



# Decision Document

## *Environmental Protection Act 1986, Part V*

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**Proponent:** **Swan Waste Solutions Pty Ltd**

**Works Approval:** **W5912/2015/1**

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**Registered office:** C/O Smith Coffey Financial Management Pty Ltd  
20 Nicholson Road  
SUBIACO WA 6008

**ACN:** 169 223 778

**Premises address:** Swan Waste Solutions  
Lots 202 and 203 on Plan 46016 Wandena Road  
MUCHEA WA 6501

**Issue date:** 15 July 2016

**Commencement date:** 18 July 2016

**Expiry date:** 31 March 2018

### **Decision**

Based on the assessment detailed in this document the Department of Environment Regulation (DER) the CEO's delegated officer has decided to issue a works approval. The delegated officer considers that in reaching this decision, they have taken into account all relevant considerations.

Decision Document prepared by: Lauren Fox  
A/Senior Licensing Officer

Decision Document reviewed by: Ruth Dowd  
Senior Manager – Industry Regulation (Waste Industries)  
Delegated Officer

Decision Document authorised by: Ed Schuller  
A/Director – Licensing and Approvals  
Delegated Officer



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### 1 Purpose of this Document

This decision document explains how the DER delegated has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.



## 2 Administrative summary

Administrative details		
Application type	Works Approval <input checked="" type="checkbox"/>	
	New Licence <input type="checkbox"/>	
	Licence amendment <input type="checkbox"/>	
	Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	<b>Category number(s)</b>	<b>Assessed design capacity</b>
	13	50,000 tonnes per year
	61A	50,000 tonnes per year
Application verified	Date: 05/10/2015	
Application fee paid	Date: 08/10/2015	
Works Approval has been complied with	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Compliance Certificate received	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Commercial-in-confidence claim	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Commercial-in-confidence claim outcome	N/A	
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i> )?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the Premises within an Environmental Protection Policy (EPP) Area	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>



### 3 Executive summary of proposal and assessment

Swan Waste Solutions Pty Ltd (SWS) proposes to construct and operate a crushing and screening plant and a solid waste facility at Lots 202 and 203 Wandena Road in Muchea. The construction works include the installation of the crushing and screening equipment and, construction of noise barriers and civil works (access road and office block). Other works such as drainage swales may also be implemented once the Stormwater Management Plan, as required by the Local Government Authority, has been developed. The facility is expected to receive up to 50,000 tonnes per year of construction and demolition (C&D) waste for processing. The crushed and screened C&D material will produce recycled products for reuse in infrastructure and development projects within the local region; no landfilling is proposed onsite as part of this application and this works approval does not authorise landfilling activities to be undertaken.

The premises is located within the Shire of Chittering (the Shire) in an area zoned as 'Agricultural Resource' under Town Planning Scheme No. 6. In accordance with DER's *Guidance Statement: Land Use Planning* (October 2015), an occupier is required to obtain relevant planning/development approval prior to DER granting a regulatory instrument which has been undertaken for this proposal. The applicant was granted an amended Planning Approval on 1 April 2016 for a Landfill and Rehabilitation Centre. The approval requires the proponent to obtain a works approval from DER for prescribed premises categories 13 and 61A prior to commencing operations at the site. The approval is then authorised for a period of five years from commencement of operations. In accordance with DER's *Guidance Statement: Licence Duration*, the duration of this works approval and any licence granted by DER will align with the Planning Approval expiry date.

The site operations are restricted under the Planning Approval to 7:00am to 5:00pm Monday to Friday, and 7:00am to 12:00pm on Saturdays, with the crusher not in operation in Saturdays. Operations are not permitted under the Planning Approval to be undertaken on Sundays or Public Holidays.

Using DER's GIS mapping software, it has been identified that the nearest residences are located 140 metres from the proposed site. It is considered that a separation distance of 1,000m between a sensitive receptor and a crushing and screening plant is appropriate, subject to appropriate controls. This distance has not been met. Other land uses in the area consist of a horse stable to the north-west and an office located south-west of the site. A quarry is also located to the north.

A Bush Forever area classified under the *State Planning Policy 2.8 Bushland Policy for the Perth Metropolitan Region* is located 450m south of the proposed site. This proposal is also located within a confirmed Carnabys Cockatoo breeding area. The Department of Parks and Wildlife (DPAW) was consulted on this proposal and no objections were raised from DPAW given that clearing of native vegetation is not being proposed.

As stated in the application supporting documentation, the ground surface contour varies from 100 mAHD to 85 mAHD across the site from the south-east to north-west and the bottom of the clay pit void is estimated to be at 80 mAHD. The application document also states that the distance to groundwater is located approximately 30 metres below ground level (m bgl). The crushing plant and storage of stockpiles is proposed to be located within an existing quarry area which is 6m bgl, with groundwater approximately 26m below the lowest elevation of the quarry pit. The application has identified that groundwater flow is predominantly in a north-east to south-west direction.

The proponent has notified DER, through their legal representative on 8 June 2016, that infilling of waste within the quarry void is not an integrated activity.

