



Application for works approval

Part V Division 3 of the *Environmental Protection Act 1986*

Works approval number	W6362/2020/1
Applicant	Waroona Resources Pty Ltd
ACN	169 962 421
DWER file number	DER2020/000060
Premises	Premium Waste Management Lot 15 on Deposited Plan 59265 Richards Road WAROONA WA 6162 As defined by the Premises map attached to the issued works approval
Date of report	11 May 2020
Decision	Granted

1. Definitions

Key terms relevant to this decision report and their associated definitions are listed in Table 1.

Table 1: Definitions

Term	Definition
Applicant	Waroona Resources Pty Ltd
Category / categories	Categories of prescribed premises as set out in Schedule 1 of the EP Regulations.
Decision Report	refers to this document.
Delegated Officer	An officer delegated under section 20 of the EP Act.
Department	The department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation As of 1 July 2017, the Department of Environment Regulation (DER), the Office of the Environmental Protection Authority (OEPA) and the Department of Water (DoW) amalgamated to form the Department of Water and Environmental Regulation (DWER). DWER was established under section 35 of the <i>Public Sector Management Act 1994</i> and is responsible for the administration of the <i>Environmental Protection Act 1986</i> along with other legislation.
Emission	has the same meaning given to that term under the EP Act.
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act for the Premises.
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997 (WA)</i>
Occupier	has the same meaning given to that term under the EP Act.
Prescribed premises	This has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report
Risk Event	As described in <i>Guidance Statement: Risk Assessment</i>
Works Approval Holder	Waroona Resources Pty Ltd

2. Purpose and scope of assessment

Waroona Resources Pty Ltd (the Applicant) submitted a works approval application on 4 February 2020 for the construction of eight new cells (cells 6 – 13) at the Premium Waste Management Class I inert landfill.

This Decision Report presents and assessment of potential environmental and public health risks from emissions and discharges due to the construction and operation of the proposed new landfill cells.

3. Application details

The application is to construct nine new landfill cells on the Applicant's existing Premises, licenced under instrument L8651/2012/1 and located on Lot 15, Richards Rd, WAROONA WA. The proposed works will not increase the Premises throughput for the associated Category 63 landfilling activities. Table 2 lists the documents submitted during the assessment process.

Table 2: Documents submitted as part of the application

Document / information description	Date received
Application form and supporting documentation.	4 February 2020
Emails in response to DWER queries.	13 February 2020
	24 February 2020
	02 April 2020
	21 April 2020

4. Overview of existing premises

The Premises is located approximately 10km west of the town of Waroona and 500m north-west of the Shire of Waroona's Class II putrescible landfill. The Applicant commenced operating the site in 2012 as an inert landfill using the void progressively created by a sand quarrying operation (also owned by the Applicant). The sand quarry remains active and as further voids are created, they are backfilled with inert waste material.

The construction of landfill cells 1 and 2 were completed under Works Approval W4935/2011/1. Another works approval, W5674/2014/1, was granted on 14 July 2014 and gave approval to construct the remaining cells 3 to 13. However this works approval expired before all cells could be completed. Cells 6 to 13 are yet to be constructed and are therefore the subject of this works approval Decision Report.

The Applicant holds an Existing Licence for the premises (L8651/2012/1). Under the Existing Licence the Premises is approved for;

- Category 63 - for the burial of Inert waste Type I, Inert Waste Type 2, Special Waste Type 2 (asbestos cement bonded and asbestos contaminated soils), clean fill and contaminated solid waste that meets Class I criteria only;
- Category 62, which allows for the acceptance and sorting of green waste, Inert waste Type I, Inert Waste Type 2, Special Waste Type 2 (asbestos), clean fill and contaminated solid waste that meets Class I criteria;
- Categories 61A which allows for the shredding and chipping of timber/ green waste; and
- Category 13 which allows for the crushing of building material.

The current approved throughputs for each category is outlined below in Table 3.

Table 3: Classification of premises and design capacity.

Category	Description	Assessed production or design capacity or throughput
Category 13	Crushing of building material: premises on which waste building or demolition material (for example, bricks, stones or concrete) is crushed or cleaned.	50,000 tonnes per annum
Category 61A	Solid waste facility: premises (other than premises within category 67A) on which solid waste produced on other premises is stored, reprocessed, treated, or discharged onto land.	35,000 tonnes per annum
Category 62	Solid waste depot: premises on which waste is stored, or sorted, pending final disposal or re use.	200,000 tonnes per annum
Category 63	Class I inert landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer and as amended from time to time) is accepted for burial.	150,000 tonnes per annum

4.1 Description of proposed activity

4.1.1 Proposed construction

The Applicant wishes to construct nine additional landfill cells at the Premises to allow the continued disposal of inert waste by landfilling (up to 150,000 tonnes per annum). No extensive 'works' are required to construct the cells besides the use of an excavator to dig out the sand as part of the sand quarrying activities on site. Cell development will be progressive with cells being constructed completely prior to waste being deposited. The base of each cell will be excavated to a maximum depth of 2m above the water table. Figure 1 outlines the lay-out of the existing cells (1-5) and proposed cells (6-13).

Note: the layout of cells has been changed as a result of this amendment application. The Applicant reviewed the cell layout during the assessment and removed the proposed cell 11 while making cells 8 to 9 run from north to south. This changed the proposed layout of cells slightly and brought the number of total cells down to 13 (from 14).

