



## Environmental Protection Authority

Mr Stephen Elliot  
Urban Resources Pty Ltd  
4/127 Melville Parade  
**COMO WA 6008**

Your Ref:  
Our Ref: CMS15331  
Enquiries: Amy Sgherza, 6145 0818  
Email: Amy.Sgherza@epa.wa.gov.au

Dear Mr Elliot

### **NOTICE UNDER SECTION 39A(3) *Environmental Protection Act 1986***

**PROPOSAL:** Karnup Sand Mining Project  
**LOCATION:** Lot 316 Stakehill Road Karnup  
**PROPONENT:** Urban Resources Pty Ltd  
**DECISION:** Referral Examined, Preliminary Investigations and Inquiries Conducted. Proposal Not to be Assessed Under Part IV of EP Act. Advice Given. (Appealable)

The Environmental Protection Authority (EPA) understands that you wish to undertake the above proposal which has been referred to the EPA for consideration of its potential environmental impact.

This proposal raises a number of environmental issues. However, the overall environmental impact of the proposal is not so significant as to require assessment by the EPA, and the subsequent setting of formal conditions by the Minister for Environment under Part IV of the *Environmental Protection Act 1986*. Accordingly, the EPA has determined not to assess this proposal.

Nevertheless, the EPA has provided the attached advice to you as the proponent, and other relevant authorities, on the environmental aspects of the proposal.

The EPA's decision to not assess the proposal is open to appeal. There is a 14-day period, closing 18 July 2016, during which, on payment of the appeal fee, an appellant may ask the Minister to consider directing the EPA to reconsider this decision or conduct a formal assessment.

Information on the outcome of the appeals process is available through the Appeals Convenor's website, [www.appealsconvenor.wa.gov.au](http://www.appealsconvenor.wa.gov.au), or by telephoning 6467 5190 after the closing date of appeals.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Ian Munro', written in a cursive style.

Ian Munro  
A/Director  
Assessment and Compliance Division

Delegate of the Chairman of the Environmental Protection Authority  
Under Notice of Delegation No. 33 published 17 December 2013

4 July 2016

Encl: Public Advice

**PUBLIC ADVICE UNDER SECTION 39A(7)  
ENVIRONMENTAL PROTECTION ACT 1986**

**KARNUP SAND MINE**

**Summary**

Urban Resources Pty Ltd proposes to develop a sand quarry on tenement **M70/1262**, located in Karnup approximately **48** kilometres (km) south of the Perth Central Business District (CBD). The proposal would extract 1.5 million cubic metres (m<sup>3</sup>) over a project life of around 5 years with a total disturbance footprint of around 42 hectares (ha) including the mining area, stockpiles, a haul road and site compound.

Attachment 1 provides a summary of the key characteristics of the proposal in accordance with the Environmental Protection Authority's (EPA) *Environmental Assessment Guideline – Defining the key characteristics of a proposal* (EAG 1). Figure 1 identifies the development envelope and the proposed disturbance footprint.

A further referral to the EPA would be required if sand extraction, which could be significant in nature, was proposed outside of the scope of the proposal as described in Attachment 1.

The proponent has advised that the overall post-mining land use is expected to be consistent with the sites zoning of Parks and Recreation to support the proposed LandCorp residential development to the west of this proposal.

The proposal was advertised for public comment and the EPA notes that **9** public comments were received. Eight of these requested the level of assessment be determined as Public Environmental Review (PER) and 1 requested an API (category A).

Key issues raised by the public included the following:

- impacts to native vegetation and flora;
- impacts to wetlands;
- impacts to fauna;
- impacts Aboriginal heritage; and
- implementation of the rehabilitation plan.

The EPA has examined the proponent's referral documentation, and conducted preliminary investigations and inquiries on the further information received.