The main emissions associated with this proposal are dust and noise emissions which are discussed in the Decision Table and Appendix A below.



## 4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

<b>DECISION TABLE</b>			
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L = Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
<b>General conditions</b>	W1.2.1 – W1.2.3  L = conditions will be included	<b>Please refer to Appendix A</b>	Application supporting documentation
<b>Premises operation</b>	W = W1.3.1 – W1.3.15  L = conditions will be included	<p><b>Construction of noise barriers and civil works.</b> Please refer to the 'Fugitive emissions' assessment in Appendix A.</p> <p><b>Operation</b> Conditions will be included on the licence for the purpose of managing leachate generation and contaminated stormwater. The licence conditions will include:</p> <ul style="list-style-type: none"> <li>• Limiting the types and quantities of waste for acceptance at the premises to wastes that can be adequately managed under the occupier's infrastructure and process controls; and</li> <li>• A requirement to remove any non-conforming waste received at the Premises to mitigate the potential leachate risk of runoff from stockpiling non-conforming waste.</li> </ul> <p>The noise and dust emission risk assessments in are detailed in Appendix A and the following 'Premises operation' conditions will be included on the licence;</p> <ul style="list-style-type: none"> <li>• Restricting site processes to storage and crushing/screening activities;</li> <li>• Limiting the duration of crushing/screening activities to only two campaigns per year lasting no longer than 35 days each;</li> <li>• Requiring the crusher/screener to be located within the existing quarry void</li> </ul>	<p>Application supporting documentation</p> <p>'Guidelines for managing asbestos at construction and demolition waste recycling facilities' published by the Department of Environment and Conservation, as amended from time to time (DER Asbestos Guidelines).</p>
<b>Premises</b>			



<b>DECISION TABLE</b>			
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L = Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
<b>operation continued</b>		<p>below ground level;</p> <ul style="list-style-type: none"> <li>• Limits to stockpile height (at least 1m below top of quarry void / natural surface level) and volumes stored on site at any one time; and</li> <li>• Conditions that are consistent with the DER Asbestos Guidelines that mitigate risks associated with asbestos emissions.</li> </ul> <p>These conditions will be included in accordance with DER's <i>Guidance Statement: Setting Conditions</i> (October 2015) and DER's <i>Guidance Statement: Regulatory Controls</i> (December 2015).</p> <p>Other licence conditions will include the requirement to have adequate security measures implemented at the site to prevent illegal entry, and condition for the management of windblown waste, to reduce the risk of litter.</p> <p>Should the occupier wish to commence infilling of the quarry void as part of the operations, the licence application will need to include category 63 (for inert waste) (Schedule 1, <i>Environmental Protection Regulations 1987</i>) for assessment.</p>	
<b>Emissions general</b>	N/A	<p><b>Construction</b> – N/A</p> <p><b>Operation</b> – Risks assessments for operations have been completed for relevant emissions as detailed below and in Appendix A.</p>	N/A
<b>Fugitive emissions</b>	W – W2.1.1  L = conditions will be included	<b>Construction and Operation</b> - Refer to Appendix A	Application supporting documentation
<b>Noise</b>	W – N/A  L = conditions will be included	<b>Construction and Operation</b> - Refer to Appendix A	Application supporting documentation
<b>Emissions to</b>	W and L – N/A	<b>Construction</b> – no emissions to groundwater (either point source or fugitive) will occur	Application



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
groundwater		<p>during the works approval.</p> <p><b>Operation</b>  <u>Emission Description</u>  <i>Emission:</i> Leachate contaminated stormwater and leachate generation from waste storage  <i>Impact:</i> Contamination of groundwater systems  <i>Controls:</i> As described above in 'general conditions', the proponent will divert any stormwater away from the void and into a dedicated storage pond. Additional stormwater management controls may be proposed within the Stormwater Management Plan, further reducing stormwater from coming into contact with waste stored at the premises. This plan should be provided for assessment as part of the licence application. The proponent has proposed to install 4 ambient groundwater monitoring bores in accordance with the Shire approval requirements.</p> <p><u>Risk Assessment</u>  <i>Consequence:</i> Insignificant  <i>Likelihood:</i> Rare  <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u>            The premises is accepting inert wastes onsite for processing only which have a very low risk of leaching contaminants to surrounding the environment. In accordance with DER's <i>Guidance Statement: Setting Conditions</i> (October 2015) and DER's <i>Guidance Statement: Regulatory Controls</i> (December 2015), the risk associated with emissions to groundwater is low for the current proposed operations, therefore specific conditions for groundwater emissions will not be included on the licence.</p> <p>Infilling of waste at the Premises is not within the scope of the works approval application and condition 1.2.3 has been included to prohibit any infilling. If infilling of</p>	supporting documentation
Emissions to groundwater			