4.1.2 Proposed operations

The Premises is currently licenced to accept and landfill Class I Inert Waste, Inert Waste Type 2, Special Waste Type 1 (Asbestos), Clean Fill and asbestos contaminated soil. This same material will be what is accepted for all future cells. Up to 150 000 tonnes of inert waste will be disposed of within the cells per year.

The source of the waste comes from commercial waste collection companies, demolition

companies and construction companies. On arrival at the site, the following activities are undertaken for each waste load (Landfill Management Plan, 2011);

- Each load is visually inspected prior to acceptance by landfill operations personnel. Inspections will be carried out in order to identify:
 - Waste type.
 - Waste quantity.
 - Waste origin.
 - Unacceptable waste types.
 - Asbestos.
- Waste deemed acceptable will be allowed to progress to the landfill waste tipping area;
- Waste deemed unacceptable will not be allowed to progress to the landfill area. Depending on the type of unacceptable waste, the material would either be directed to the Shire of Waroona Class II landfill facility or another appropriate waste disposal location;
- For acceptable loads that are instructed to progress to the tipping area, there is a further opportunity to inspect the load once it has been tipped on the landfill surface;
- On tipping at the tipping face, the landfill operator will inspect the load while it is being tipped. Should any non-conforming waste be identified, it will be reloaded back into the customers bin and immediately removed from site; or
- Some loads which are mixed with non-conforming waste may be 'picked clean' if possible. If a load is not able to be easily cleaned up to the appropriate Class I standard the complete load will be rejected and sent offsite.

Asbestos waste

Asbestos waste is disposed of at the landfill within a specified asbestos designated area (currently located within Cell 4). The Applicant has proposed that additional designated asbestos areas will be required within future cells. An updated map outlining the new asbestos disposal areas is provided below (Figure 1). The majority of asbestos waste is expected to be non-friable, cement bonded asbestos and broken cement bonded asbestos mixed with other inert waste types (from construction or demolition sites) and therefore not wrapped prior to transporting and disposal. Asbestos and asbestos contaminated waste (generally soil) are managed in accordance with the *Premises Asbestos Management Procedure* (2011) and *Asbestos Management Plan* (2020). These plans outline the following procedure;

- Waste carriers will require approval and declare if their load is containing or at risk of containing asbestos prior to entering the landfill;
- On entry to the site all trucks carrying asbestos waste contained in loose loads (not wrapped sheets, i.e. mixed in soil or construction waste) must have wetted down loads that are tarped or enclose in a bin;
- Trucks are then directed to a designated asbestos area where loads are un-tarped or tipped only when wind conditions permit and when the water cart is present for wetting down the load during tip off;
- Cover in the form of inert uncontaminated waste is then applied directly to the tipped contaminated load and covered. A stockpile of cover material will be stored next to the Designated Asbestos Area so a dozer can access and push over after each tip at a minimum of 300mm thick; and
- Large solid pieces of cement bonded asbestos are to be doubled wrapped in black plastic sheeting (<200µm thick) and labeled 'CAUTION ASBESTOS' and disposed of within the Designated Asbestos Area.

The asbestos control measures are already conditioned within the sites Existing Licence and the asbestos management procedure is listed as an appendix within the licence document.