The EPA has considered the proposal in accordance with the requirements of the *Environmental Protection Act 1986* (EP Act) and the *Environmental Impact Assessment Administrative Procedures 2012*. In making its decision on whether to assess the proposal, the EPA considered the 10 aspects of the significance test as set out in clause 7 of the *Environmental Impact Assessment Administrative Procedures 2012*:

1. values, sensitivity and quality of the environment which is likely to be impacted;
2. extent (intensity, duration, magnitude and geographic footprint) of the likely impacts;
3. consequence of the likely impacts (or change);

4. resilience of the environment to cope with the impacts or change;
5. cumulative impacts with other projects;
6. level of confidence in the prediction of impacts and the success of proposed mitigation;
7. objects of the Act, policies, guidelines, procedures and standards against which a proposal can be assessed;
8. presence of strategic planning policy framework;
9. presence of other statutory decision-making processes which regulate the mitigation of the potential effects on the environment to meet the EPA's objectives and principles for EIA; and
10. public concern about the likely effects of the proposal, if implemented, on the environment.

In considering the potential direct and indirect impacts of the proposal on the Hydrological Processes, Flora and Vegetation, Terrestrial Fauna, Heritage, Amenity (Dust and Noise) and implementation of Rehabilitation and Decommissioning, the EPA has had particular regard to:

- the environmental values in the development envelope which include 5 wetlands, a small area of Banksia woodland in very good condition and black cockatoo foraging habitat. Given the former use of the site as a pine plantation which had previously been cleared, most of the site is in various states of regeneration.
- the potential impacts to the wetlands (including two mapped Conservation Category Wetlands (CCWs)), which are unlikely to be significantly impacted due to:
  - a minimum buffer of 50 m will be provided between sand mining activities and wetlands in the development envelope;
  - the proposal does not require dewatering or groundwater abstraction; and
  - the mining activities occur above the water table.
- the potential impacts to Flora and Vegetation, which are unlikely to be significantly impacted due to:
  - no declared rare flora, priority flora, or threatened ecological communities being impacted;
  - the small loss of 6.5 ha of jarrah banksia woodland in very good condition; and
  - the proposed rehabilitation of vegetation at the conclusion of mining operations to re-establish the target ecosystem.
- the potential impacts to Terrestrial Fauna, which are unlikely to be significantly impacted due to:
  - the results of the fauna surveys which indicate that no potential black cockatoo breeding or roosting habitat will be impacted;
  - the relatively small loss of up to 6.5 ha of very good quality black cockatoo foraging habitat which represents a very small proportion of the existing

- foraging habitat (around 106,000 ha) on the Perth-Peel Region Scheme portion of the Swan Coastal Plain;
  - the avoidance of wetlands and provision of a 50 m wetland buffer;
  - the staged approach to clearing to allow local migration of fauna into adjacent areas; and
  - the post-mining rehabilitation utilising native plant species that are known black cockatoo food sources.
- the potential impacts to Amenity in the form of dust and noise, which is unlikely to be significantly impacted due to:
  - the proposal is for extraction only and does not include a crushing or processing component;
  - the location of stockpiles and bunds to provide noise suppression measures; and
  - the proponent's dust suppression measures to minimise dust emissions from construction and operation.
- the potential impacts to Heritage (Aboriginal Heritage), which is unlikely to be significantly impacted due to:
  - the results of desktop and field surveys undertaken by the proponent which indicate that the two registered sites of significance near the proposal, extend well beyond the development envelope and are unlikely to be disturbed by mining operations; and
  - the engagement of a heritage consultant to walk the site prior to ground disturbing activities to ensure no heritage artefacts are disturbed.
- the procedures outlined by the proponent to decommission and rehabilitate the site.
- the provision of a mine closure plan that is consistent with the Department of Mines and Petroleum (DMP) and EPA *Joint Guidelines for Preparing Mine Closure Plans*.
- the presence of other statutory processes that can manage the potential impacts to Flora and Vegetation, Fauna, Amenity, Heritage and Rehabilitation and Closure, including the requirement to have approval to clear vegetation through a Part V Division 2 Clearing Permit and the development of a Mining Proposal under the *Mining Act 1978*.

In summary, although the proposal raises a number of environmental issues and has a degree of public interest about the environmental impacts, the EPA considers that its objectives for Hydrological Processes, Flora and Vegetation, Terrestrial Fauna, Amenity, Heritage, and Rehabilitation and Decommissioning can be met.