<b>DECISION TABLE</b>			
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L= Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
<b>continued</b>		<p>waste is proposed at later stage or as part of any subsequent licence application, groundwater monitoring conditions will be considered for inclusion on any regulatory instrument. The installation of groundwater monitoring bores and background groundwater quality would likely be required on an instrument that authorises infilling and therefore it is recommended that the boreholes are installed and monitoring undertaken as proposed by the proponent if the proponent wishes to submit an application to infill.</p> <p><u>Residual Risk</u>  <i>Consequence:</i> Insignificant  <i>Likelihood:</i> Rare  <i>Risk Rating:</i> Low</p>	
<b>Monitoring general</b>	<p>W = N/A</p> <p>L = conditions will be included</p>	<p><b>Construction</b> No monitoring is proposed under the works approval.</p> <p><b>Operation</b> As ambient air monitoring is proposed during the operational phase, the licence will include a condition to require monitoring be undertaken in accordance with the relevant Australian Standard for continuous dust monitors.</p>	Application supporting documentation
<p><b>Monitoring of inputs and outputs</b></p> <p><b>Monitoring of inputs and</b></p>	<p>W = 3.1.1</p> <p>L = condition will be included</p>	<p><b>Construction</b> The proponent will be accepting waste during the construction phase for civil works and noise barrier construction. Conditions relating to monitoring of inputs, processing and outputs are have been included to verify volumes received, processed for the specified purposes and loads leaving / rejected from the Premises for auditing purposes.</p> <p><b>Operation</b> Monitoring of inputs and outputs will be included on the licence to monitor the volumes of waste entering and leaving the Premises which will assist in verifying the authorised</p>	Application supporting documentation





DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
outputs continued		annual volumes specified on the licence.	
Ambient quality monitoring	W = W1.2.2, W2.2.1 and W3.1.2  L = conditions may be included	<p><b>Construction</b> Condition W1.2.2 has been included to require the installation of at least two BAMs during construction in accordance with the “Australian/New Zealand Standard AS/NZS 3580.1.1:2007 Methods for sampling and analysis of ambient air – Guide to siting monitoring equipment”. The dust monitors are required to be installed on the western boundary to capture any dust emissions from the Premises during the predominant easterly winds during summer which would direct any offsite dust towards the closest sensitive receptor. Condition 4.1.1 requires certification to demonstrate that the dust monitors have been installed as required.</p> <p>Given the close proximity of residents, monitoring of ambient air is required to determine background levels which will be used to verify the findings in the proponent’s risk assessment. Background levels will then be considered to assist in identifying potential impacts to the health or amenities of sensitive receptors during premises operations.</p> <p>The construction phase will involve dust generating activities during the processing of waste for construction purposes. Periodic testing for asbestos in ambient air is recommended and the occupier is required to provide an Asbestos Management Plan (AMP) prior to the commencement of crushing and screening operations (condition 2.1.2). The AMP must address regular monitoring for asbestos. This is detailed further in Appendix A. The works approval includes the BAMs to be continuously monitoring TSP and PM<sub>10</sub> during the construction crushing and screening operations. Refer to Appendix A for the full risk assessment and conditions proposed.</p> <p><b>Operation</b> As discussed in the risk assessment for ‘Dust Emissions’ in Appendix A, the ambient air monitoring data required under the works approval will be considered during the</p>	Application supporting documentation
Ambient quality			



<b>DECISION TABLE</b>			
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L= Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
<b>monitoring continued</b>		<p>licence application assessment.</p> <p>Section 7.3 of “Swan Waste Solutions Works Approval Application – Crushing and Screening Facility on Lot 202 Wandena Road, Muchea, Bowman and Associates Pty Ltd (July 2015)”, specifies that four groundwater monitoring bores will be installed at the premises and that groundwater monitoring will be undertaken to establish background levels and any ongoing impacts from the activities through annual monitoring during the operating phase. The Shire’s planning approval requires groundwater monitoring to be undertaken for the first three months (to determine background levels) and on an annual basis. It is recommended that this information also be voluntarily be presented to DER on an annual basis part of the environmental reporting.</p>	
<p><b>Information</b></p> <p><b>Information continued</b></p>	<p>W4.1.1 and W4.1.2</p> <p>L = conditions will be included</p>	<p><b>Construction</b></p> <p>The Works Approval includes conditions W4.1.1 requiring the occupier to submit a compliance document once construction works have been completed, and prior to any operations commencing, and that the compliance document shall contain certification that all works have been undertaken in accordance with the Work Approval and is required to be authorised by a representative of the occupier. This condition also requires the summary of inputs and outputs as required under condition 3.1.1. This condition allows for verification that all works have been constructed as authorised and assessed through the Works Approval.</p> <p>Condition 4.1.2 has been included to require the occupier to advise of any deviations or other changes that may have occurred during construction, mobilisation or installation of the works. These changes are required to be reported to the CEO as they may have impacts on the emissions and discharges and these will need to be reassessed at the licensing stage to determine if they are sufficient.</p> <p><b>Operation</b></p> <p>The licence will include conditions that include, but are not limited to, the following requirements for submission of information:</p>	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<ul style="list-style-type: none"><li>• All information and records required by the licence are legible and retained for 6 years which assist DER in regulating the conditions of this licence;</li><li>• An Annual Audit Compliance Report (AACR) which requires the occupier to undertake an audit of their operations against the conditions of the licence and to report on this compliance;</li><li>• A complaints management system to be implemented where the occupier can internally address any issues that arise from premises operations;</li><li>• An Annual Environmental Report which requires the AACR and a summary of the complaints to be included along with any relevant monitoring data as required under the licence;</li><li>• Notification to DER in the event of any licence limit exceedances to afford DER sufficient notice of any environmental impacts at the premises so that DER can determine if any further action is required to address the incident.</li></ul>	
Works Approval Duration	N/A	<p>Planning Approval has been granted for a period of five years from commencement of operations, with development to be substantially commenced within two years. Any DER approvals will only be granted for a period up to this two year date (31/03/2018) in accordance with DER's <i>Guidance Statement: Land Use Planning</i> (October 2015).</p> <p>The construction works are anticipated to take no longer than two years to complete therefore the works approval duration has been aligned to the Planning Approval's two year duration (for when development is to be commenced. The works approval expiry date can be amended to extend the duration (up to 5 years from when planning approval was granted) if the Shire is satisfied that the proponent has 'substantially commenced' development. DER approvals requested beyond this date will require further approval from the Shire of Chittering.</p>	