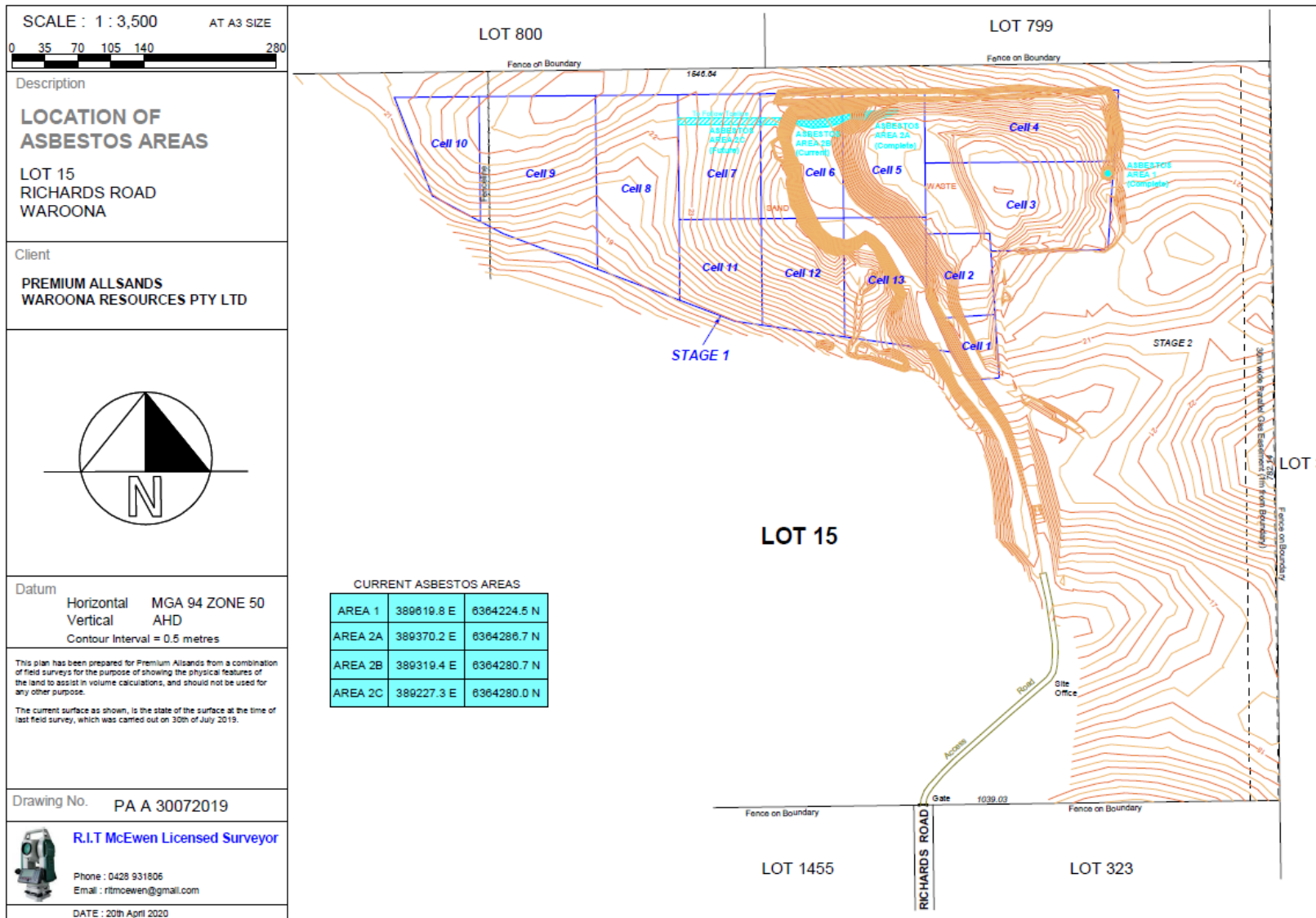


Figure 1: Proposed landfill cell layout

4.1.3 Premises compliance history

On the 25th June 2019 a waste levy site inspection carried out by DWER inspectors identified that non-conforming waste types (timber, cardboard, foam, carpet, paper and mulch) was being disposed of within the landfill (ICMS 54366). These waste types have the potential to produce leachate and landfill gas emissions.

An environmental field report (EFR 00561) was issued directing the Applicant to comply with licence condition 1.2.2 (and Table 1.2.2 – provision (e)) of their Existing Licence (L8651/2012/1), which stipulates that only inert waste is to be disposed of via landfilling. The Applicant notified DWER that all non-conforming waste has been removed from the landfill as requested. No non-conforming waste was identified at follow up inspections in September and November 2019.

A letter of warning was issued (A1813339) on the 8 August 2019 for contravening condition 1.2.2 of the premises Existing Licence and the incident was closed off within DWER's record system.

The Applicant has stated within their 2019 Annual Environmental Report that to prevent non-conforming waste of this type being disposed of within the landfill in the future more waste is now being diverted to the onsite waste transfer station (which has recently been expanded to include a timber recycling area and concrete recycling area) and more picking staff have been employed to re-sort waste that comes to the landfill prior to burial.

On 26 February 2020 another waste levy site inspection was carried out by DWER inspectors. This inspection once again identified timber and cardboard etc. within the landfill cells. Follow up compliance actions were still outstanding at the time of drafting this Decision Report.

The Delegated Office notes that:

1. There is a recent history of the Premises depositing waste other than what is approved through their Existing Licence into the inert landfill.
2. The premises is currently non-compliant with condition 1.2.2 of their Existing Licence L8651/2012/1. DWER's Compliance and Enforcement Directorate are investigating the matter and will follow-up as required.

5. Legislative context and other approvals

The legislative framework for this assessment is the *Environmental Protection Act 1986* (EP Act) and *Environmental Protection Regulations 1987* (EP Regulations). Approvals relevant to the premises are outlined in Table 4 below.

Table 4: Legislative requirements

Legislation	Number	Approval
<i>Planning and Development Act 2005</i>	N/A	The Shire of Waroona provided planning consent for an inert landfill at the Premises on 9 December 2009.
<i>Environmental Protection (Clearing of Native Vegetation) Regulations 2004</i>	CPS 1525/2	Clearing permit to clear native vegetation in the location of the remaining cells.

Legislation	Number	Approval
<i>Part V Division 3, Environmental Protection Act 1986</i>	L8651/2012/1	Existing Licence for the operation of the Premises.

6. Emission sources, pathways, receptors and controls

6.1 Emissions

The potential for emissions to impact on sensitive receptors has been assessed in accordance with the Department's Risk Framework. The key emissions during premises construction which have been considered in this report are **dust and noise** from movement of vehicles and earthmoving activities.

The Applicant has proposed measures to assist in controlling these emissions, where necessary. The control measures are outlined in Section 6.4 below and have been considered when undertaking the risk assessment detailed in Section 7.

A licence amendment will be required for the operation of the new landfill cells (amendment to include updated Landfill Area Map in Schedule 1 – Existing Licence only refers to Cells 1-4). A risk assessment for the operational phase has been included in this Decision Report, however licence conditions will not be finalised until DWER assesses the licence amendment application. The key emissions considered during the operation of the premises are **dust, noise and leachate (including potentially contaminated stormwater)** from the landfilling activities.

6.2 Receptors

Risk is assessed as a combination of emission sources, the proximity and sensitivity of receptors to those emission sources and any pathways that can allow the emission to reach and potentially harm the receptor. Table 5 below provides a summary of human and environmental receptors in proximity to the premises which have a potential to be impacted from site activities, and the risk assessment in Section 7 considers these receptors in the context of emissions and potential pathways.