The EPA considers that the proposal is unlikely to have a significant impact on the environment and does not warrant formal assessment because the proposal: will be undertaken on a previously harvested pine plantation; avoids impacts to wetlands; and clears a relatively small area of black cockatoo feeding habitat.

In addition, the EPA also notes that the proponent will need to apply to the Department of Mines and Petroleum (DMP) for approvals under Part V Division 2 (Clearing) of the *Environmental Protection Act 1986* (EP Act) and the *Mining Act 1978* (Mining Act).

## 1. Environmental Factors

The EPA has identified the following preliminary environmental factors relevant to this proposal:

- a) Hydrological Processes;
- b) Flora and Vegetation;
- c) Terrestrial Fauna;
- d) Amenity (Dust and Noise);
- e) Heritage (Aboriginal); and
- f) Rehabilitation and Decommissioning.

There were no factors, including the interaction between the environmental factors, that were determined to have significant environmental impacts that would require formal environmental impact assessment under Part IV of the EP Act.

## 2. Relevant Policy and Guidance

The EPA has given due consideration to the following relevant published EPA policies and guidelines, noting that other published policies and guidelines pertaining to this proposal were considered but not determined to be relevant:

### a) Hydrological Processes

- Guidance Statement 33 (GS 33) – *Environmental Guidance for Planning and Development*. May 2008, Environmental Protection Authority Western Australia.
- Position Statement 4 (PS 4) – *Environmental Protection of Wetlands*. November 2004, Environmental Protection Authority Western Australia.
- The *Environmental Protection (Swan Coastal Plain Lakes) Policy* (EPA 1992) was an Environmental Protection Policy (EPP) that was listed in the proponent's referral document as a relevant policy. The objective of the policy was to protect the beneficial uses and values of certain lakes on the Swan Coastal Plain. This policy was in operation at the time of referral but was revoked in November 2015. It is therefore not considered relevant to the EPA's consideration of this proposal.

However, within the development envelope two wetlands listed under this policy correspond with Swan Coastal Plain wetlands and notwithstanding the revocation of this policy, the EPA has considered and reviewed the potential impacts of the proposal on all wetlands in the development envelope, including those wetlands that were listed under the revoked Swan Coastal Plain Lakes EPP.

### b) Flora and Vegetation

- Guidance Statement No. 10 (GS 10) – *Level of Assessment for Proposals affecting natural areas within the System 6 region and Swan Coastal Plain portion of the System 1 region*. June 2006, Environmental Protection Authority Western Australia.

- Position Statement No. 2 (PS 2) - *Environmental Protection of Native Vegetation*. December 2000, Environmental Protection Authority Western Australia.
- Position Statement No. 3 (PS 3) – *Terrestrial biological surveys as an element of biodiversity protection*. March 2002, Environmental Protection Authority Western Australia.
- Guidance Statement No. 51 (GS 51) - *Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in WA*. June 2004, Environmental Protection Authority, Western Australia.

**c) Terrestrial Fauna**

- GS 33 *Environmental Guidance for Planning and Development*. May 2008, Environmental Protection Authority Western Australia.
- PS 3 - *Terrestrial Biological Surveys as an Element of Biodiversity Protection*. March 2002, Environmental Protection Authority, Western Australia.
- Guidance Statement No. 56 (GS 56) – *Terrestrial fauna surveys for Environmental Impact Assessment in WA*. June 2004, Environmental Protection Authority Western Australia.

**d) Amenity (Dust and Noise)**

- Guidance Statement No.3 (GS 3) - *Separation Distances between Industrial and Sensitive Land Uses*. June 2005, Environmental Protection Authority Western Australia.
- Environmental Assessment Guideline 13 (EAG 13) - *Consideration of environmental impacts from noise*. September 2014, Environmental Protection Authority Western Australia.

**e) Heritage (Aboriginal)**

- Guidance Statement No. 41 (GS 41) – *Assessment of Aboriginal Heritage*. April 2004, Environmental Protection Authority.

**f) Rehabilitation and Decommissioning**

- *Joint Guidelines for Preparing Mine Closure Plan (EPA/DMP)*. May 2016, Department of Mines and Petroleum and Environmental Protection Authority Western Australia.
- Guidance Statement 6 (GS 6) - *Rehabilitation of Terrestrial Ecosystems*. June 2006, Environmental Protection Authority Western Australia.
- Environmental Protection Bulletin No. 19 (EPB 19) – *EPA involvement in mine closure*. July 2013, Environmental Protection Authority Western Australia.