## 5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
13/10/2015	Application referred to Shire of Chittering	No comments were received however an amended Planning Approval was granted on 1 April 2016 for a Landfill and Rehabilitation Centre. The approval requires the proponent to obtain a works approval from DER for prescribed premises categories 13 and 61A prior to commencing operations at the site.	The occupier has not applied for a landfill category. The applicant has supplied further correspondence on this matter and landfilling has not been assessed under this application.
19/10/2015	Application advertised in West Australian	No comments received	N/A
28/10/2015	Application referred to an interested member of the public	No comments received	N/A
2/12/2015	Application referred to the Department of Parks and Wildlife	Comments received on 23/12/2015 to advise that DPAW notes that the site is within a Carnabys Cockatoo breeding area however the proposal has previously been used for quarrying activities does not require any clearing.  No specific comments or objections to the suitability of the proposal were given.	N/A
15/01/2016	Application referred to Midland Brick (Boral) as a direct interest.	No comments received	N/A
23/03/2016	Proponent sent a copy of draft instrument	The proponent responded on 30/03/2016 and 1/4/2016 to advise that the amended planning approval had been granted on 30/3/2016 and that the expiry date of the previous planning approval still applied (5 years from	Documents updated to reflect the amended planning approval.



Date	Event	Comments received/Notes	How comments were taken into consideration
		<p>commencement) and development to be substantially commenced within 2 years. The proponent advised that other than the planning approval, there were no further comments on the draft documents.</p>	
7/06/2016	<p>Proponent meeting with DER representatives</p>	<p>Proponent affirmed that infilling of the quarry void was not integral to the proposed activity.</p> <p>In a letter dated 8 June 2016, legal representative Tim Houweling committed to processing of recyclable building and demolition materials to construct noise bunds and infrastructure (e.g. office blocks and access roads) on the site. Recycled material will also be on sold locally.</p>	<p>Works Approval to allow processing of C&amp;D waste for the construction on noise bunds, office blocks and access roads on site. Processing of C&amp;D waste for other purposes will be considered, and authorised under licence, if appropriate.</p>
08/07/2016	<p>Proponent sent a copy of the updated draft instrument.</p> <p>DER also provided a letter with the drafts to advise that the consideration and assessment regarding the occupier's view that the proposed future fill material is not 'waste' would be considered separately to the works approval process.</p>	<p>The following comments were received by DER on 14/07/2016:</p> <ul style="list-style-type: none"> <li>• Proposed change to wording in condition 1.2.2. <ul style="list-style-type: none"> <li>○ This condition only authorises waste to be accepted onsite during the works approval period for the construction of a noise barrier and civil works.</li> <li>○ The occupier proposed that this condition also is changed to refer to C&amp;D material, instead of waste, and to authorise C&amp;D material to be sold.</li> </ul> </li> <li>• Proposed change to wording in Table 1.3.1. <ul style="list-style-type: none"> <li>○ This table, under the 'process limit' column, specifies that Clean fill and Inert waste Type 1 are authorised to be receipted, handled, stored, crushed and screened only for the</li> </ul> </li> </ul>	<p>In response to the occupier's proposed changes, the following comments apply:</p> <ul style="list-style-type: none"> <li>• Condition 1.2.2 has not been amended as requested by the occupier. The sale of any processed waste is a matter for the operational licence. The works approval only authorises the construction activities and other works associated with making the premises prescribed and therefore it is not relevant to include any operational requirements.</li> <li>• As per the above comments, Table 1.3.1 has not been changed.</li> <li>• The unprocessed construction and demolition</li> </ul>



