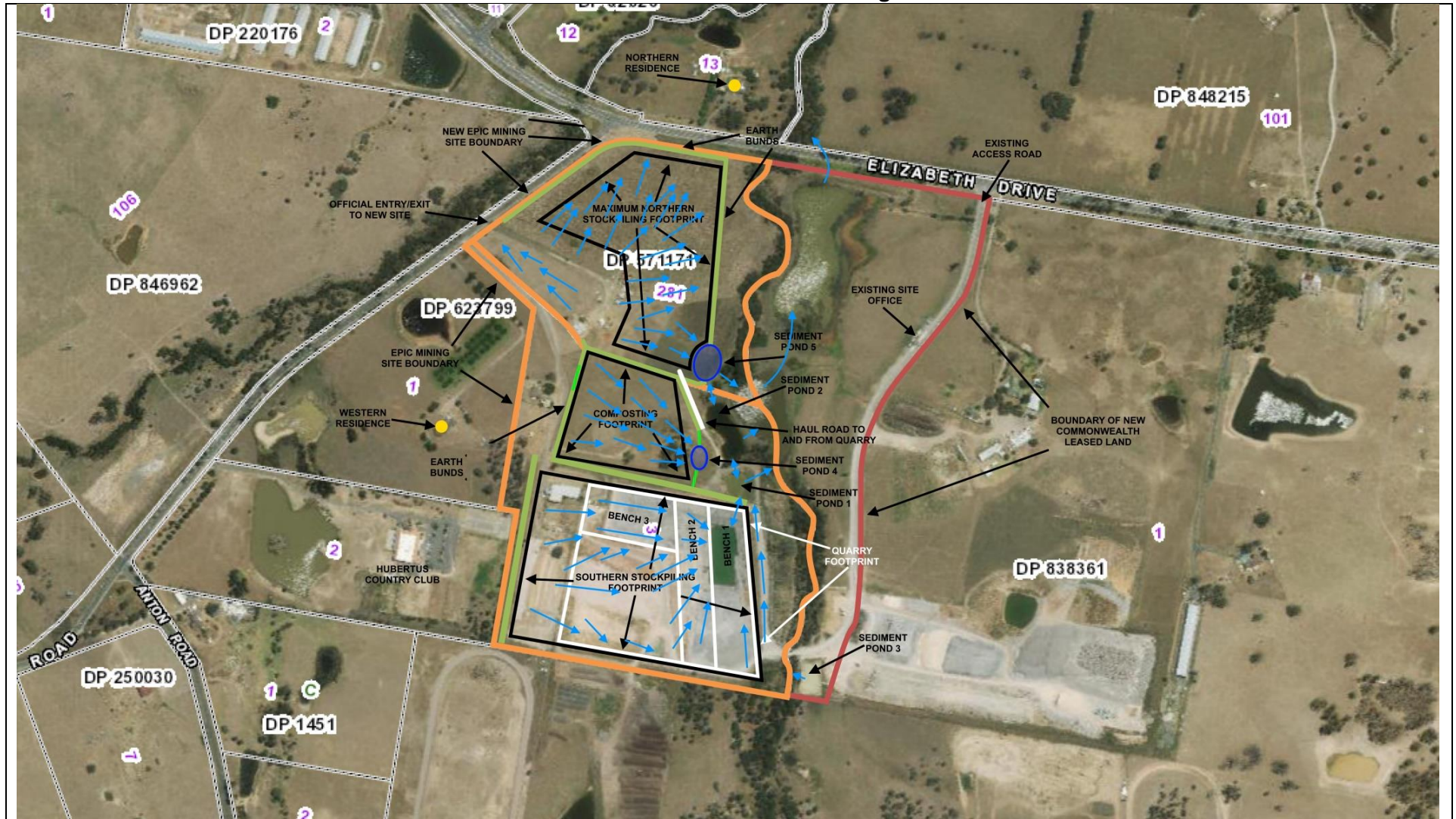
B1 Revised Schematic Flowchart of Water Management System – 21 December 2016



**SCHEMATIC FLOWCHART OF SURFACE
WATER MANAGEMENT SYSTEM 2016**



B2 Revised Surface Water Management



B3 Non-Clean Water Areas



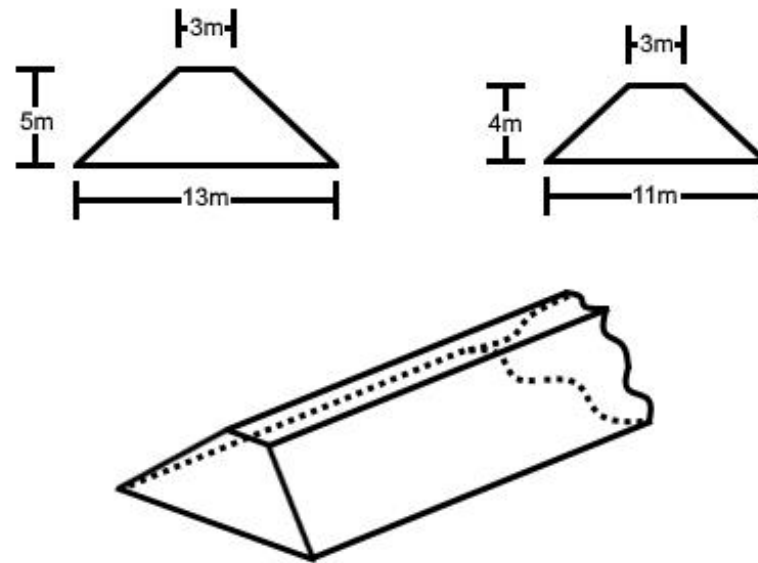
Epic Mining Pty Ltd – 275 Adams Road, Luddenham

Non-Clean Water Areas shown as
yellow shading






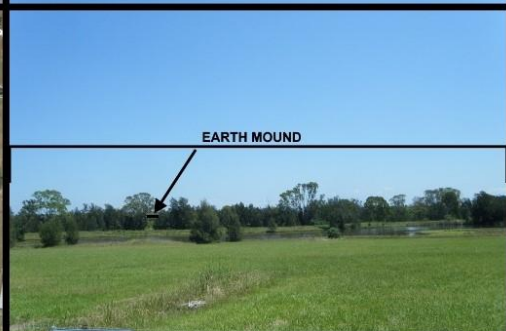
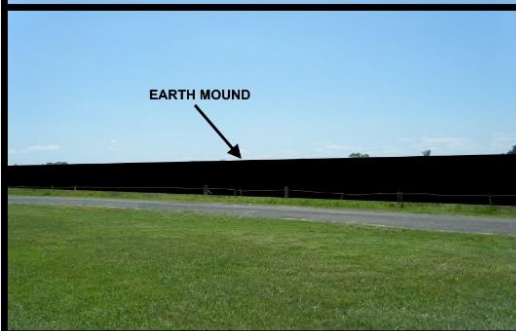
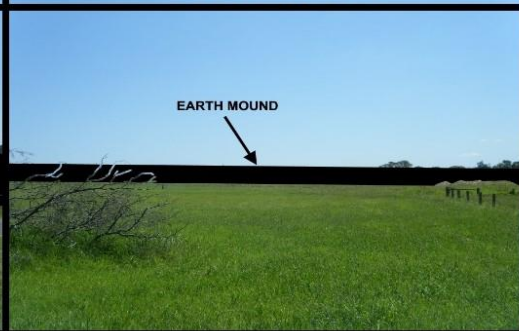