**3. Advice and Recommendations regarding Environmental Issues**

**a. Hydrological Processes**

*The EPA's objective for this factor is to maintain the hydrological regimes of groundwater and surface water so that existing and potential uses, including ecosystem maintenance, are protected.*

The development envelope (Figure 1) includes five wetlands, two of which are mapped as Conservation Category Wetlands (CCWs). The remaining three wetlands are mapped as Resource Enhancement wetlands.

As outlined above, at the time of referral, there were also two wetlands listed under the now revoked Swan Coastal Plain Lakes EPP in the development envelope. These wetlands coincide with one of the CCW's and one of the Resource Enhancement wetlands mapped in the proponent's referral and as such the potential impacts from the proposal on the former Swan Coastal Plain Lakes EPP wetlands have been considered and further discussed below.

The proponent has avoided direct impacts to these wetlands and included a 50 m buffer between sand mining activities and all mapped wetlands in the development envelope. The 50 m buffer is considered adequate to avoid indirect impacts as a result of sedimentation or erosion. The avoidance of direct and indirect impacts to the wetlands and the provision of wetland buffers is consistent with PS 4 and GS 33.

Water for dust suppression is proposed to be sourced offsite, as a result no dewatering would be required. The proponent has identified a mining area (shown in Figure 1 as 'disturbance footprint') based on the topography of the site and the maximum groundwater levels in order to ensure that quarrying activities will occur above the groundwater table. The extraction will be limited to a depth of 4.2 m AHD, which is at least 1.2 m above the highest known groundwater level. This would serve to provide a vertical buffer of undisturbed soil profile to be maintained between the base level of the excavated area and the highest measured water table level.

The extent and the depth of excavation activities proposed by the proponent in the referral is also provided in the proponent's Mining Proposal application, and if approved, will be implemented through the *Mining Act 1978*.

The DMP should note the importance of ensuring the proponent implements the proposal consistent with its mining proposal, in particular, ensuring that the finish level of mining is above the groundwater table. If the proponent wishes to extract sand outside of the disturbance footprint in Figure 1 or deeper than proposed in the proponent's referral, then this would constitute a different proposal that may need to be referred to the EPA for a decision on whether to assess.

Having regard to the 50 m buffer and the proposed extraction being above the highest known groundwater level, the EPA considers that the proposal, if implemented, can be managed to meet the EPA's objectives for hydrological processes.

### *Summary*

Having regard to:

- a 50 m buffer between sand mining activities and wetlands including two CCWs;
- the proposal not requiring dewatering or groundwater abstraction; and
- that mining activities will occur above the groundwater table,



the EPA considers that the proposal can meet the EPA's objectives for Hydrological Processes and that the likely environmental effects of the proposal are not so significant as to warrant formal assessment provided that the proposal is implemented in accordance with the referral documentation and the EPA's advice.

#### **b. Flora and Vegetation**

*The EPA's objective for this factor is to maintain representation, diversity, viability and ecological function at the species, population and community level.*

The proposal would result in the clearing of around 30.8 ha of vegetation. The EPA notes that as the proposal area is a former pine plantation that was progressively cleared from 2006 to 2009 the majority of the vegetation proposed to be impacted is in variable states of regeneration with the exception of a 6.5 ha strip of vegetation along the western boundary which is a Jarrah Banksia woodland community and is rated as 'very good' condition.

The proponent initially undertook a level 1 desktop flora and vegetation assessment which was followed by a field survey. Based on the results of this survey and to account for the field survey being conducted in Autumn the proponent then commissioned an additional targeted flora survey in spring (the flowering period) to identify potential occurrences of Declared Rare flora species within the development envelope. This is consistent with GS 51 which states that if the initial botanical survey is undertaken in non-optimal times, then supplementary surveys must be undertaken at optimal times. The EPA considers that the relevant matters in PS 3 and GS 51 (in terms of season, duration and analysis) were met for this proposal.