Date	Event	Comments received/Notes	How comments were taken into consideration
		<p>purpose of noise barrier construction and civil works.</p> <ul style="list-style-type: none"><li>○ The occupier has proposed that the wording in this be changed to authorise to sale of processed C&amp;D material.</li><li>• The occupier also proposed to replace the word 'waste' with 'C&amp;D material', and to subsequently remove the definition of 'waste' from the works approval and replace it with a definition for 'construction and demolition material'.</li></ul>	<p>material received at the site is considered to be 'waste' and therefore this terminology has remained.</p> <ul style="list-style-type: none"><li>• In advance of the CEO's consideration of the letter received from the proponents on 27 June 2016 regarding the definition of waste, the terminology in the works approval has been revised to refer to all waste that has been subject to treatment processes such as crushing and screening as processed waste.</li></ul>



## 6 Risk Assessment

*Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management*

**Table 1: Emissions Risk Matrix**

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High





## Appendix A

### General Conditions

#### Construction

The works approval includes condition W1.2.1 which specifies the requirement for the premises to be constructed and installed in accordance with Table 1.2.1. This Table includes the specification of infrastructure that must be achieved and is consistent with the specifications contained within *Swan Waste Solutions Works Approval Application – Crushing and Screening Facility on Lot 202 Wandena Road, Muchea, Bowman and Associates Pty Ltd*.

This condition has been included so that all works being undertaken have been considered and assessed as part of the works approval process, in accordance with DER's *Guidance Statement: Setting Conditions* (October 2015) and DER's *Guidance Statement: Regulatory Controls* (December 2015).

Condition W1.2.2 has been included to require the installation of at least two Beta Attenuation Monitors (BAMs) during construction in accordance with the "Australian/New Zealand Standard AS/NZS 3580.1.1:2007 Methods for sampling and analysis of ambient air – Guide to siting monitoring equipment". This is discussed in more detail in the 'Ambient quality monitoring' section below.

W1.2.3 has been included to specify that landfilling or infilling of the quarry void with waste is not authorised under the Works Approval. DER is aware that SWS wish to infill the quarry and planning approval has been granted for this activity. However, the works approval application does not include a request to infill as SWS were intending to undertake the activity in accordance with DER's *Guideline: Submitting an application for the use of waste-derived materials case-by-case determination*. In January 2016, a case-by-case application was received by DER however it did not include the relevant risk assessment as required by this guideline and the application was closed. No new applications have been submitted.

As of 5 April 2016, DER is reviewing its end of waste framework to ensure it is consistent with the decision of Justice Beech in *Eclipse Resources Pty Ltd v The State of Western Australia* [No. 4] (2016) WASC 62 and has withdrawn all related final published documents from its website. Given this, the in-filling activities that SWS may have proposed to undertake in accordance with the end of waste framework, may meet the definition of an inert landfill under category 63 of Schedule 1 to the *Environmental Protection Regulations 1987*. Should the proponent wish to undertake works which would cause the premises to become prescribed under category 63, the proponent should submit an application to amend this works approval to authorise these works. Should the proponent wish to undertake category 63 activities at the premises, this category should be included in any future licence application for the premises.

#### Operation

No environmentally hazardous materials will be stored at the Premises. The onsite crushing plant, equipment and generator are anticipated to use diesel fuel and will be refilled with a mobile tanker. Any spills that occur as a result of refuelling or during any other activities may be subject to the *Environmental Protection (Unauthorised Discharge) Regulations 2004* and it is the proponent's responsibility to ensure compliance with these regulations and any other applicable legislation.

#### Emission Description

*Emission:* Stormwater contaminated with leachate from premises operations.

*Impact:* Contamination of surrounding land and groundwater systems.



**Controls:** The proponent will utilise the site gradient to divert any stormwater away from the void and into a dedicated storage pond for use in dust suppression. The Planning Approval requires a Stormwater Management Plan, including a Dewatering Management Plan, to be provided prior to operations commencing. The Dewatering Management Plan is proposed to address the use of the existing stormwater ponding within the void as well as the proposed diversion of water to the dedicated storage pond.

#### Risk Assessment

*Consequence:* Insignificant

*Likelihood:* Rare

*Risk Rating:* Low

#### Regulatory Controls

Only inert waste is proposed to be stored and processed at the premises. Inert wastes have a very low risk of leaching contaminants to the environment when they come in contact with stormwater. In accordance with DER's *Guidance Statement: Setting Conditions* (October 2015) and DER's *Guidance Statement: Regulatory Controls* (December 2015), as the risk associated with stormwater is low, conditions for stormwater management are unlikely to be included on the licence. However, as the proponent will be developing a Stormwater Management Plan, this will be reviewed and if considered necessary and appropriate, controls proposed under this plan may be included as licence conditions to manage any risks associated with erosion as well as implementing any additional conditions that will assist in the effective control and management of stormwater.

#### Residual Risk

*Consequence:* Insignificant

*Likelihood:* Rare

*Risk Rating:* Low

### **Fugitive Emissions**

The Air Quality Services (AQS) functional group within DER undertook an assessment of the application.