Table 5: Human and environmental receptors in proximity to the premises

Human receptors	Distance from prescribed premises
Residential Premises (rural/residential).	Approximately 1km north of premises boundary.
Town of Waroona.	Approximately 9km to the east of the premises boundary.
Environmental receptors	Distance from activity / prescribed premises
Parks and Wildlife Managed Lands and Waters Buller Road Nature Reserve.	Approximately 1km south of the Premises
Peel Harvey Environmental Protection Policy (EPP) <i>The purpose of the Peel Harvey EPP:</i> <ul style="list-style-type: none"> ○ <i>to set out environmental quality objectives for the Estuary which if</i> 	Mapped within the Premises boundary

<p><i>achieved will rehabilitate the Estuary and protect the Estuary from further degradation; and</i></p> <ul style="list-style-type: none"> ○ <i>to outline the means by which the environmental quality objectives for the Estuary are to be achieved and maintained.</i> 	
<p>Threatened Ecological Communities</p> <p>Banksia Dominated Woodlands of the Swan Coastal Plan IBRA Region.</p>	
<p>Green Growth</p> <ul style="list-style-type: none"> • Quenda commitments • Vegetation Complexes Commitments • RSNAs System 6 Commitments • RSNAs DPaW Conservation Program Commitments <p>Southern river/Cannington complex bushland.</p> <p>Peel Regionally Significant Natural Areas (Buller Road Nature Reserve and adjacent bushland).</p>	
<p>Geomorphic Wetlands – Swan Coastal Plain</p> <p>Consisting of Sumpland basin and Palusplain flat complexes.</p> <p>There is a waterbody / wetland 500m north of the premises boundary.</p>	
<p>Hydrography WA 250K – Surface Water Lines (GA2015)</p> <p>Drainage canal line.</p>	<p>400m south-west of Premises boundary</p>

6.3 Pathways

Due to the type of emissions identified in Section 6.1 groundwater, soil and air (meteorology) have been considered potential pathways to receptors during this assessment.

6.3.1 Groundwater

Currently there are four groundwater monitoring bores on site which require monitoring on a monthly basis for sanding water level (SWL) and a quarterly basis for groundwater quality as per the Applicant's Existing Licence. One bore is located up gradient of the landfill (SE4) and three are located down gradient to the landfill (SE1 to 3).

The location of these bores are shown in Figure 2 below.



Figure 2: Location of groundwater monitoring bores.

A groundwater assessment was undertaken for a previous works approval in 2010 by Strass Environmental (Strass Environmental, 2010). This assessment concluded the following;

- The groundwater (superficial aquifer) exist underneath the whole of the proposed landfill;
- The inferred flow direction is to the west, with a gradient of 0.001 (1m head difference over a distance of 1 km);
- Standing water levels within an up gradient bore is approximately 4.5 meters below ground level (mbgl) (this has been confirmed within the 2019 Annual Environmental Report for the site – (4.115mbgl));
- Standing water levels within down gradient bores are approximately 1-2mbg (this has been confirmed within the 2019 Annual Environmental Report for the site);
- The groundwater is present as a semi confined superficial aquifer. The groundwater is semi confined by the clayey silts in the upper soil horizons and there is an upward hydraulic pressure in the aquifer; and
- Based on the lithology of the sediments observed during drilling, the hydraulic conductivity of the upper layers is low, estimated in the region of 1 to a maximum of 5 m/d.
- A conceptual hydrogeological model was developed, see Figure 3 below.

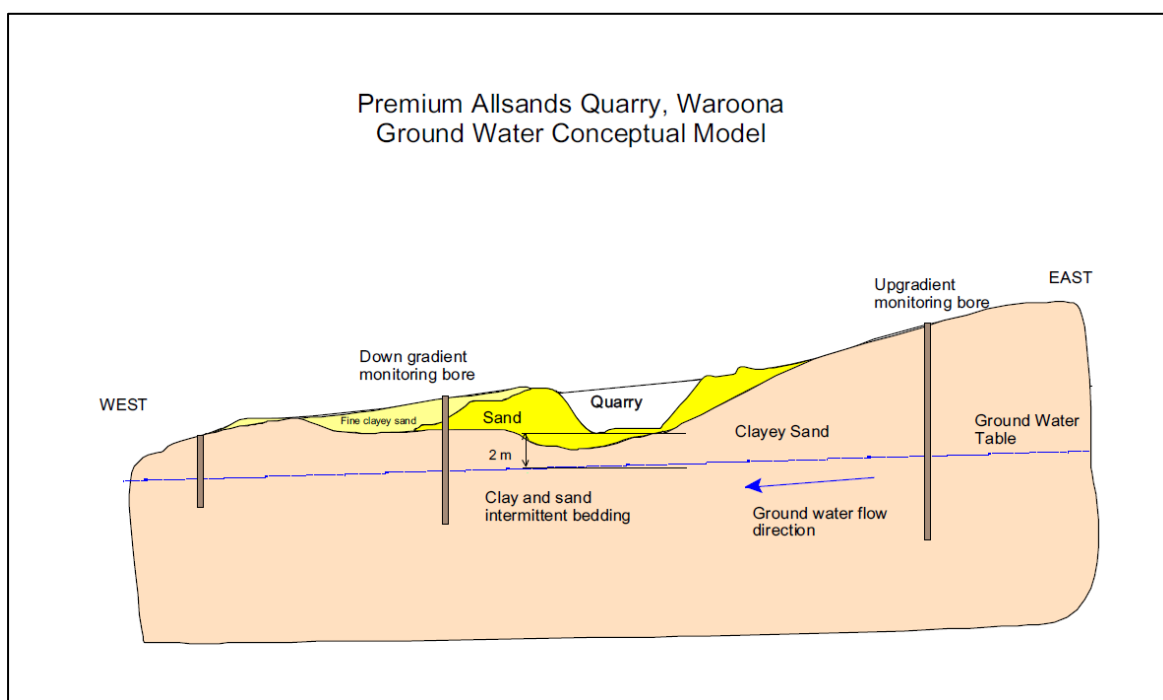


Figure 3: Hydrogeological conceptual model for the Premises.