Based on the flora and vegetation surveys undertaken in accordance with GS 51 and PS 3, the proponent indicated that no declared rare, priority flora species, or threatened ecological communities will be impacted by the proposal.

The Hedde vegetation complex which would be impacted by the proposal is Karrakatta Complex – Central and South, which has greater than 10% but less than 30% of its pre-European extent remaining. A relevant matter outlined in PS 2, with further guidance in GS 10, is to retain at least 10 per cent of each vegetation complex of the pre-European extent in the Swan Coastal Plain portion of the Perth Metropolitan Region. This proposal is therefore consistent with GS 10, as it would not result in this vegetation complex having less than 10 per cent of its pre-European extent remaining. In this regard, the proposal will not impact on the representation of native vegetation at the community level.

Bush Forever site 376 is located to the north of the development envelope and is separated by Stakehill Road. At this stage there is a 40 m buffer, between the northern extent of the disturbance footprint and the Bush Forever site. This is less than the 50 m buffer recommended in the Draft Perth Peel Green Growth Plan (PPGGP). However as the PPGGP is still in draft form and for this particular case the buffer includes Stakehill Road (a major road), it is considered to be sufficient to mitigate the indirect impacts from the proposal.

In terms of post-mining rehabilitation, the proponent proposes in its draft mine rehabilitation plan to rehabilitate the vegetation to be cleared along the western boundary of the disturbance footprint as part of the mine closure planning process. The EPA notes that the DMP can also require the retention of the vegetation on the western side of the boundary and or the requirement for an offset. The EPA also notes that an application for a Native Vegetation Clearing Permit has been made with the DMP. The DMP has advised that the proposal can be dealt with under Part V Division 2 (Clearing) of the EP Act.

### *Summary*

Having regard to:

- the former use of the site as a pine plantation;
- the condition of the majority of the vegetation in various states of regeneration;
- that no declared rare flora, priority flora, or threatened ecological communities will be impacted;
- the small loss of Karrakatta Complex – Central and South vegetation complex , which has greater than 10% of its pre-European extent remaining;
- the small loss of 6.5 ha of Jarrah Banksia woodland in very good condition; and
- the proposed rehabilitation of vegetation at the conclusion of mining operations,

the EPA considers that the proposal can meet the EPA's objectives for Flora and Vegetation and that the likely environmental effects of the proposal are not so significant as to warrant formal assessment provided that the proposal is implemented in accordance with the referral documentation, the EPA's advice and dealt with through Part V Division 2 (Clearing) of the EP Act, which will consider whether the strip of vegetation along the western boundary should be retained, and if offsets are required.

### **c. Terrestrial Fauna**

*The EPA's objectives for this factor is to maintain representation, diversity, viability and ecological function at the species, population and assemblage level.*

Desktop assessments undertaken by the proponent in accordance with GS 56 and PS 3 identified the potential presence of two species of black cockatoo within the development envelope. The proponent also undertook a foraging and significant tree assessment to quantify the value of the development envelope as potential habitat for black cockatoos.

In addition to the black cockatoo species, the desktop assessments identified habitat suitable for the rainbow bee eater within the development envelope. This species is known to breed in sandy soils and around wetlands. The proposal includes a 50 m buffer around all wetland areas and as such it is unlikely that suitable habitat for the rainbow bee eater will be impacted by the proposal. As the proposal will not clear suitable habitat the proponent has not undertaken a detailed habitat assessment for this species.

The proposal would result in the clearing of 6.5 ha of very good quality foraging habitat and 24.3 ha of low quality foraging habitat. No confirmed or potential breeding or roosting habitat was identified within the development envelope. The EPA notes that the loss of 6.5 ha of very good quality black cockatoo foraging habitat represents a very small proportion of the existing mapped extent of around 106,000 ha of foraging

habitat on the Perth-Peel Region Scheme portion of the Swan Coastal Plain (*Perth and Peel Green Growth Plan for 3.5 million – Draft EPBC Act Strategic Impact Assessment Report*, Government of WA, 2015).