AQS identified that:

- Visible dust is the only monitoring proposed by the applicant.
- A risk rating of 'medium' has been self-assessed by the applicant. The justification in the application to support this risk rating has been determined due to the following reasons:
  - Crushing and screening will only be undertaken during two 35 day periods per year (i.e. not continuous); and
  - Crushing and screening will be undertaken within the former clay extraction pit which is located at approximately six metres below ground level.
  - AQS considers there to be a significantly higher risk to receptors given their close proximity from the Premises and the risk of asbestos fines being released during operations.
- Deposited dust levels and the impacts of these on receptors have not been considered in the supporting documentation. Health impacts to sensitive receptors have also not been considered in the application.
- Continuous monitoring for particulates (as PM<sub>10</sub>) and Total Suspended Particulates (TSP) is recommended given the residences in close proximity to the proposed operations.
- Periodic testing for asbestos in ambient air is also recommended.

Taking into account the findings of AQS the following risk assessment has been undertaken which consider dust emissions during operations and construction, however it is noted that commissioning



of the crushing plant during construction works has not been proposed in the works approval application.

#### Emission Description

*Emission:* Fugitive dust emissions from the crushing of C&D waste which have the potential to contain asbestos, dust lift-off from trafficked roads, lift-off from stockpiles, and handling of C&D wastes and crushed products. Fugitive dust emissions may also be generated from the construction of site infrastructure.

*Impact:* Dust emissions blocking photosynthesis in the Bush Forever area located 450m south of the Premises. Reduced local air quality. Impacts on Carnabys Cockatoos and other fauna that may be located in the area and within the Bush Forever area including disruptions to food sources, reproduction and decreasing survival abilities. Health and wellbeing impacts on sensitive receptors located 140m south-west and 380m south-east of the Premises (including other locations) as depicted in Appendix B. Potential human health impacts from any asbestos fibres in dust emissions (not associated with the construction phase).

Impacts to human receptors include:

- Health
  - Asbestosis;
  - Irritation of eyes;
  - Coughing;
  - Sneezing;
  - Hayfever;
  - Increasing symptoms of existing respiratory conditions such as:
    - Asthma;
    - Emphysema; and
    - Chronic obstructive airways disease.
- Nuisance
  - Dust covering people's homes and property;
  - Impacting of people's amenities; and
  - Impacting on people's comfort.

#### *Controls:*

The proponent has provided "Swan Waste Solutions Dust Management Plan Lot 202, Wandena Road, Muchea" prepared by Bowman & Associates Pty Ltd, 20 April 2015 (hereafter referred to as the DMP), which specify the following dust abatement measures:

- Use of 14,000 litre water cart to wet down waste during loading/unloading, crushing and screening;
- Trucks delivering waste to site will be covered;
- Wetting down haul roads as required;
- Visual monitoring of dust crossing the Premises boundary;
- Ceasing dust generating activities in high wind conditions;
- Consideration of covers on discharge conveyor if required;
- Consideration of chemical dust suppressants if required;
- Maintaining a complaints register and undertaking prompt action to rectify complaints if they arise.

The CEO's Delegated Officer and AQS have identified that the quarry void acts as a natural barrier to assist in the reduction of offsite dust impacts.



### Risk Assessment

*Consequence:* Moderate (when dust abatement is operational)

*Likelihood:* Possible

*Risk Rating:* Moderate

Given the close proximity of sensitive receptors it is likely that the adjacent residences will be impacted to a moderate degree by dust during normal operations. In the event that the above dust controls measures fail, it is considered that dust emissions will increase and it is considered likely that dust will impact on the surrounding residences, Carnabys Cockatoos and Bush Forever area.

### Regulatory Controls

Condition W1.2.1 requires at least two Beta Attenuation Monitors (BAM) to be installed at the Premises in accordance with the Australian/New Zealand Standard AS/NZS 3580.1.1:2007 Methods for sampling and analysis of ambient air – Guide to siting monitoring equipment. These dust monitors are required to be placed at the Premises boundary in the direction of the prevailing wind (easterly). Condition W4.1.1 requires certification that the installation of these dust monitors has been complied with. The installation of the dust monitors is warranted given the close proximity to residents and provides a useful tool to determine the levels of dust emissions generated by Premises activities. This is consistent with the technical advice received from AQS.

The proponent intends to construct noise barriers at the premises as part of the works approval and this would include operating the crusher and screener to produce the material required for construction. Condition W2.1.1 has been included on the works approval to include the occupier's proposed dust mitigation measures as regulatory controls on the works approval to assist in dust suppression during construction of the noise barriers. Condition 2.1.3 has also been included to require all crushing and screening to be undertaken within the quarry void, to assist in containing dust emissions onsite, and 2.1.4 has been included requiring all crushed and screened waste to be maintained in a damp condition during placement within the noise barriers. This condition assists in suppressing dust emissions during the noise barrier construction.

The moderate level of risk to the environment and public health associated with dust emissions is considered to be acceptable when dust abatement measures are implemented as required through works approval and licence conditions. It has been identified through the dust risk assessment and AQS review that monitoring of background dust emissions should be undertaken to be used as a comparison against operational dust levels to obtain an accurate account of the dust emissions generated during operations.