The Applicant has stated within the application that the groundwater levels within the down gradient monitoring bores (SE 1 to 3) are not indicative of the groundwater level at the landfilling area. This is because the down gradient bores are located at a lower elevation off the sand ridge. Groundwater levels within the up gradient bore (SE4) is located in the sand ridge in the vicinity of the excavation area and are therefore more indicative of the groundwater level within the landfill area.

Strass Environmental from February 2012 to 2019 have undertaken groundwater level monitoring at the site. Groundwater levels for SE4 (up gradient bore) varies between RL11.6m to RL12.1m. In August 2015 a temporary monitoring bore was installed within the

landfill area to determine depth to groundwater (this bore has since been removed to make way for landfill cells). Results from this survey indicated that depth to groundwater was RL11.6m. Based on this and historical groundwater level data the Applicant determined that groundwater level within the landfill area was approximately RL12m. Therefore since this time (2015) the base of the landfill cells have been constructed to approximately RL14m to ensure a minimum two meter thickness of undisturbed soil profile exists between the base of the landfill and the groundwater table.

A recent review by DWER of the groundwater quality data from the site was carried out in 2019 (record number A1808341). This review looked at key parameters associated with landfills (i.e. ammonium, chloride, potassium, REDOX and Potassium/ Chloride ratio). Data from 2015 to 2018 was compared from an up gradient monitoring bore (SE4) and two down gradient monitoring bores (SE2 and SE3). The review found no parameters of concern, noting that groundwater quality when compared between up gradient and down gradient monitoring bores did not differ significantly.

6.3.2 Soil and geology

The geology of the soils at the site is predominantly sandy, with upper horizons comprising of clayey sand, which turns to silty sand with depth. The clay is likely to be a mixture of glauconite and kaolinite and the composition generates a low permeability confining layer to the aquifer in the sands beneath (Stass Environmental, 2010).

6.3.3 Meteorology

Using information available on the Bureau of Meteorology's website, the closest available weather station for meteorological data is Dwellingup weather station (station 9538) approximately 20km away from Waroona. Wind frequency data collected at the Dwellingup weather station from 1957 to 2010, shows the prevailing wind direction is east south-east in the morning and west in the afternoon (Figure 4).

The mean monthly rainfall and maximum temperatures at the Dwellingup weather station are shown in Figure 5. Rainfall at the Premises is expected to occur predominately during the winter months, peaking in June and corresponding to lower maximum temperatures.

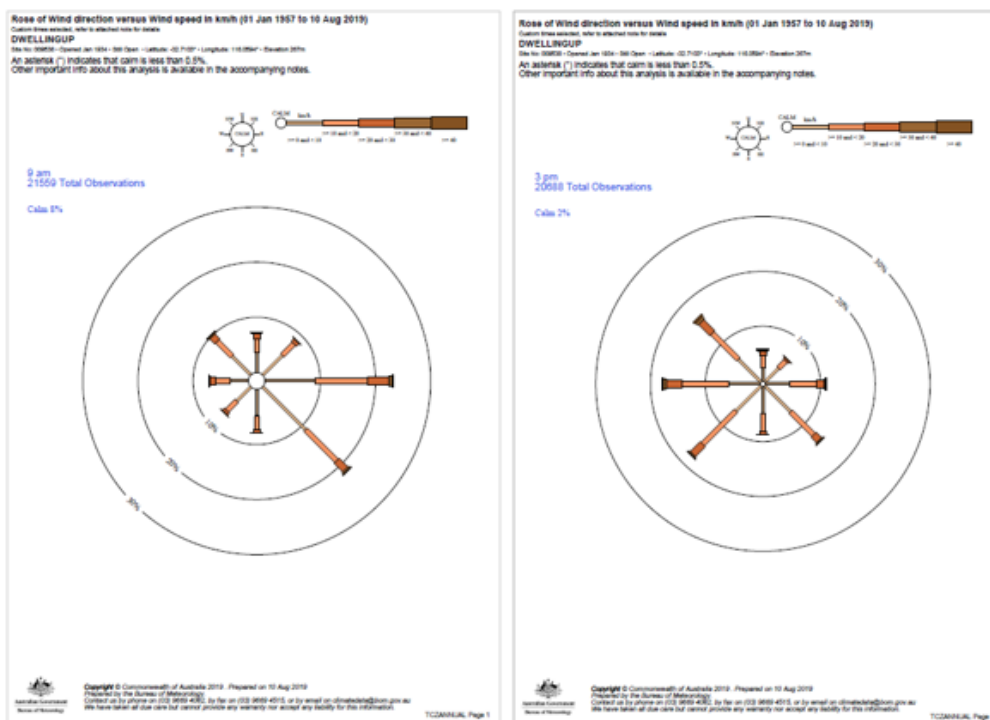


Figure 4: Annual rose of wind direction versus wind speed at the Dwellingup weather station at 9am and 3pm. Source: Bureau of Meteorology website www.bom.gov.au

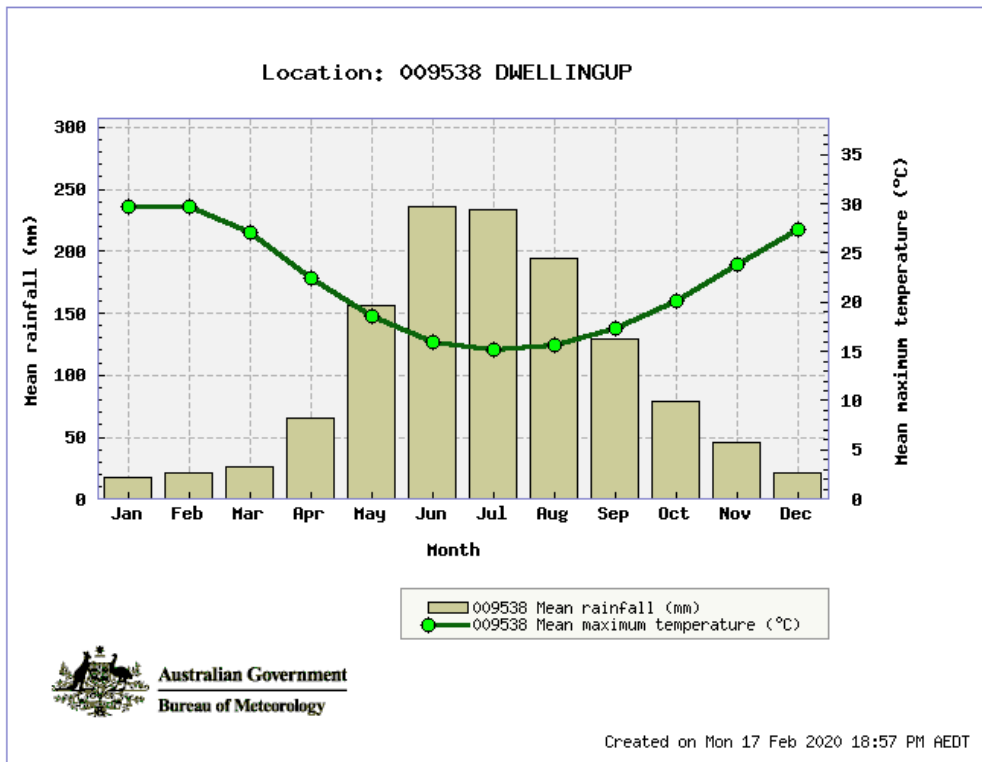


Figure 5: Mean monthly rainfall and maximum temperature at the Dwellingup weather station (1934 -2020). Source: Bureau of Meteorology website www.bom.gov.au

6.4 Applicant controls

The Applicant has proposed the following management measures/controls as part of the application (Table 6):

Table 6: Applicant’s proposed controls

Emission (as identified above)	Source	Proposed controls
Dust	<u>Construction Phase</u> Vehicle and machinery movements Earthwork activities <u>Operations Phase</u> Vehicle and machinery movements	<ul style="list-style-type: none"> Water cart will be used when required. All excavation activities are conducted within the pit and is well protected by the north, west and eastern walls. To the north (in the direction of the nearest sensitive receptor) there is a 5m high bund wall on top of the pit wall to act as a barrier to dust. Traffic control to reduce vehicle speed on site. Limiting the surface area of operational areas to minimise dust lift off (progressive vegetation clearing). Capping and revegetation immediately after landfilling has been completed. Activities will be limited during periods of unfavorable wind conditions.

Noise	<u>Construction Phase</u> Vehicle and machinery movements Earthwork activities <u>Operations Phase</u> Vehicle and machinery movements	<ul style="list-style-type: none"> • All excavation activities are conducted within the pit and is well protected by the north, west and eastern walls. • To the north (in the direction of the nearest sensitive receptor) there is a 5m high bund wall on top of the pit wall to act as a barrier to noise. • Working hours 7am – 4.45pm Monday to Friday and 7am – 11.30am on Saturdays with no work during Sundays and Public Holidays (in accordance with <i>Environmental Protection (Noise) Regulations 1986</i>). • Machinery is limited to one front end loader loading one truck at a time to minimise machinery noise.
Leachate and stormwater	<u>Operations Phase</u> Waste in cells generating leachate	<ul style="list-style-type: none"> • Only inert waste (low potential for producing leachate) will be disposed of within the landfill. • Inspection procedures are in place to ensure non-conforming waste (that could produce leachate) is not disposed of within the landfill. • Stormwater will be diverted away from the east landfill wall and the west sand quarry wall away from the landfill cells. • Base of the landfill cells will be kept at a minimum depth of 2m above the groundwater table. • Special waste type 1 and inert waste type 2 are required to be covered immediately or by the end of the working day in which the waste was deposited. • The landfill will be progressively capped as the final design profile is reached, the capped landfill will be rehabilitated immediately following the construction of capping layer.
Asbestos fibers	<u>Operations Phase</u> Asbestos containing material (cement bonded), Asbestos contaminated soil, or asbestos co-mingled with other waste material	<p>An <i>Asbestos Management Plan (2020)</i> and <i>Asbestos handling procedure (2011)</i> are in place to ensure asbestos is handled appropriately and directed to the designated asbestos areas within the landfill. Management controls from these plans have been conditioned within the Existing Licence.</p> <ul style="list-style-type: none"> • Waste carriers will require approval and declare if their load is containing or at risk of containing asbestos prior to entering the landfill; • On entry to the site all trucks carrying asbestos waste contained in loose loads (not wrapped sheets, i.e. mixed in soil or construction waste) must have wetted down loads that are tarped or enclosed in a bin; • Trucks are then directed to a designated asbestos area where loads are un-tarped or tipped only when wind conditions permit and when the water cart is present for wetting down the load during tip off; • Cover in the form of inert uncontaminated waste is then applied directly to the tipped contaminated load and covered. A stockpile of cover material will be stored next to the designated asbestos area so a dozer can

		<p>access and push over after each tip at a minimum of 300mm thick; and</p> <ul style="list-style-type: none"> • Large solid pieces of cement bonded asbestos are to be doubled wrapped in black plastic sheeting (<200µm thick) and labeled 'CAUTION ASBESTOS' and disposed of within the designated asbestos area.
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7. Risk assessment

The identification of the sources, pathways and receptors to determine Risk Events are set out in Tables 7 and 8 below, consistent with the *Guidance Statement: Risk Assessments*. Risk ratings have been assessed for each key emission source and take into account potential source-pathway-receptor linkages.

The mitigation measures / controls proposed by the Applicant have been considered in determining the risk rating. Emissions during construction and operation have been assessed separately to allow clear delineation of activity phases.

The works approval that accompanies this report authorises construction and time limited operations only. A licence amendment is required to operate landfill cells 6 to 13 at the premises in the medium to long term.

The conditions in the issued Works Approval, as outlined in Table 7 and 8, have been determined in accordance with the *Guidance Statement: Setting Conditions*.

Table 7: Risk assessment – construction phase

Risk Event				Consequence rating*	Likelihood rating*	Risk*	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities	Potential emissions	Potential receptors, pathway and impact	Applicant controls					
Construction of landfill cells Vehicle and machinery movements Earthwork activities.	Noise	Air/windborne pathway causing impacts to health and amenity of closest human receptor (1000 from the premises boundary)	As described in section 6.4	Slight	Unlikely	Low	The proposed works are part of a sand mining operation that occurs onsite. Noise emissions will be intermittent and occur over a short period of time. Due to the fact that the premises is already an active landfill with a transfer station, in consideration of the distance to sensitive receptors and the applicants proposed controls, it is unlikely that noise emissions will significantly impact the amenity of nearby sensitive receptors. Therefore the risk rating for this event has been deemed to be low.	Works Approval None required Compliance with the <i>Environmental Protection (Noise) Regulations 1986</i> applies.
	Dust		As described in section 6.4	Minor	Unlikely	Medium	The proposed works are part of a sand mining operation that occurs onsite. Dust emissions will occur as a result of earth moving activities and vehicle movements. Low level onsite impacts from dust emissions may occur. Due to the applicant's controls and the distance to sensitive receptors (1000m or more) it is unlikely that dust emissions will significantly impact the amenity of nearby sensitive receptors. The Applicants proposed controls will likely be effective at controlling dust emissions and these controls will be conditioned in the Works Approval. The risk rating for this event has been deemed to be Medium.	Works Approval Conditions 2 and 3 – dust prevention

*Consequence ratings, likelihood ratings and risk descriptions are detailed in the Department's Guidance Statement: Risk Assessments (February 2017)

Table 8: Risk assessment – operation (information only)* and time limited operations

Risk Event				Consequence rating**	Likelihood rating**	Risk**	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source /Activities*	Potential emissions	Potential receptors, pathway and impact	Applicant controls					
Operation (including time limited operation) of landfill cells	Dust	Air/windborne pathway causing impacts to health and amenity of closest human receptor (1000 from the premises boundary)	As described in section 6.4	Slight	Unlikely	Low	Dust emissions during operation of the landfill may be generated during tipping of loads and covering of cells. Due to the applicant's controls and the distance to sensitive receptors it is unlikely that dust emissions will have an impact on the amenity of nearby residences. Therefore the risk rating for this event has been deemed to be Low.	Licence Regulatory controls already in place on the Existing Licence. Additional controls, if required, to be determined during licence amendment stage.
	Noise		As described in section 6.4	Slight	Unlikely	Low	The main noise emissions resulting from operation of the landfill are intermittent in nature and will occur when waste is being tipped and covered. Due to the sporadic nature of the noise emissions occurring on the Premises, the Applicant's proposed controls and the distance to the nearest sensitive receptors, it is unlikely noise emissions will significantly impact the amenity of nearby residences. Therefore the risk rating for this event has been deemed to be Low.	Licence Condition 7 – time limited operational requirements - machinery to be operated between certain times. Additional controls, if required, to be determined during licence amendment stage. Compliance with the <i>Environmental Protection (Noise) Regulations 1986</i> applies

Risk Event				Consequence rating**	Likelihood rating**	Risk**	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source /Activities*	Potential emissions	Potential receptors, pathway and impact	Applicant controls					
	Leachate and potentially impacted stormwater	Infiltration of leachate to groundwater through soil profile impacting on the quality of soil and groundwater.	As described in section 6.4	Minor	Unlikely	Medium	<p>Low levels of leachate is expected to be generated by the waste types disposed of within the landfill.</p> <p>The Applicants controls to manage leachate (i.e. removal of non-conforming waste from waste loads, direction of storm water away from the landfill, covering waste and capping landfill cells as quickly as possible) are sufficient and therefore it is unlikely that leachate will impact soil and groundwater.</p> <p>The Applicant's control measures have been conditioned within their Existing Licence for the Premises.</p> <p>The Applicant has stated within the application that the base of the landfill cells (RL 14m) will be a minimum of 2 metres above the highest groundwater level (~ RL12m). This requirement will be conditioned within the Works Approval.</p> <p>It has been determined that the risk rating for this event is Medium.</p>	<p>Works Approval</p> <p>Condition 1 infrastructure and equipment specifications</p> <p>Condition 7– time limited operational requirements – waste covering, waste type acceptance, base separation distance to groundwater table.</p> <p>Licence</p> <p>Regulatory controls already in place on the Existing Licence.</p> <p>Additional controls to be determined during licence amendment stage.</p>
	Asbestos fibres from acceptance/ disposal of asbestos waste	<p>Air/windborne pathway causing impacts to amenity of surrounding human receptors (1000m from premises boundary)</p> <p>Air/windborne pathway causing impacts to</p>	As described in section 6.4	Major	Rare	Medium	<p>Additional designated asbestos areas are proposed within the new cells.</p> <p>Acceptance of asbestos waste is a high risk activity. This is due to the major consequence criteria associated with the event (mid-level or frequent medical treatment may be required if exposed).</p> <p>Due to the applicant's proposed controls the likelihood of this risk event (Asbestos fibres impacting sensitive receptors) occurring is Rare.</p>	<p>Works Approval</p> <p>Condition 7 – time limited operational requirements – asbestos waste.</p> <p>Licence</p> <p>Regulatory controls already in place on the Existing Licence.</p> <p>Additional controls, if required, to be</p>

Risk Event				Consequence rating**	Likelihood rating**	Risk**	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source /Activities*	Potential emissions	Potential receptors, pathway and impact	Applicant controls					
		priority/threatened ecological community.					<p>The Applicant's proposed controls are already being implemented at the landfill and conditions relating to asbestos management are already on the Existing Licence (standard conditions for the acceptance and landfilling of asbestos material). A map showing the location of the new designated asbestos areas will need to be added during the next licence amendment.</p> <p>Time- limited operations conditions will be added to the works approval to ensure that asbestos contaminated waste is managed appropriately during this time.</p>	determined during licence amendment stage.

**The works approval that accompanies this Report authorises construction and time limited operations only. A licence amendment is required for operations.*

***Consequence ratings, likelihood ratings and risk descriptions are detailed in the Department's Guidance Statement: Risk Assessments (February 2017)*

8. Consultation

Method	Comments received	DWER response
Application advertised on DWER website - 9 March 2020.	No comments received.	Not applicable.
Local Government Authority advised of proposal 6 March 2020.	No comments received.	Applicant has provided evidence that Planning Approval covers the landfilling activities onsite.
Applicant referred draft documents on 8 April 2020	Request to allow burial of asbestos contaminated waste (soil) and ACM within designated asbestos areas within new cells. Provided a map showing new burial locations No other comments received.	The landfilling of this waste has already been assessed during Amendment Notice 2 for the sites Existing Licence. The new locations for asbestos disposal have now been considered under this works approval and new asbestos management conditions have been added to the draft.
Applicant referred draft documents on 7 May 2020	Review of new asbestos conditions on works approval (conditions reflect what is already on the existing licence). No comments, applicant happy to proceed to final sign off.	Noted.

9. Conclusion

Based on the assessment in this decision report, the Delegated Officer has determined that a works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

Melissa Chamberlain

**A/MANAGER WASTE INDUSTRIES
REGULATORY SERVICES**

An officer delegated by the CEO under section 20 of the EP Act

Appendix 1: Key documents

Document title	Availability
Works Approval application form and supporting documentation, Waroona Resources Pty Ltd, submitted 04 February 2020.	DWER records (A1864220)
Response to request for further information, Received 13/02/2020 via email.	DWER records (A1870618)
Response to request for further information, Received 24/02/2020 via email.	DWER records (A1870684)
Response to request for further information, Received 02/04/2020 via email.	DWER records (A1881741)
Response to request for comment on the draft documents, received 21/4/2020 via email.	DWER records (A1886405)
Strass Environmental, Groundwater assessment, Premium Allsands, Waroona WA, Version 2, November 2010.	DWER records (A1870618)
Review of groundwater quality data from 2015-2018, Grace Campbell, Department of Water and Environmental Regulation, 10/07/2019.	DWER records (A1808341)
DWER compliance inspection report – waste operations, 25 June 2019, Katie Needham.	DWER records (A1826185)
Premium waste management Class 1 landfill, Landfill Management Plan, November 2011, IW Projects Pty Ltd.	DWER records (A755068)
DER, July 2015. <i>Guidance Statement: Regulatory principles</i> . Department of Environment Regulation, Perth.	accessed at www.dwer.wa.gov.au
DER, October 2015. <i>Guidance Statement: Setting conditions</i> . Department of Environment Regulation, Perth.	
DER, August 2016. <i>Guidance Statement: Licence duration</i> . Department of Environment Regulation, Perth.	
DER, February 2017 <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth.	
DWER, June 2019 <i>Guideline: Decision Making</i> Department of Water and Environmental Regulation	