The proponent has identified that there are other areas of good quality foraging habitat in secure conservation tenure, within 4 km of the development envelope. These areas include:

- Maldives Tramway Reserve (north of Stakehill Road);
- Karnup Nature Reserve (1.5 km);
- Anstey Swamp (3.5 km); and
- Paganoni Swamp (3.8 km).

Therefore based on the above, this very small loss of foraging habitat will not impact on the viability of the populations of black cockatoos. Distances of 4 km or less between vegetated areas is considered necessary to maintain habitat connectivity and enable black cockatoos to continue to successfully move between feeding areas (*Perth and Peel Green Growth Plan for 3.5 million – Draft EPBC Act Strategic Impact Assessment Report*, Government of WA, 2015).

The proponent also proposes to use black cockatoo foraging plant species in the post-mining rehabilitation in the development envelope.

The EPA notes that an application for a Native Vegetation Clearing Permit will be required for this proposal and that impacts to fauna habitat will need to be considered under *Principle b* (fauna habitat) of the clearing principles. As mentioned above, the DMP has advised that the clearing impacts of the proposal can be dealt with under Part V Division 2 of the EP Act.

The referral information identified that migratory birds have the potential to use the site due to presence of wetlands within the tenement, but are unlikely to be present for long periods. As noted above wetland habitat would not be cleared as part of the proposal and a 50 m buffer will be in place.

While no other fauna of conservation significance was identified during the surveys the proponent proposes to clear land in stages to allow for local fauna migration into adjacent areas, utilise only the designated haul road for vehicle movements and enforce speed limits to minimise indirect impacts from vehicle strikes during construction and operation.

### *Summary*

Having regard to:

- results of the fauna surveys which indicate that no black cockatoo breeding or roosting habitat will be impacted;
- the very small loss of very good quality black cockatoo Swan Coastal Plain feeding habitat is highly unlikely to impact on the viability of the populations of black cockatoo species;
- avoidance of wetland habitats and provision of a 50 m buffer;
- the staged approach to clearing and progressive rehabilitation of cleared areas;
- proposed management measures to avoid terrestrial fauna vehicle strike during construction and operation; and

- the proposed use of black cockatoo foraging plant species in post-mining rehabilitation,

the EPA considers that the proposal can meet the EPA's objectives for Terrestrial Fauna and that the likely environmental effects of the proposal are not so significant as to warrant formal assessment provided that the proposal is implemented in accordance with the referral documentation, the EPA's advice and the clearing impacts dealt with through Part V (Clearing) of the *Environmental Protection Act 1986*.

#### **d. Amenity (Noise and Dust)**

The EPA's objective for this factor is *to ensure that impacts to amenity are reduced as low as reasonably practicable*.

The potential impacts from the proposal on amenity are from noise and dust emissions. The proposal is for sand extraction only and does not include a crushing or processing component which would be a significant source of noise and dust emissions.

##### *Noise*

*Environmental Assessment Guideline for Consideration of environmental impacts from noise* (EAG 13) provides guidance on how noise impacts are considered, and the EPA expects that best practice design and noise management would be used to minimise noise impacts.

For this proposal the proponent will locate stockpiles and construct bunds to provide substantial noise suppression between the nearest dwellings.

The proponent has also proposed the following measures to further minimise the impacts of noise:

- the mining operation, including construction will occur between 0600–1800 (Monday–Saturday) to minimise the likelihood of noise nuisance;
- all mobile equipment will be maintained, with efficient mufflers and noise shielding; and
- mobile equipment without audible reversing alarms will be used if possible.

Noting the above, the EPA considers that the proponent has demonstrated best-practice design and noise management to minimise noise impacts consistent with EAG 13.

##### *Dust*

The proposal includes the following dust suppression measures during construction and operation of the proposal:

- the use of water spray/carts in the event that high levels of dust are observed;
- daily visual monitoring of dust levels;
- areas will be progressively cleared and progressively rehabilitated as part of the post mining rehabilitation plan to limit the area of bare earth; and
- activities with high dust-causing potential, such as stripping, will not be carried out in sensitive areas.

The above measures have been included in the proponent's application to DMP for a Mining proposal under the *Mining Act 1978*.

Noting the above proposed management measures for dust and noise, the EPA has concluded that the proposal can meet the EPA's objective for Amenity.