Condition 3.1.2 has been included on the works to require continuous monitoring for PM<sub>10</sub> and TSP to be undertaken at the installed BAMs when the crusher and screener are in operation, with monitoring commencing a minimum 5 days prior to crushing and screening operations. The additional 5 days monitoring prior to the activities commencing will be used to measure background levels of ambient air quality. The dust monitoring data is required to be submitted in the compliance document required in condition 4.1.1. This data will be reviewed during the licence application assessment for consideration in any licence monitoring conditions.

The licence will include the controls proposed in the DMP as specific conditions to mitigate dust impacts. Additional conditions will be included on the licence under 'Premises operations' such as restricting the stockpile height and volume, requiring the crusher to be placed within the quarry void at least 6m BGL, limits to premises throughput, restricting the crushing/screening activities to two periods of 35 days each year, requirement of boundary monitoring for PM<sub>10</sub> and TSP, and requiring



periodic testing of asbestos in ambient air. These conditions will be included in accordance with DER's *Guidance Statement: Setting Conditions* (October 2015) and DER's *Guidance Statement: Regulatory Controls* (December 2015), and are consistent with the technical advice from AQS.

As the quarry void provides a natural barrier for dust emissions, any proposed change of crusher location will require the risk assessment for dust emissions to be reassessed.

Residual Risk

*Consequence:* Moderate

*Likelihood:* Possible

*Risk Rating:* Moderate

**Dust containing asbestos**

**Construction and Operation**

A specific Asbestos Management Plan (AMP) has not been provided with the application. The following controls for asbestos have been proposed in the works approval supporting documentation:

- Pre-acceptance inspections
  - Use of authorised contractors/projects
- Inspection on Premises
  - The Premises is not proposing to accept asbestos on site;
  - All delivery vehicles to be queried if they contain asbestos;
  - All delivery loads to be inspected by trained staff with consignment dockets checked;
  - Waste to be deposited into specified unloading area to be spread and visually inspected; and
  - Any loads identified to contain asbestos will be wet down and loaded onto the delivery truck for offsite disposal.

Asbestos management has not been included in the Shire's Planning Approval requirements.

Risk Assessment (Dust containing asbestos)

*Consequence:* Severe

*Likelihood:* Unlikely

*Risk Rating:* High

The controls proposed by the proponent should control asbestos such that it is unlikely that asbestos fibres will be released from the activities. However, due to the severe consequences of asbestos fibres reaching a receptor the risk rating is high.

Regulatory Controls

**Asbestos fibres in dust**

Premises which accept construction and demolition material have a risk that asbestos or asbestos containing material will be present within the loads of waste. As the proponent has not included an Asbestos Management Plan, DER has included works approval conditions that are consistent with the DER Asbestos Guidelines to mitigate risks associated with asbestos emissions. The relevant works approval conditions are 1.3.1 – 1.3.15 under 'Premises operation'. These conditions will also be included on any licence. Additional conditions for inclusion on the licence will include, but may not be limited to, conditions for waste acceptance, stockpile testing for asbestos content, and periodic asbestos in dust monitoring.

W2.1.2 has also been included on the works approval to require the proponent to submit an AMP which is consistent with the DER Asbestos Guidelines and includes regular monitoring of asbestos in air emissions. The AMP is required to be submitted prior to crushing operations commencing onsite.





This condition has been included on the works approval to address the need of asbestos monitoring to be undertaken during construction crushing operations to monitor any potential impacts to the environment and public health as the risk of asbestos emissions being released during crushing has been identified as high. An amendment to the works approval may be required to include any asbestos monitoring proposed in the AMP.

#### Residual Risk

*Consequence:* Severe

*Likelihood:* Unlikely

*Risk Rating:* High

#### **Noise Emissions**

The application supporting documentation included a Noise Assessment for the proposal titled *Swan Waste Solutions Environmental Noise Impact Assessment*, prepared by VIPAC Engineering & Scientists Ltd (VIPAC), 14 July 2015 (Noise Assessment). The Noise Assessment has identified the closest sensitive receptors being located at Lot 3362 Great Northern Highway (140m), Lot 201 Wandena Road (380m), Lot 3426 Great Northern Highway (690m), Lot 100 Great Northern Highway (830m), and Lot 50 Wandena Road (890m).

The works approval application has stated that the hours of operation (for the crusher) are 07:00 to 16:45 Monday to Friday, and 07:00 to 11:45 Saturdays. Office hours are proposed between 07:00 to 17:00 Monday to Friday, and 07:00 to 12:00 Saturdays. These hours are within the day time hours as specified in the *Environmental Protection (Noise) Regulations 1997* (EP Noise Regulations). The proponent also proposes to only undertake crushing activities on two occasions during the year consisting of no more than 35 days each.

The Noise Regulation (NR) functional group within DER completed an assessment of the proponent's Noise Assessment.