Ref:NICS162001_FIG026 Rev01

Nicolas Israel – 21 December 2016

B4 Schematic Drawings of Proposed Earth Mounds – Dimensions are Shown





<p>PHOTO 8 - NORTH WEST OF SITE</p> 	<p>PHOTO 1 - NORTH OF SITE</p> 	<p>PHOTO 2 - NORTH EAST OF SITE</p> 	
<p>PHOTO 7 - WEST OF SITE</p> 	<p>PHOTO 0 - AERIAL VIEW OF SITE</p> 	<p>PHOTO 3 - EAST OF SITE</p> 	
<p>PHOTO 6 - SOUTH WEST OF SITE</p> 	<p>PHOTO 5 - SOUTH OF SITE</p> 	<p>PHOTO 4 - SOUTH EAST OF SITE</p> 	
<p>Epic Mining Pty Ltd – 275 Adams Road, Luddenham</p>			
<p>Visual Assessment with Earth Mounds</p>		<p>Ref:NICS162001_FIG023 Rev01</p>	<p>Nicolas Israel – 21 December 2016</p>



Epic Mining Pty Ltd – 275 Adams Road,
Luddenham

Proposed Site Layout and Visual
Assessment Photo Locations

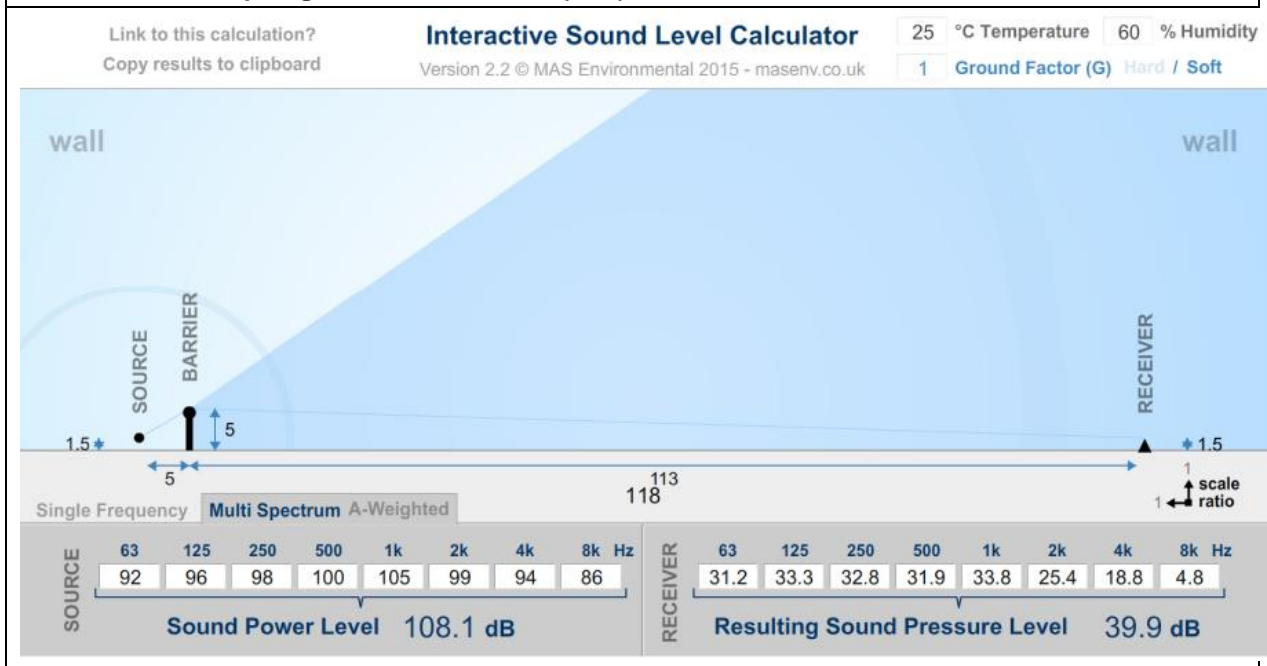
Ref: NICS162001_FIG024 Rev01

Nicolas Israel – 21 December 2016

Attachment D – Additional Supporting Documents

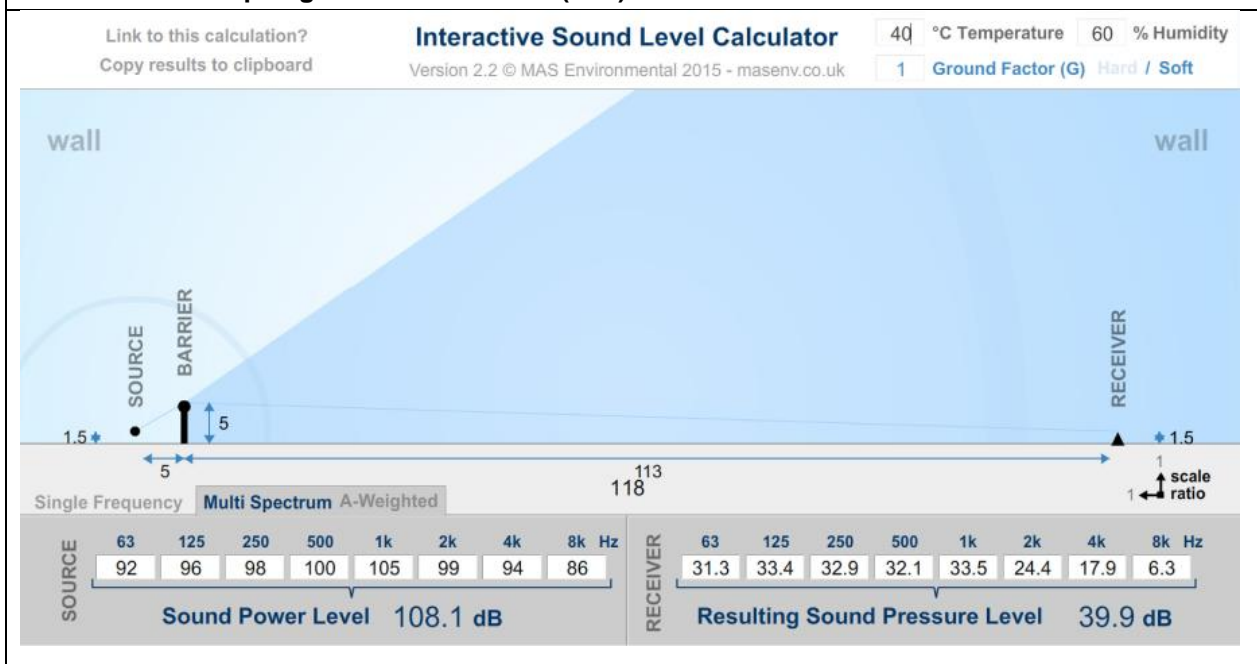
D1 Noise Calculation Scenarios

Scenario 1: Stockpiling – Ground factor=1 (soft) – T=25°C - RH=60% - Lw=108.1 dB

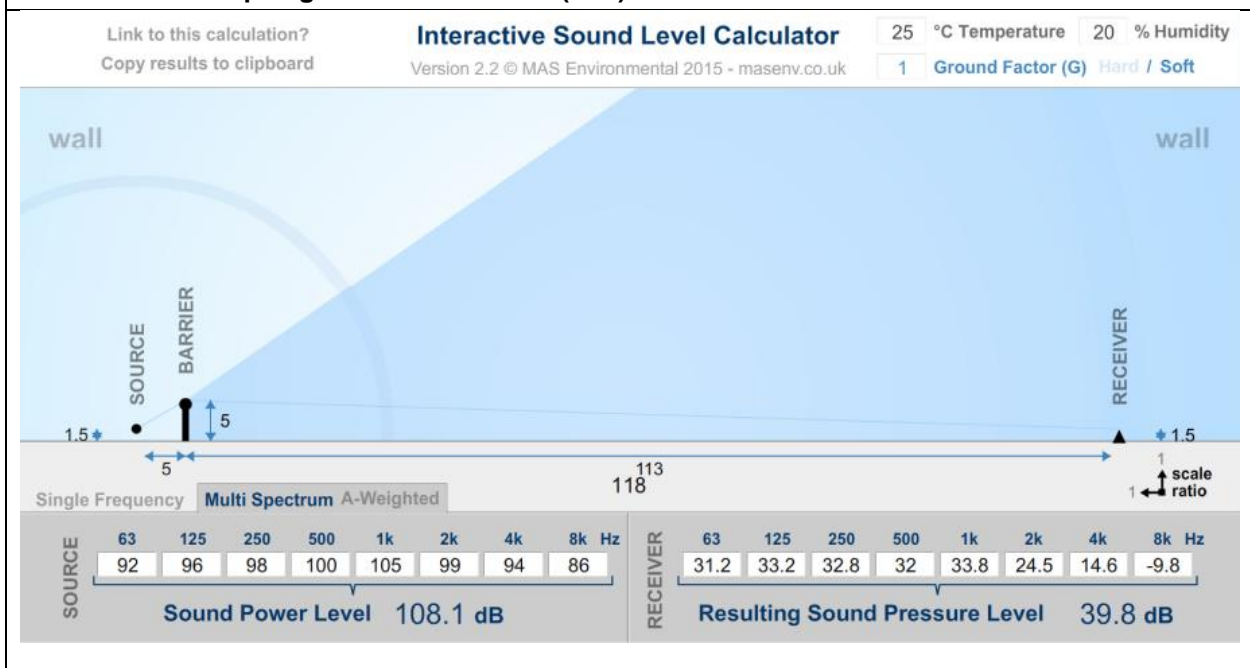


Note: Scenario 2 could not be retrieved due to a corrupt file

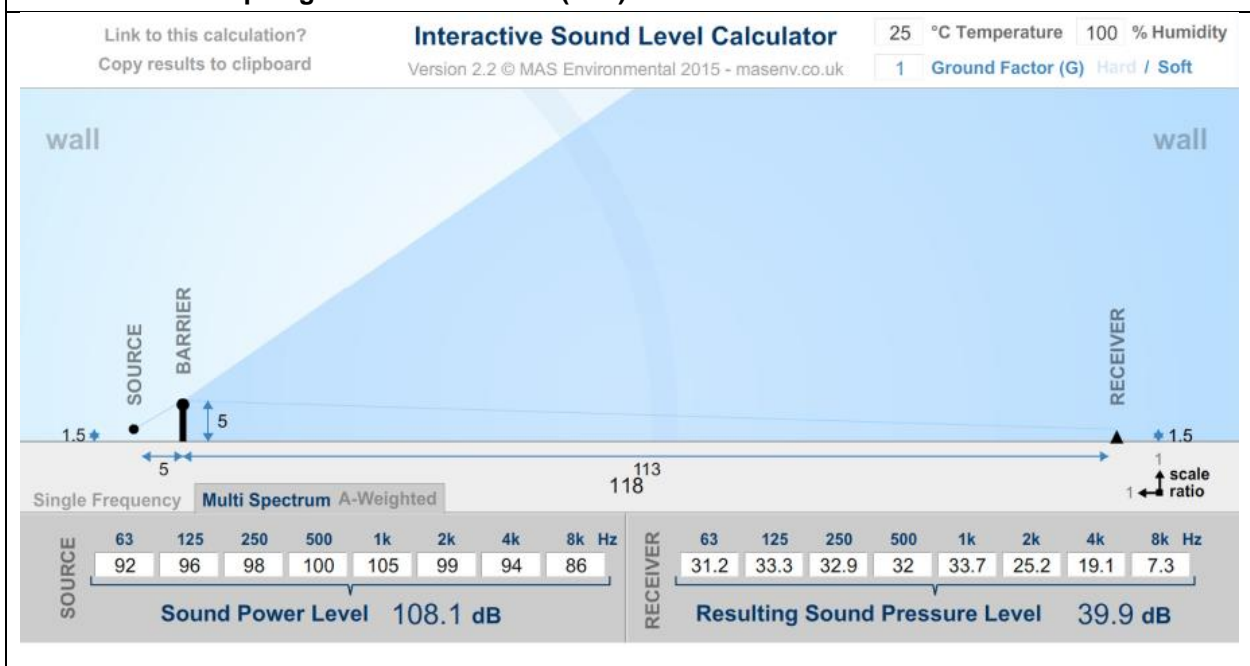
Scenario 3: Stockpiling – Ground factor=1 (soft) – T=40°C - RH=60% - Lw=108.1 dB



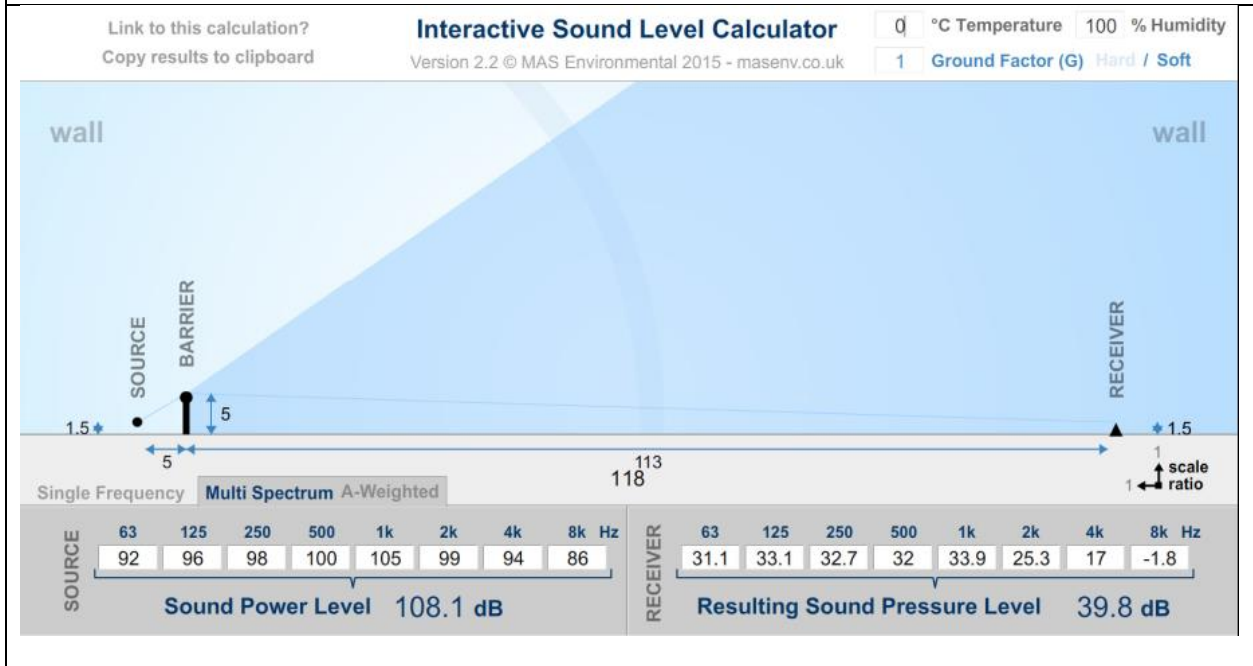
Scenario 4: Stockpiling – Ground factor=1 (soft) – T=25°C - RH=20% - Lw=108.1 dB



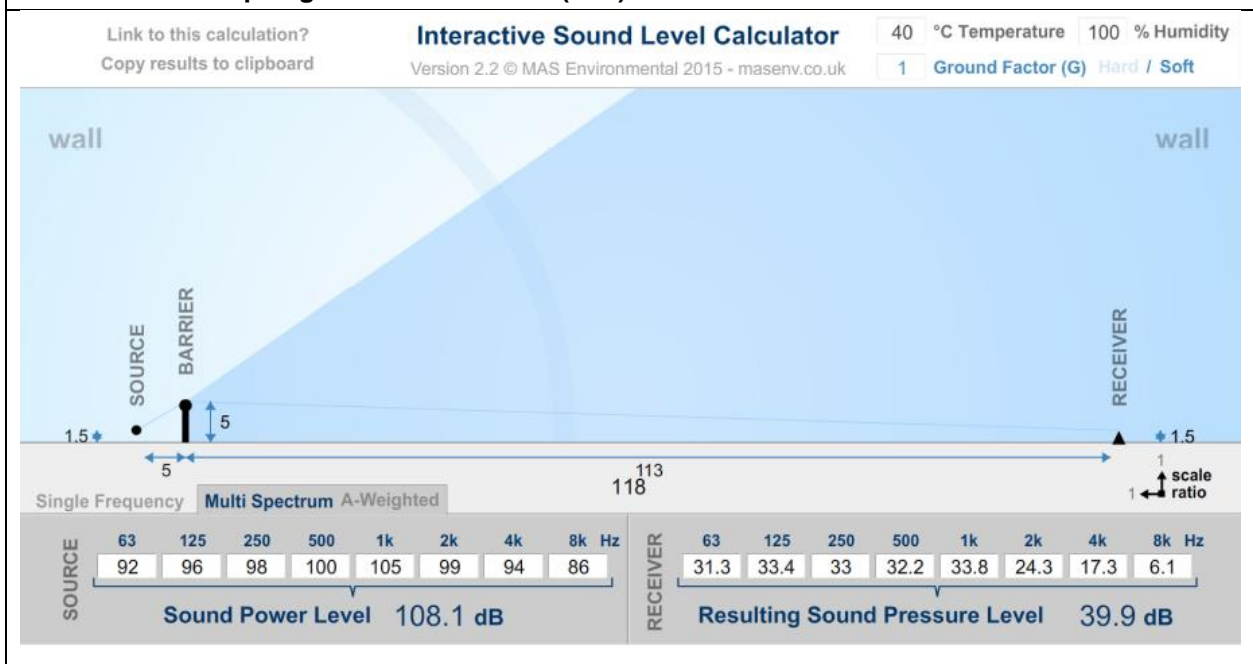
Scenario 5: Stockpiling – Ground factor=1 (soft) – T=25°C - RH=100% - Lw=108.1 dB



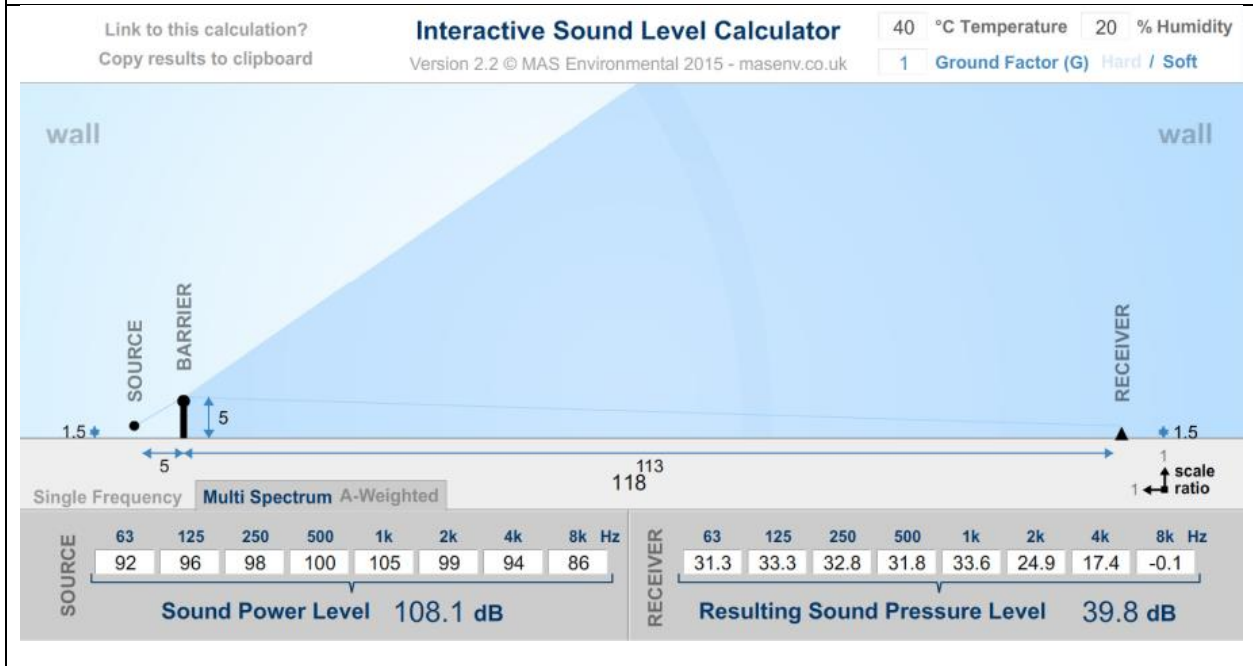
Scenario 6: Stockpiling – Ground factor=1 (soft) – T=0°C - RH=100% - Lw=108.1 dB



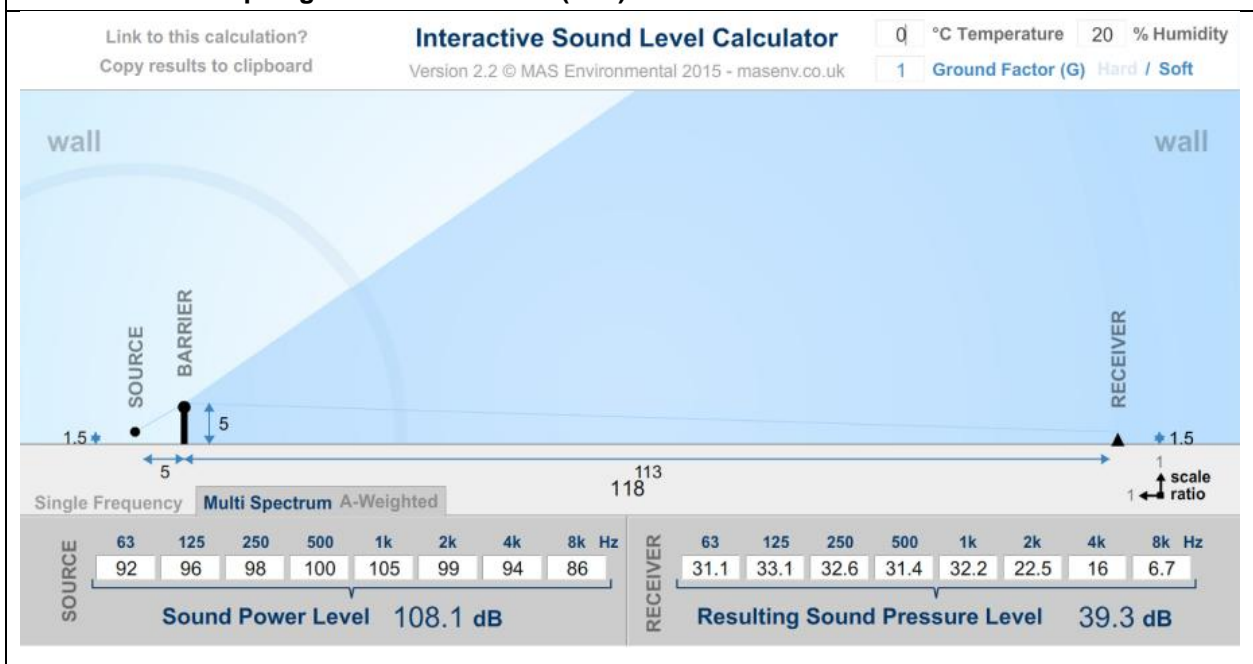
Scenario 7: Stockpiling – Ground factor=1 (soft) – T=40°C - RH=100% - Lw=108.1 dB



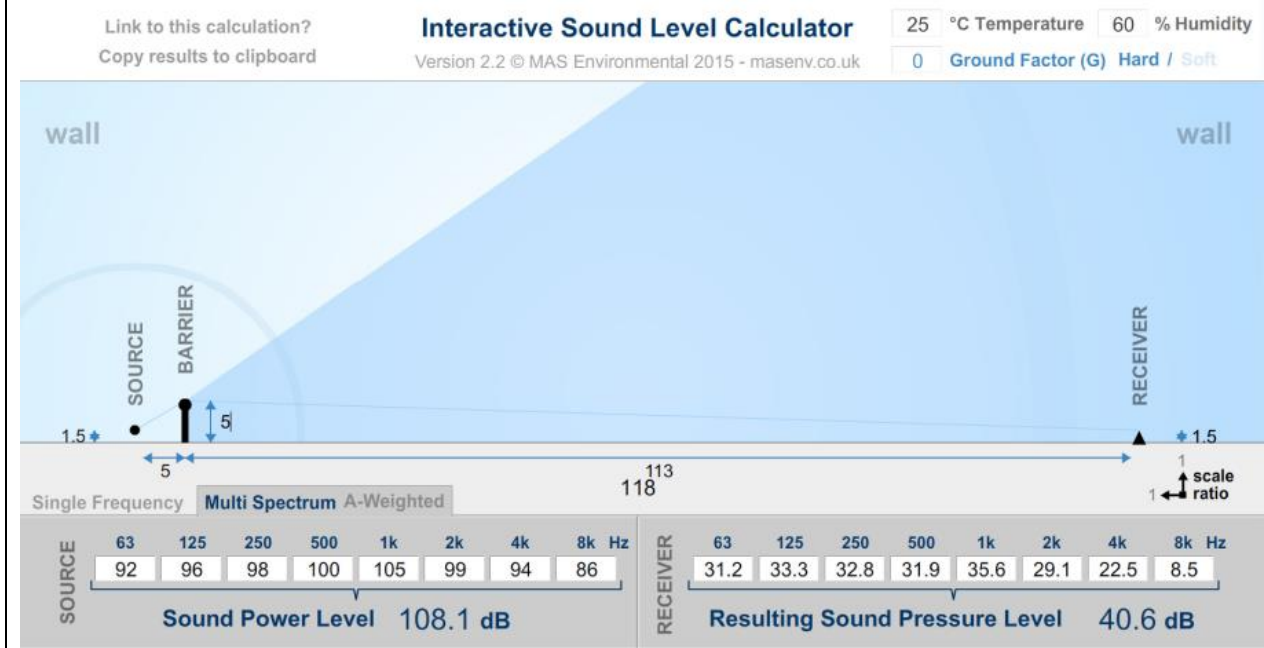
Scenario 8: Stockpiling – Ground factor=1 (soft) – T=40°C - RH=20% - Lw=108.1 dB



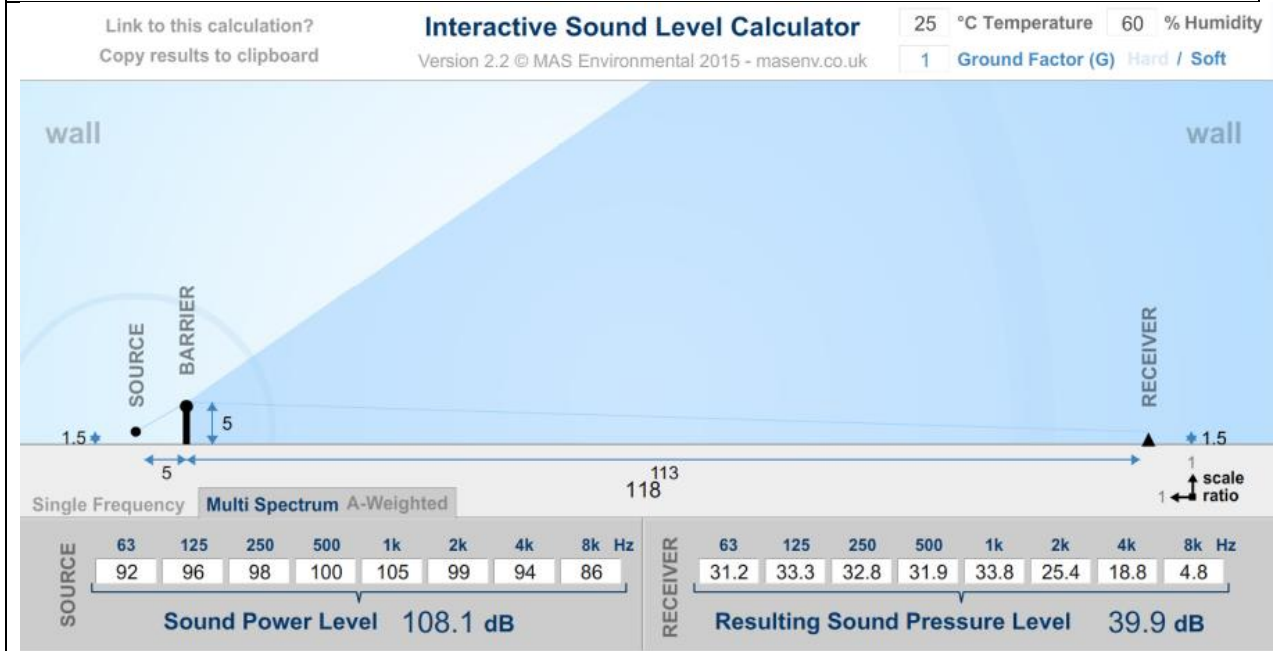
Scenario 9: Stockpiling – Ground factor=1 (soft) – T=0°C - RH=20% - Lw=108.1 dB



Scenario 10: Stockpiling – Ground factor=0 (hard) – T=25°C - RH=60% - Lw=108.1 dB



Scenario 11: Stockpiling – Ground factor=1 (soft) – T=25°C - RH=60% - Lw=108.1 dB



Scenario 12: Composting – Ground factor=1 (soft) – T=25°C - RH=60% - Lw=104 dB

Link to this calculation? **Interactive Sound Level Calculator** 25 °C Temperature 60 % Humidity
Copy results to clipboard Version 2.2 © MAS Environmental 2015 - masenv.co.uk 1 Ground Factor (G) Hard / Soft

Diagram showing sound propagation from a SOURCE to a RECEIVER, separated by a BARRIER. The SOURCE is 1.5m from the left wall, and the RECEIVER is 1.5m from the right wall. The BARRIER is 5m from the SOURCE and 4m high. The resulting sound pressure level at the RECEIVER is 32.3 dB.

Single Frequency Multi Spectrum

SOURCE	Frequency	Sound Power Level	RECEIVER	Resulting Sound Pressure Level
	1000 Hz	104 dB		32.3 dB

Scenario 13: Composting – Ground factor=0 (hard) – T=25°C - RH=60% - Lw=104 dB

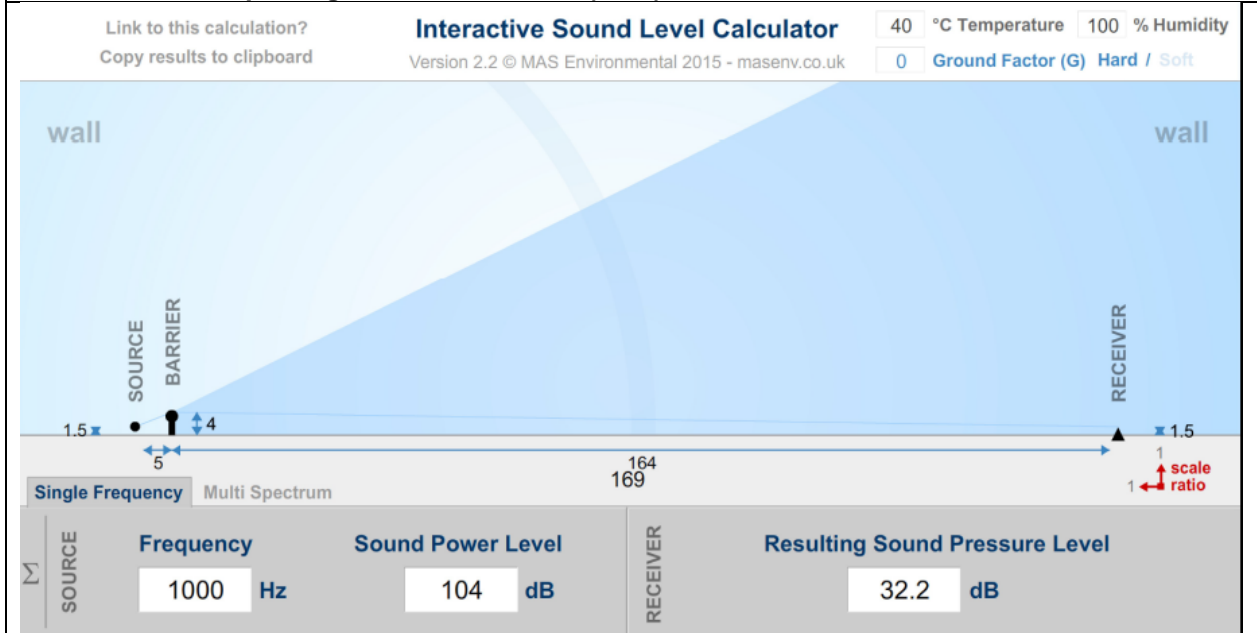
Link to this calculation? **Interactive Sound Level Calculator** 25 °C Temperature 60 % Humidity
Copy results to clipboard Version 2.2 © MAS Environmental 2015 - masenv.co.uk 0 Ground Factor (G) Hard / Soft

Diagram showing sound propagation from a SOURCE to a RECEIVER, separated by a BARRIER. The SOURCE is 1.5m from the left wall, and the RECEIVER is 1.5m from the right wall. The BARRIER is 5m from the SOURCE and 4m high. The resulting sound pressure level at the RECEIVER is 32.3 dB.

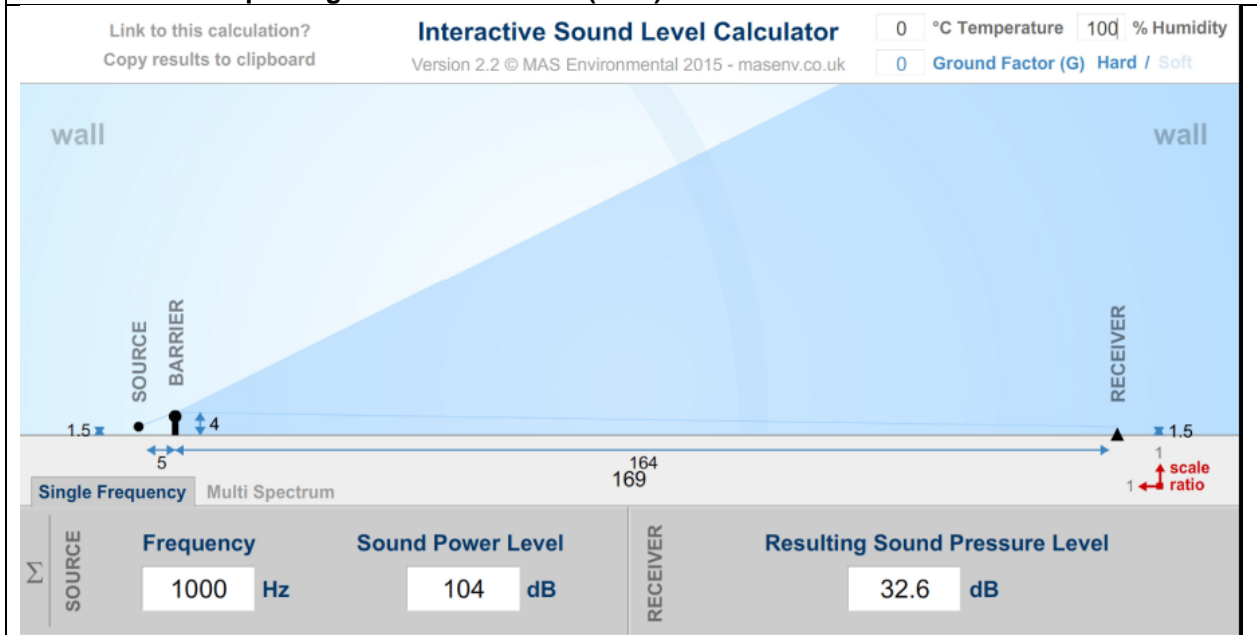
Single Frequency Multi Spectrum

SOURCE	Frequency	Sound Power Level	RECEIVER	Resulting Sound Pressure Level
	1000 Hz	104 dB		32.3 dB

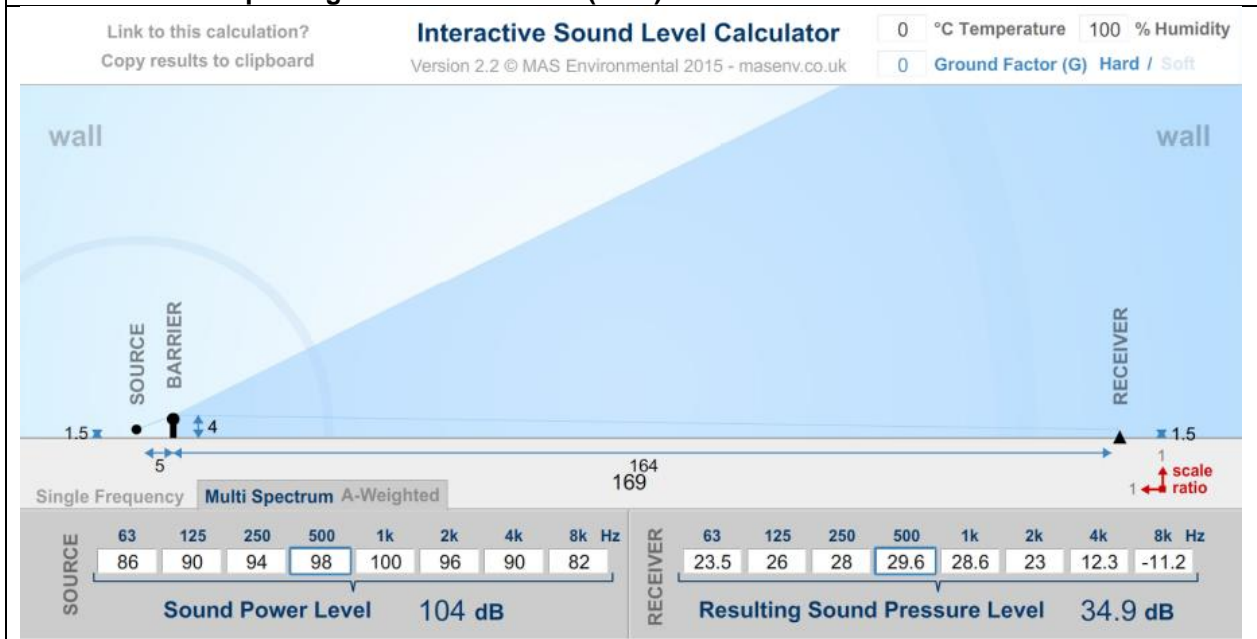
Scenario 14: Composting – Ground factor=0 (hard) – T=40°C - RH=100% - Lw=104 dB



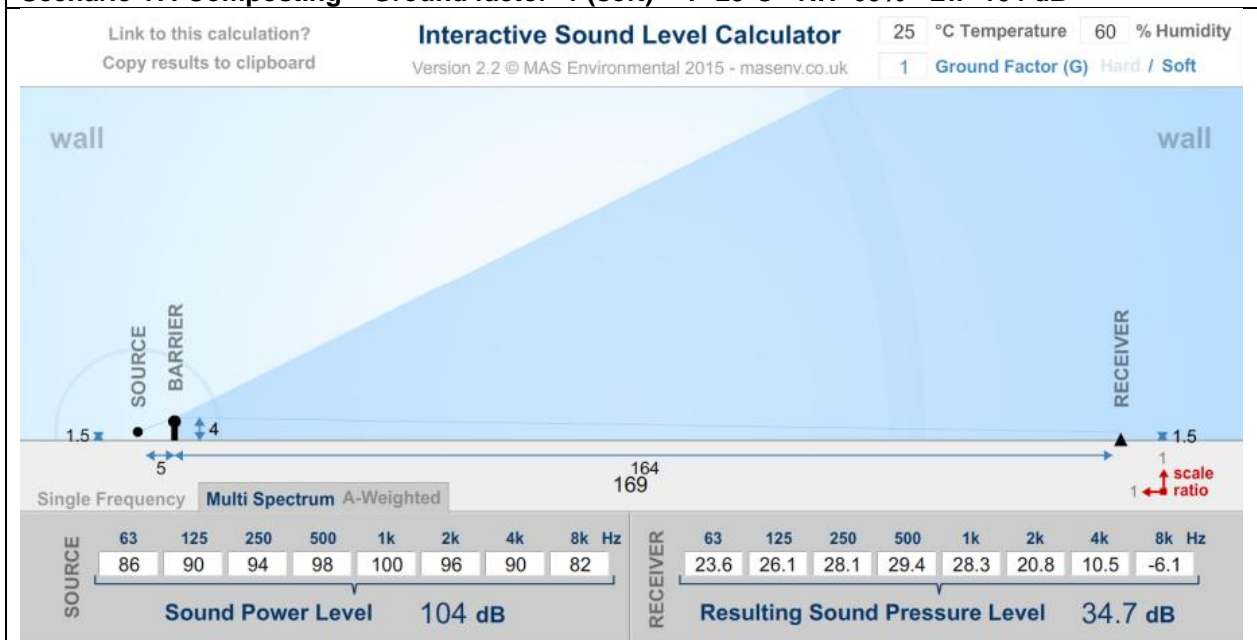
Scenario 15: Composting – Ground factor=0 (hard) – T=0°C - RH=100% - Lw=104 dB

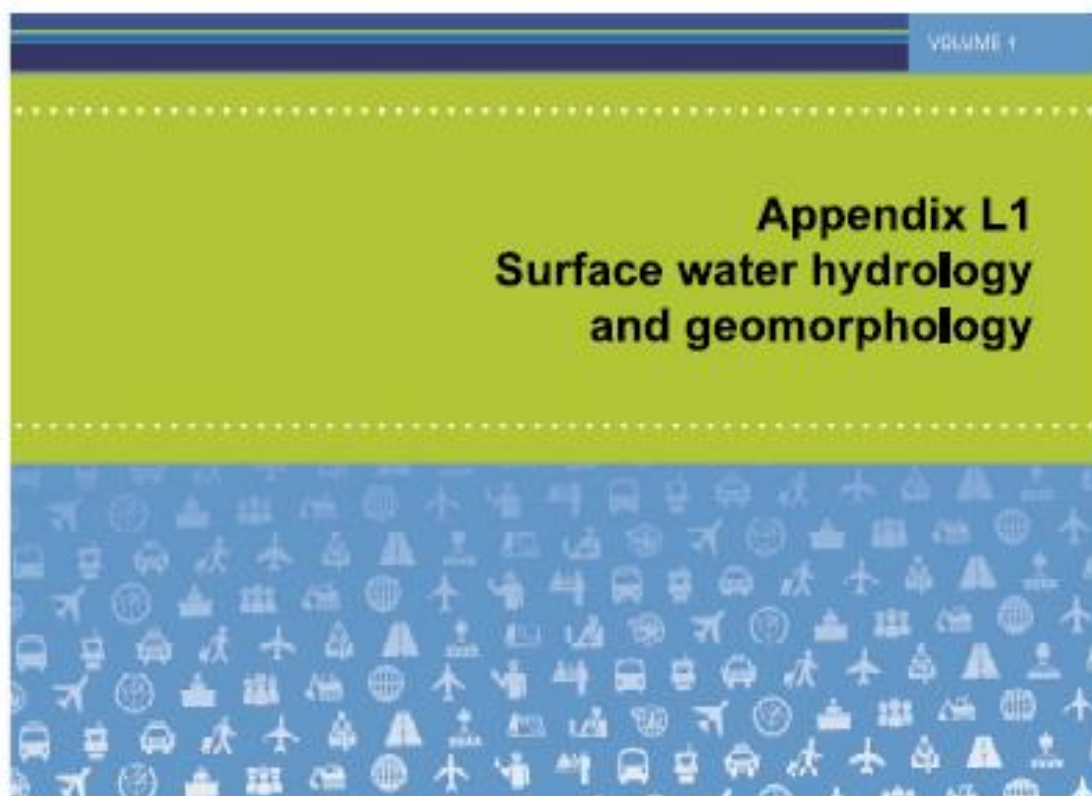


Scenario 16: Composting – Ground factor=0 (hard) – T=0°C - RH=100% - Lw=104 dB



Scenario 17: Composting – Ground factor=1 (soft) – T=25°C - RH=60% - Lw=104 dB







Western Sydney Airport EIS
Surface Water Hydrology and Geomorphology
August 2016

WATER | ENERGY & RESOURCES | ENVIRONMENT | PROPERTY & BUILDINGS | TRANSPORTATION



Figure 4-8 - Existing flood depths - 1 year AR (Badger and Cosgrove Creeks)