The EPA recommends that the above measures are consolidated into a Noise and Dust Management Plan to be prepared consistent with EAG 13 and GS 3, and implemented prior to the commencement of construction.

The nearest dwelling is located 200 m north of the proposed development envelope and is subject to traffic noise from the main roads, Stakehill Road and Kwinana Freeway. This separation distance is less than the minimum separation distance indicated for sand extraction in GS 3 which recommends a distance of 300-500 m in the absence of site specific information. GS 3 recommends that where no site-specific investigations have been undertaken, a report, demonstrating that the proposed separation distance will meet the acceptable management criteria and management techniques will be applied to ensure no environmental impacts, should be prepared.

For this particular proposal however, the EPA notes that there will be no processing component on site (which would be a significant noise and dust emission source) and that the proponent has demonstrated it has incorporated best-practice noise and dust measures in the design of the proposal. The EPA recommends that these measures are consolidated by the proponent into a Noise and Dust Management Plan as part of the Mine Proposal application process by the DMP.

#### *Summary*

Having regard to:

- the proposal is for extraction only and does not include a crushing or processing component;
- the location of stockpiles and noise bunds to provide noise suppression; and
- the proponent's dust suppression measures to minimise dust emissions for construction and operation,

the EPA considers that the proposal can meet the EPA's objectives for Amenity and that the likely environmental effects of the proposal are not so significant as to warrant formal assessment provided that the proposal is implemented in accordance with the referral documentation and the EPA's advice.

The EPA also notes that the impacts to noise emissions can also be regulated through the *Environmental Protection (Noise) Regulations 1997*. The EPA considers that this approach is consistent with the objectives of EAG 13.

#### **e. Heritage (Aboriginal)**

*The EPA's objective for this factor is to ensure that historical and cultural associations, and natural heritage, are not adversely affected.*

GS 41 outlines the EPA's expectation that proponents undertake a competent analysis of, and report on, the likelihood of the presence of matters of heritage significance to Aboriginal people. Consistent with this the proponent has undertaken a search of the

Department of Aboriginal Affairs (DAA) *Aboriginal Heritage Inquiry System* (DAA 2015). These searches identified two sites of significance which coincide with the development envelope:

- the Serpentine River Registered Aboriginal Heritage Site (ID: 3582; Legacy ID: 02407) which is registered as a ceremonial, Mythological site; and
- the Nyitting Booya Binja Other Heritage Place (Site 28186) which is an artefact scatter site within and bordering the eastern side of the development envelope.

The proponent commissioned an indigenous cultural heritage survey for the development envelope. The survey did not identify any new ethnographic, or archaeological sites or materials.

As Site 3582 is related to the Serpentine River itself and there is no intersection of the proposal with the river itself, it is unlikely to result in significant impacts to this registered site. It is noted the proposed disturbance area is over 400 metres from the Serpentine River.

The proposal impacts on a small proportion of Site ID 28186 which is mapped over a wide area. A large proportion of this site will be undisturbed by the proposal.

The EPA notes that the areas of the development envelope proposed to be mined have mostly been disturbed by clearing, pine plantation and clearing of the pine plantation again, including removal of stumps and roots.

Based on the above, the EPA considers that it is unlikely that the proposal would have a significant impact on the physical and biological surroundings that would affect Aboriginal Heritage and that the proposal can meet the objectives for this factor.

To ensure no inadvertent disturbance of any unknown heritage artefacts, the proponent will:

- consult with the relevant aboriginal community to engage an appropriate heritage consultant to conduct a site inspection prior to topsoil removal;
- cease all activities in accordance with the *Aboriginal Heritage Act 1972* should an unregistered site be uncovered, whilst a consultant undertakes an Aboriginal Heritage Assessment; and
- provide site inductions to all personnel regarding obligations under the *Aboriginal Heritage Act 1972*.

In accordance with the *Aboriginal Heritage Act 1972*, the proponent will also submit a Section 18 application to the Department of Aboriginal Affairs prior to the disturbance of any known sites.

There are no sites listed on the State Register of Heritage Places or the City of Rockingham Municipal heritage inventory within the development envelope.

### *Summary*

Having regard to:

- the desktop and field survey undertaken by the proponent;

- the two registered sites of significance that are likely to be impacted extend well beyond the development envelope and are unlikely to be disturbed by mining operations;
- the proponent engaging a heritage consultant to walk the site prior to ground disturbing activities; and
- the implementation of heritage management procedures,

the EPA considers that the proposal can meet the EPA's objectives for Heritage and that the likely environmental effects of the proposal are not so significant to warrant formal assessment provided that the proposal is implemented in accordance with the referral documentation. In addition the EPA also notes the legislative requirements of the proponent under the *Aboriginal Heritage Act 1972*. The EPA considers that this approach is consistent with the GS 41.

#### **f. Rehabilitation and Decommissioning**

*The EPA's objective for this factor is to ensure that premises are decommissioned and rehabilitated in an ecologically sustainable manner.*

The EPA notes that the proponent has prepared a closure plan in consideration of the Guidelines for Preparing Mine Closure Plans and the *Strategic Framework for Mine Closure* (ANZMEC & MCA, 2000). The proponent has also committed to develop agreed final landforms and post-mining tenements consistent with stakeholder expectations.

The proponent will be undertaking staged rehabilitation to limit the area of bare earth at any one time. The overall post-mining land use is expected to be Parks and Recreation consistent with the areas current zoning, to support the adjacent future residential development. This is reflected in the proponent's mine closure plan that was included in the mine proposal application to DMP. Consistent with GS 6, the proponent has also developed completion criteria to ensure that the overall objectives of rehabilitation have been met.

EPB 19 outlines the roles of the DMP and the EPA in mine closure. It states that the DMP is responsible for ensuring that mine sites are closed, decommissioned and rehabilitated in an environmentally sustainable manner under the *Mining Act 1978*. The EPA will only assess mine closures where there are potentially significant risks associated with mine closure which cannot be adequately regulated by the DMP or for mine sites that are not subject to the *Mining Act 1978*.

Based on the proponent's referral information the EPA has not identified potentially significant risks associated with mine closure.

In accordance with the mine closure plan, at the conclusion of mining, the proponent will:

- backfill the mine pit to a safe and stable landform;
- remove all buildings and infrastructure;
- register and remediate any contaminated sites as a result of the proposal;
- utilise black cockatoo foraging plant species to provide foraging habitat; and
- rehabilitate all remaining open spaces.

The EPA notes that DMP, as outlined in EPB 19, is the lead agency for mine closure on sites regulated under the *Mining Act 1978*.

### *Summary*

Having regard to:

- the procedures outlined by the proponent to decommission and rehabilitate the site; and
- the provision of a mine closure plan that is consistent with the Guidelines for Preparing Mine Closure Plans,

the EPA considers that the proposal can meet the EPA's objectives for Rehabilitation and Decommissioning and that the likely environmental effects of the proposal are not so significant to warrant formal assessment provided that the proposal is implemented in accordance with the referral documentation and the EPA's advice.

The EPA notes the legislative requirements of the proponent under the *Mining Act 1978* in regards to preparing a mine closure plan. The EPA considers that this approach is consistent with the objectives of EPB 19.



## Attachment 1: Summary of key proposal characteristics

**Table 1: Summary of key proposal characteristics**

<b>Proposal Title</b>	Karnup Sand Mine
<b>Proponent name</b>	Urban Resources Pty Ltd
<b>Short Description</b>	The proposal is to develop and operate a sand mine on tenement M70/1262, located in Karnup approximately 48 km south of the Perth Central business district, including associated infrastructure (haul road, site compound and stock piles).

**Table 2: Proposal elements**

<b>Element</b>	<b>Description</b>
Mine (including the haul road, site compound, overburden and vegetative stockpiles)	Disturbance of no more than 42 ha within the 123.4 ha development envelope as shown in Figure 1.
Depth of mining excavation	Maximum excavation depth of 4.2 m AHD within the disturbance footprint shown in Figure 1.
Clearing of vegetation	Clearing of no more than 30.8 ha of native vegetation within the disturbance footprint shown in Figure 1.

**Figure 1 – Location of proposal showing development envelope and the disturbance footprint**