NR's assessment of the Noise Assessment noted the following:

- The closest sensitive receptor is located 140m from the site and noise impacts from the proposal are very likely;
- VIPAC's conversion of  $L_{10}$  from  $L_{eq}$  values is not correct as the two noises from  $L_{eq}$  and  $L_{10}$  are different and should not be used to calibrate each other;
- It is unclear if the construction material used to construct the noise berms will be sourced externally, or if the proponent intends to crush the material onsite. Any crushing for construction purposes should be undertaken during operations and not the works approval;
- Construction of the noise berms will need to meet the assigned noise levels and noise impacts during this construction work should be assessed;
- Noise barriers are more effective the closer they are to the source of noise. The proposal states that noise berms will be constructed at the property boundary, rather than the pit edge, and no justification for this position has been provided;
- Any other noise generating activities in the vicinity of the site (i.e. quarries) should be considered and assessed as a cumulative impact;
- The risk of noise impact is high; and
- Noise Regulation is currently unable to determine if the proposal, including the construction of noise barriers, would comply with the EP Noise Regulations.

DER requested further information from the proponent in February 2016 requesting clarification on the matters raised by NR as well as a rerun of the modelling to address the conversion concerns for  $L_{eq}$  and  $L_{10}$ . An updated Noise Assessment was provided in March 2016. NR also reviewed the updated Noise Assessment and noted the following:

- proposed change in equipment to replace the previously proposed front-end-loader (FEL) of Komatsu WA420-3 with a Komatsu WA400-5 which has a lower operating sound power level;



- proposed removal of the previously proposed 4m high noise barrier along the boundary with the neighbouring lots to the west;
- concerns over methodology of modelling have not been sufficiently addressed;
- the change in FEL may result in an overall noise power reduction of 3dB;
- the reduced overall noise level is likely to result in the premises operations complying with the EP Noise Regulations without the need of noise barriers;
- an existing bund is located between the location of the proposed crushing operations and the nearest residence to the west of the premises. This may assist in reducing noise emissions.
- crushing operations will be undertaken below the natural surface level which may also assist in reducing noise emissions;
- simple noise mitigation measures could be undertaken to reduce noise emissions should these be required; and
- noise monitoring should be undertaken post construction to verify compliance with the EP Noise Regulations.

Based on NR's review of the proponent's Noise Assessments, the following risk assessment has been completed for noise emissions during operations.

#### Emission Description

*Emission:* Unreasonable noise emissions from the crushing and screening of waste as well as noise emitted from vehicle movements (including reversing beepers) and the general handling of waste.

*Impact:* Reduced wellbeing, amenity and comfort of sensitive noise receptors located immediately adjacent to the Premises. Impacts on Carnabys Cockatoos including disruptions to food sources, reproduction and decreasing survival abilities.

*Controls:* The Noise Assessment provided in the supporting documentation represents the impacts associated with noise emissions when utilising the following proposed controls:

- Use of an FEL with lower sound power level;
- Crusher to be located 6m below ground level in an existing quarry void;
- Crusher to only operate during the 'daytime hours' as prescribed in the EP Noise Regulations; and
- Restricting crusher operations to two operational periods a year being undertaken for 35 days in each period.

The CEO's Delegated Officer and technical advice from NR have identified that the quarry void acts as a natural barrier to reduce noise impacts to sensitive receptors and is considered an important tool for risk management at the Premises.

#### Risk Assessment

*Consequence:* Moderate

*Likelihood:* Possible

*Risk Rating:* Moderate

#### Regulatory Controls

Although NR's review of the updated Noise Assessment concurs that noise emissions will likely comply with the EP Noise Regulations without the need to construct noise barriers, the occupier has advised the CEO's Delegated Officer that these barriers will still be constructed and are required to be constructed under other relevant approvals such as planning. Condition 1.2.1 of the works approval specifies the works authorised to be constructed and includes the noise barriers as specified to be constructed in Section 7.1 of the occupier's supporting documentation. Noise emissions during the construction of these barriers are not required to meet the prescribed standard requirements of the EP Noise Regulations (regulation 7) provided that the construction is carried out between 0700 and





1900 hours Monday to Saturday. No specific controls for the regulation of noise emissions during construction have been included on the works approval.

The licence will include regulatory controls requiring the implementation of the all controls proposed by the proponent as specified above. Additional regulatory controls will be included to require noise monitoring from crushing operations to verify the risk assessment's conclusions that the premises will be compliant with the EP Noise Regulations, as well as the requirement to maintain the existing bund at the Premises, and requiring the crusher/screener to be located within the quarry void, 6 mBGL. Should the need for noise mitigation measures arise, conditions will be included on the licence requiring additional measures to be undertaken to meet compliance with the EP Noise Regulations.

It is noted that the outcomes and recommendations specified in the Stormwater and Dewatering Management Plans (discussed in 'General conditions' in the Decision Table) may impact on the location of the crusher within the void. If the relocation of the crusher is required, the noise assessment will need to be updated by the proponent and reassessed through a works approval amendment application.

Residual Risk

*Consequence:* Moderate

*Likelihood:* Possible

*Risk Rating:* Moderate



## Appendix B

Locations and descriptions of closest sensitive receptors:

