



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 6203/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: **Limestone Building Blocks Co Pty Ltd**

### 1.3. Property details

Property: Mining Lease 70/013  
Local Government Area: City of Wanneroo  
Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
5.1		Mechanical Removal	Limestone Extraction

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 9 July 2015

## 2. Site Information

### 2.1. Existing environment and information

#### 2.1.1. Description of the native vegetation under application

**Vegetation Description** Beard vegetation associations have been mapped for the whole of Western Australia. Two Beard vegetation associations have been mapped within the application area (GIS Database):

**Beard vegetation association 6:** Medium woodland; tuart & jarrah; and

**Beard vegetation association 949:** Low woodland; banksia (GIS Database).

A Level 2 flora and vegetation survey by Coffey Environments (2011) was undertaken on 11 November 2010 covering an area of approximately 14 hectares which included the application area and surrounding vegetation east of the application area (referred to as the survey area). Two vegetation communities were identified within the application area (Coffey Environments, 2011);

**EmBa** – Open Woodland to Woodland of *Eucalyptus marginata* over Low Woodland of *Banksia attenuata* and Low Open Woodland to Low Woodland of *Allocasuarina fraseriana* over Open Shrubland to Shrubland of *Xanthorrhoea preissii* and *Macrozamia riedlei* over Low Shrubland to Open Low Heath of *Hibbertia hypericoides* over Very Open Sedgeland of *Mesomelaena pseudostygia* and Very Open Herbland of *Desmocladius flexuosus* with scattered trees or patches of *Banksia menziesii* and *B. grandis*; and

**BsXp** – Closed Tall Scrub of *Banksia sessilis* over Open Shrubland to Tall Shrubland of *Xanthorrhoea preissii* with Tall Open Shrubland to Tall Shrubland of *Acacia rostellifera* and scattered shrubs of *Melaleuca systema*, *Melaleuca huegelii* and *Hakea trifurcata* over Low Shrubland of *Jacksonia sericea* and *Hibbertia hypericoides* over Very Open Sedgeland of *Mesomelaena pseudostygia* and *Lepidosperma pubisquameum* over Very Open Herbland of *Conostylis candicans* and *Desmocladius flexuosus* with scattered tall trees of *Eucalyptus gomphocephala*.

The survey area included an old disused limestone quarry, which was in a degraded to completely degraded condition according to the Keighery (1994) scale (Coffey Environments, 2011).

**Clearing Description** Limestone Building Blocks Company Pty Ltd applied to clear up to 10.99 hectares of native vegetation within a total boundary of approximately 11 hectares, for the purpose of mineral production. However only 5.1 hectares has been approved to clear. The project is located approximately 15 kilometres south-east of Yanchee, in the City of Wanneroo.

**Vegetation Condition** Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994);

To:

Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).

**Comment** The vegetation condition was assessed during a survey undertaken by a botanist from Coffey Environments (2011).

### 3. Assessment of application against clearing principles

#### (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

##### Comments

##### Proposal is at variance to this Principle

The application area is located within the Perth subregion of the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The Perth subregion is characterised by Heath and/or Tuart woodlands on limestone, *Banksia* and Jarrah-*Banksia* woodlands on Quaternary marine dunes of various ages, and Marri on colluvial and alluvials. The Perth subregion forms part of the South West Botanical Province which has a very high degree of species diversity (Mitchell et al., 2002).

The vegetation under the application area is part of an area of remnant native vegetation known as Bush Forever Site No. 290 which covers an area of approximately 406.9 hectares (Government of Western Australia, 2000). This site was selected for its representation of ecological communities and rarity (Government of Western Australia, 2000). The vegetation within this portion of Bush Forever Site No. 290 has been mapped as Cottesloe – Central and Southern vegetation complex (Coffey Environments, 2011; GIS Database).

Coffey Environments (2011) identified two vegetation communities within the survey area, not including a small area of an old disused limestone quarry within the application area. The vegetation condition of the majority of the survey area was 'excellent', with the condition in the eastern third of the survey area being 'very good' to 'excellent' and the old disused limestone quarry in the north-east being 'degraded' to 'completely degraded' (Coffey Environments, 2011; Keighery, 1994).

The flora and vegetation survey identified a total of 100 native and 18 non-native flora species (Coffey Environments, 2011). No Threatened Flora species and one Priority 4 Flora species *Jacksonia sericea* was recorded within the survey area. Although not recorded by Coffey Environments (2011), the south-western portion of the application area contains suitable habitat for the Threatened Flora species *Eucalyptus argutifolia* (GIS Database).

Approximately 646 individuals of *Jacksonia sericea* were recorded within the application area across 31 populations (Coffey Environments, 2011). These populations were recorded in the southern and south-eastern area of the application area; however there was also a small population in the north-west corner. The majority of the populations were located within the **BsXp** vegetation type (Coffey Environments, 2011). This species appears to be a disturbance opportunist, however is also a significant species of the Spearwood dunes under the Bush Forever program, considered to be poorly reserved, a significant population and taxa endemic to the Swan Coastal Plain in the Perth Metropolitan Region (Coffey Environments, 2011; Government of Western Australia, 2000).

Three other species listed as Bush Forever significant flora species of the Spearwood Dunes; *Acacia alata* var. *tetrantha*, *Lechenaultia linarioides* (both recorded opportunistically in very low numbers) and *Petrophile axillaris* (Government of Western Australia, 2000) were also recorded within the survey area (Coffey Environments, 2011).

The results of the floristic data analysis by Coffey Environments (2011) indicate that the vegetation type **BsXp** recorded within the survey area has some correlation to the Floristic Community Type (FCT) 24 'Northern Spearwood shrublands and woodlands', which is a Priority Ecological Community (PEC) (Priority 3). The vegetation type **BsXp** was recorded throughout the middle of the application area, extending through to the eastern boundary (Coffey Environments, 2011). The data analysis also indicated that the vegetation type **EmBa** had some correlation to the FCT 28 'Spearwood *Banksia attenuata* or *Banksia attenuata-Eucalyptus* woodlands', which is a common FCT considered to be well reserved and at a low risk of extinction (Coffey Environments, 2011). The possible occurrence of the FCT 24 PEC within the application area is near the northern extremity of the known range of the PEC (DPaW, 2014a). There are three locations of the FCT 24 PEC totalling approximately 332 hectares mapped within 10 kilometres of the application area (DPaW, 2014a). Based on **BsXp** vegetation type equating to the PEC, DPaW (2014a) estimate that approximately 0.5 percent of the total mapped area of the PEC and approximately 1.6 percent of the area of the PEC mapped within a 10 kilometre radius from the application area occur within the application area.

Based on aerial imagery and the flora and vegetation survey by Coffey Environments (2011), the vegetation within the application area has the potential to comprise of high faunal diversity, especially of reptile and bird species, including Carnaby's Cockatoo (*Calyptorhynchus latirostris*) (GIS Database).

The presence of Priority Flora, a possible PEC and Bush Forever Site No. 290 within the application area raises the diversity of the area from a floristic perspective. Aerial imagery confirms that the surrounding area has largely been cleared for horticultural and plantation purposes and the application area is part of remnant vegetation and an important ecological linkage (GIS Database). Given the extent of land clearing that has occurred in the local area and the quality of vegetation within the application area, the vegetation applied to clear is likely to represent an area of higher ecosystem and species diversity than the surrounding landscape. The potential impacts to biodiversity may be mitigated by the implementation of an offset condition.

Based on the above, the proposed clearing is at variance to this Principle.

**Methodology** Coffey Environments (2011)  
DPaW (2014a)  
Government of Western Australia (2000)  
Keighery (1994)  
Mitchell et al. (2002)  
GIS Database:  
- Heddle Vegetation Complexes (Vegtype)  
- IBRA WA (Regions - Subregions)  
- Imagery  
- Threatened Ecological Sites Buffered

**(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.**

**Comments** **Proposal is at variance to this Principle**

There was no fauna survey conducted over the application area; however a Level 1 fauna survey was conducted approximately 1.5 kilometres north of the application area by Western Wildlife (2008) which comprised of a desktop review of the available literature and databases. The desktop survey revealed that five species of frog, 48 species of reptiles, 94 species of birds and 22 species of mammal may potentially occur within the local area (Western Wildlife, 2008).

There are 12 species of conservation significance listed as either threatened species under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) or protected under Western Australian legislation (*Wildlife Conservation Act 1950* (WC Act)), which may potentially occur within a 5 kilometre radius of the application area (DPaW, 2014b). Based on habitat preferences and vegetation mapping associated with the application area (Coffey Environments, 2011), the following conservation significant fauna species may occur within the application area;

- Carnaby's Cockatoo (*Calyptorhynchus latirostris*) (EPBC Act – Endangered; WC Act – Schedule 1);
- Rainbow Bee-eater (*Merops ornatus*) (EPBC Act - Migratory species; JAMBA, CAMBA);
- The Native Bee (*Hylaeus globuliferus*) (DPaW – Priority 3);
- Cricket (*Austrosaga spinifer*) (DPaW – Priority 3);
- Peregrine Falcon (*Falco peregrinus*) (WC Act – Schedule 4);
- The Carpet Python (*Morelia spilota imbricata*) (WC Act – Schedule 4; DPaW – Priority 4);
- Western Brush Wallaby (*Macropus irma*) (DPaW – Priority 4); and
- Quenda (*Isoodon obesulus* subsp. *fusciventer*) (DPaW – Priority 5).

The Carnaby's Cockatoo is listed as endangered under the EPBC Act, with populations declining dramatically due to land clearing for agriculture in regional areas and for urban development around Perth (Shah, 2006). Surveys of Carnaby's Cockatoo populations and their feeding and roosting habits show that the Northern Region of the Swan Coastal Plain (SCP) appears to be an important area throughout the feeding and roosting season (Shah, 2006). The application area has particular importance in the suitability of the vegetation to provide foraging habitat for Carnaby's Cockatoo (DPaW, 2014a). The vegetation within the application area comprises of various *Banksia*, *Eucalyptus*, *Hakea* and *Grevillea* species which are considered important feed sources for Carnaby's Cockatoo (DotE, 2014a; Coffey Environments, 2011). This includes *Banksia attenuata* and *B. sessilis* which Shah (2006) and Valentine & Stock (2008) noted as two principal native food sources for Carnaby's Cockatoos while observing the birds foraging on the SCP. Carnaby's Cockatoos are known to alternate between vegetation types and flora species for foraging during the year based on the season and quality of the flora as food for that particular year (DotE, 2014a). The condition of the majority of the vegetation in the area under application is reported as being Excellent to Very Good-Excellent (Keighery, 1994), suggesting that the application area may be high quality foraging habitat for cockatoos in the local area (DPaW, 2014a). Considering the application area comprises feeding habitat for Carnaby's Cockatoo and that one of the major threats to this species is cumulative clearing of feeding habitat on the SCP (Cale, 2003), it is considered that all feeding habitat within the SCP is significant, therefore any clearing of Carnaby's Cockatoo feeding habitat will contribute to the cumulative loss of this habitat on the SCP.

There are a high number of Carnaby's cockatoo records in the locality of the application area (DPaW, 2014a). Although there has been no fauna survey conducted over the application area, a high number of cockatoo records suggest that the local and regional area of the outer northern suburbs is an important area for the cockatoos (DPaW, 2014a). DPaW (2014a) advised that the high number of Carnaby's Cockatoo records do not indicate that there is adequate feeding resources in the local or regional area. DPaW (2014a) suggest that it is possible that the loss of 10.99 ha of predominantly Excellent to Very Good-Excellent vegetation would have a negative impact on the cockatoos in the local area.

The application area is within the buffer of a confirmed Carnaby's Cockatoo roost (DPaW, 2014a). The buffers on a cockatoo roost are based on the foraging radius of the cockatoos as the cockatoos usually forage/feed within 6 kilometres of the roost site. Therefore the vegetation within the area under application is likely to be utilised for foraging as it is within the buffer radius of a confirmed Carnaby's roost site. If the quantity and quality of foraging habitat in the vicinity of a roost is significantly reduced, then the roost may no longer be viable to support that particular flock of cockatoos, as there may not be adequate food resources available to them (DPaW, 2014a).

While small areas of foraging habitat around the metropolitan area support only small numbers of birds for short periods of time, the progressive loss of small areas is an on-going concern for this species (Shah, 2006). The vegetation types within the application area are considered to represent significant foraging habitat for the Carnaby's Cockatoo, especially as the clearing will target certain vegetation associations which may provide food sources for this species at specific times of the year (DotE, 2014a). The potential impact to Carnaby's Cockatoo habitats may be mitigated by the implementation of an offset condition.

The Carpet Python has been recorded from semi-arid coastal and inland habitats that comprise of *Banksia* woodland, Eucalypt woodland and grasslands (DPaW, 2012a). This species is known to occur in the Yanhep National Park which is located approximately 6 kilometres north-west from the application area (DPaW, 2012a). The Carpet Python may be present within the application area given the presence of suitable habitat. The Carpet Python favours areas of heath over limestone found in the Limestone Closed Shrubland habitat. The proposed clearing is not core habitat for the species; however it is still likely to result in some loss of habitat for this species.

Government of Western Australia (2000) states that Bush Forever Site No. 290 provides suitable habitat for the Quenda which is known to inhabit dense scrubby vegetation up to one metre high (DPaW, 2012b). The Quenda has been recorded at a range of locations that include Neerabup National Park, Wanneroo, Carabooda, Pinjar and Burns Beach (DPaW, 2012b). It is likely that this species would utilise the habitat within the application area. The Western Brush Wallaby is likely to occur in areas of forest or woodland where there is a dense, shrubby understorey (DPaW, 2012c). The Western Brush Wallaby has also been recorded at nearby locations that include Neerabup National Park (DPaW, 2014b). The proposed clearing is likely to result in habitat loss for both of these species.

The cricket *Austrosaga spinifer* is known from heath habitats from Perth to Cervantes, and given its habitat preference, this species may utilise the application area (DPaW, 2014b). The native bee *Hylaeus globuliferus* has also been recorded near the application area (DPaW, 2014b). This native bee is thought to favour flowers of *Adenanthos cygnorum* for feeding, but has also been recorded on *Banksia attenuata* (DPaW, 2014b). As *Banksia attenuata* was recorded within the application area (Coffey Environments, 2011), this species is likely to utilise the application area.

The Rainbow Bee Eater (*Merops ornatus*) is a migratory species which is highly mobile and may use the application area for foraging as part of a larger territory (DotE, 2015). Given the wide distribution of this species and the habitat availability for this species in the local area, it is unlikely that the proposed clearing will have a significant impact on the conservation status of this species.

The Peregrine Falcon has a widespread distribution and as this species is nomadic, it may utilise the application area intermittently. However, it is considered that this species may use the application area for foraging as part of a larger territory as they are considered highly mobile and have a wide distribution (DotE, 2014b). The proposed clearing is unlikely to have a significant impact on the conservation status of this species.

The vegetation under application forms part of an area of remnant native vegetation known as Bush Forever Site No. 290 which covers an area of approximately 406.9 hectares (Government of Western Australia, 2000). Large areas surrounding this remnant area of vegetation have been cleared for horticultural and plantation purposes. Given the extent of land clearing that has occurred in the local area and the quality of vegetation within the application area, the vegetation under application is considered important habitat for fauna species in the local area. Assessment of aerial imagery demonstrates that the vegetation under application, as well as the adjoining vegetation within the Bush Forever Site No. 290 forms part of an important linkage to adjacent bushland to the north and south of the application area (GIS Database; Government of Western Australia, 2000). This vegetation provides connectivity between remnant native bushland and is likely to allow fauna movements. The proposed clearing would reduce this fauna linkage, and available fauna habitat in the local area.

The application area overlays limestone therefore consideration needs to be given to subterranean fauna such as Stygofauna and Troglifauna species. Stygofauna are obligate aquatic subterranean animals that live within fresh or saline groundwater systems associated with karst (limestone caves/fissures) (Humphreys, 2006). Troglifauna are obligate fauna that live in air chambers in caves and/or rock fissures above such systems (Humphreys, 2006). Although the clearing of native vegetation may not directly impact subterranean fauna, the removal of trees may have a detrimental impact on Stygofauna and Troglifauna if the tree roots had been utilised as a food source (Humphreys, 2006).

Based on the above, the proposed clearing is at variance to this Principle.

#### Methodology

Cale (2003)  
Coffey Environments (2011)  
DotE (2014a)  
DotE (2014b)  
DotE (2015)  
DPaW (2012a)  
DPaW (2012b)  
DPaW (2012c)

DPaW (2014a)  
DPaW (2014b)  
Government of Western Australia (2000)  
Humphreys (2006)  
Keighery (1994)  
Shah (2006)  
Valentine & Stock (2008)  
Western Wildlife (2008)

**(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.**

**Comments Proposal is not likely to be at variance to this Principle**

According to available databases, there are no known records of Threatened Flora within the application area (GIS Database). A search of the Department of Parks and Wildlife's Threatened and Priority Flora databases identified 10 records of the Threatened Flora species *Eucalyptus argutifolia* as occurring within a 5 kilometre radius of the application area (DPaW, 2014b).

Coffey Environments (2011) conducted a level two flora and vegetation survey of the application area and adjacent areas on 11 November 2010. No Threatened Flora was recorded within the survey area.

Available databases indicate that preferred habitat for *Eucalyptus argutifolia* is mapped within the south-west corner of the application area. Although *Eucalyptus argutifolia* was not recorded within the application area (Coffey Environments, 2011), the proposed clearing may have an indirect impact on this species. However, *Eucalyptus argutifolia* can be easily identified any time of the year and it is unlikely that the species was overlooked during the flora survey.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** Coffey Environments (2011)  
DPaW (2014b)  
GIS Database:  
- Threatened and Priority Flora List

**(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.**

**Comments Proposal may be at variance to this Principle**

According to available databases, there are no known Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest known TEC is located approximately one kilometre north of the application area (GIS Database). Coffey Environments (2011) did not identify any vegetation communities representing Threatened Ecological Communities within the survey area.

DPaW (2014a) advise that based on aerial photography only, it is possible that FCT 26a (the Endangered '*Melaleuca huegelii* – *M. systena* shrublands of limestone ridges') TEC occurs on adjacent land to the south of the application area and that the FCT 24 Priority Ecological Community currently provides a buffer to the TEC. The flora and vegetation survey by Coffey Environments (2011) did not encompass this area.

Based on the above, the proposed clearing may be at variance to this Principle.

**Methodology** Coffey Environments (2011)  
DPaW (2014a)  
GIS Database:  
- Threatened Ecological Sites Buffered

**(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.**

**Comments Proposal is at variance to this Principle**

The application area falls within the Perth subregion of the Swan Coastal Plain IBRA bioregion (GIS Database). Approximately 39% of the pre-European vegetation remains within the bioregion (Government of Western Australia, 2013). The vegetation within the application area is broadly mapped as:

**Beard vegetation association 6:** Medium woodland; tuart & jarrah; and

**Beard vegetation association 949:** Low woodland; banksia (GIS Database).

Beard vegetation association 6 retains approximately 24.88% of its pre-European extent which is less than the 30% threshold level recommended in the National Objectives Targets for Biodiversity Conservation, below which species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000).

The area proposed to be cleared is part of a significant remnant of native vegetation known as Bush Forever

Site No. 290 which covers an area of approximately 406.9 hectares (Government of Western Australia, 2000; GIS Database). Bush Forever aims to retain a minimum of 10% of each vegetation complex in the Perth Metropolitan Region (Government of Western Australia, 2000). The vegetation complex for this portion of Bush Forever Site No. 290 has been mapped as Heddle Vegetation Complex Cottesloe – Central and South (GIS Database). Approximately 36% of Heddle Vegetation Complex Cottesloe – Central and South remains (Government of Western Australia, 2000).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves (and post clearing %)
IBRA Bioregion - Swan Coastal Plain	1,501,221	587,708	~39.15	Depleted	10.77 (25.85)
IBRA Subregion - Perth	1,117,757	473,909	~42.40	Depleted	11.95 (26.20)
Local Government - Wanneroo	67,698	31,541	~46.59	Depleted	8.32 (16.66)
<b>Beard vegetation associations - State</b>					
6	56,343	14,019	~24.88	Vulnerable	3.55 (13.38)
949	218,194	124,117	~56.88	Least Concern	14.02 (24.20)
<b>Beard vegetation associations - Bioregion</b>					
6	56,343	14,019	~24.88	Vulnerable	3.55 (13.38)
949	209,983	121,247	~57.74	Least Concern	14.16 (24.09)
<b>Beard vegetation associations - subregion</b>					
6	56,343	14,019	~24.88	Vulnerable	3.55 (13.38)
949	184,476	105,108	~56.98	Least Concern	15.16 (26.12)
<b>Heddle Vegetation Complex</b>					
Cottesloe – Central and South	34,439	12,362	~36.00	Depleted	18

\* Government of Western Australia (2013)

\*\* Department of Natural Resources and Environment (2002)

Whilst it is acknowledged that Beard vegetation association 6 and Heddle Vegetation Complex Cottesloe– Central and South are above minimum recommended thresholds (Government of Western Australia, 2000), assessment of aerial imagery confirms that the local area has been largely cleared for horticultural and plantation purposes (GIS Database). Further clearing will reduce the size of the remnant vegetation within the local area, and areas cleared of vegetation tend to lead to degradation of the adjoining vegetation, edge effects, increased weed infestation and allow easier access to introduced predators (DPaW, 2014a). The vegetation under application forms part of a significant area of remnant native vegetation (Bush Forever site No. 290) within an area that has been extensively cleared. The application area is considered an important ecological linkage to adjacent bushland to the south, east and west (Government of Western Australia, 2000).

Based on the above, the proposed clearing is at variance to this Principle.

**Methodology** Department of Natural Resources and Environment (2002)  
 DPaW (2014a)  
 EPA (2000)  
 Government of Western Australia (2000)  
 Government of Western Australia (2013)  
 GIS Database:  
 - IBRA WA (regions - subregions)  
 - Pre-European Vegetation

**(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.**

**Comments Proposal is not at variance to this Principle**

According to available databases, there are no permanent watercourses or wetlands within the application area (GIS Database). Coffey Environments (2011) did not identify any riparian vegetation growing within the survey area.

Based on the above, the proposed clearing is not at variance to this Principle.

**Methodology** Coffey Environments (2011)  
GIS Database:  
- Geodata, Lakes  
- Hydrography, Linear

**(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.**

**Comments Proposal may be at variance to this Principle**

The soils within the application area comprise of a low hilly landscape with shallow brown sands over limestone with exposed limestone, and a very narrow strip of an undulating landscape of deep yellow sands over limestone (Coffey Environments, 2011).

There is no known risk of acid sulphate soils associated with the area under application (GIS Database).

In areas where the limestone ridge rises to the surface there is likely to be a negligible wind erosion risk due to the hard and binding nature of the limestone material. In the areas that are overlain by deeper sand sheets there is likely to be a moderate wind erosion risk due to the high sand content and the relative ease at which these materials may be transported by wind (Landform Research, 2008). Potential land degradation impacts as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition.

Based on the above, the proposed clearing may be at variance to this Principle.

**Methodology** Coffey Environments (2011)  
Landform Research (2008)  
GIS Database:  
- Acid Sulfate Soil Risk Map, Swan Coastal Plain  
- Topographic Contours, Statewide

**(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.**

**Comments Proposal is at variance to this Principle**

The application area is located within the Gngangara-Moore River State Forest which is managed by the Department of Parks and Wildlife (GIS Database). The Gngangara-Moore River State Forest encompasses an area in excess of 50,000 hectares; however a large portion of this State Forest is covered by pine plantation (GIS Database).

The application area is located within Bush Forever Site No. 290 which covers an area of approximately 406.9 hectares (Government of Western Australia, 2000). Bush Forever Site No. 290 is considered an important ecological linkage to adjacent bushland to the north, south and west (Government of Western Australia, 2000). Assessment of aerial imagery demonstrates that the area under application contributes to an important linkage between the vegetation to the north and the south of an existing quarry, and connects with remnant native vegetation on adjoining properties to the east. The proposed clearing of this vegetation would reduce this linkage and connectivity and is likely to have direct adverse impacts on Bush Forever Site No. 290 through loss of regionally significant bushland, and potentially adverse indirect impacts through; changes to the hydrology of the site, weed infestation, dust, contamination and pollution, direct drainage into the bushland, increased access to the site, fire management issues and other management implications (Department of Planning, 2014; GIS Database).

Bush Forever Site No. 290 contains core habitat for the Threatened Flora species *Eucalyptus argutifolia*, and available databases indicate that habitat has been mapped within the south-western section of the application area. Although *Eucalyptus argutifolia* was not recorded within the application area (Coffey Environments, 2011), the proposed clearing may have an indirect impact on this species.

The Department of Planning (2014) note that Bush Forever Site No. 290 has been identified as feeding and roosting habitat for the Carnaby's Cockatoo and is also known to contain other significant flora and fauna species. Considering the area under application contains a high level of biodiversity and significant fauna habitat this area is likely to perform important linkage functions for fauna moving between conservation areas (Department of Planning, 2014; Coffey Environments, 2011; GIS Database).

The proposed clearing may also impact on the environmental values of this area through the increased potential for intrusion of dieback or weed species (Department of Planning, 2014).

The clearing as proposed is likely to impact the environmental values of these conservation areas through the loss of biodiversity, increased potential for the intrusion of weeds and dieback and through the decreased capacity for fauna dispersal.

Based on the above, the proposed clearing is at variance to this Principle.

**Methodology** Coffey Environments (2011)  
Department of Planning (2014)  
Government of Western Australia (2000)  
GIS Database:  
- Bushforever  
- DEC Tenure

**(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.**

**Comments Proposal is not likely to be at variance to this Principle**

The application area sits within the area covered by the *Environmental Protection (Gnangara Mound Crown Land) Policy 1992*. The purpose of this policy is to protect the level and quality of groundwater on or under the policy area including native vegetation and wetlands (GIS Database). The application area is located within the proclaimed Swan River groundwater area under the *Rights in Water and Irrigation Act 1914* (GIS Database). Any groundwater extraction and/or taking or diversion of surface water for purposes other than domestic and/or stock watering is subject to licence by the Department of Water.

There are no permanent or ephemeral water bodies located within the application area (GIS Database). The application area has a groundwater salinity that is fresh (<500 milligrams/Litre Total Dissolved solids (TDS)) (GIS Database). Although the proposed clearing may increase the amount of rainwater that infiltrates to the groundwater, given the nature of the overlying materials (i.e. limestone ridges overlain by yellow or brown sand), the proposed clearing is not likely to adversely impact the quality of groundwater. The proposed clearing is unlikely to deteriorate the quality of underground water (GIS Database).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** GIS Database:  
- Geodata, Lakes  
- Hydrography, Linear  
- Public Drinking Water Source Areas  
- RIWI Act, Groundwater Areas  
- Groundwater Salinity, Statewide

**(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.**

**Comments Proposal is not likely to be at variance to this Principle**

There are no watercourses or wetlands within the application area (GIS Database).

The vegetation is not growing in association with any low lying areas which may be prone to seasonal inundation (GIS Database). The soils within the application area comprise of limestone ridges overlain by yellow or brown sand (Coffey Environments, 2011). The sandy and porous nature of the soils indicates that the application area is likely to be considered well drained. The proposed clearing is not likely to cause or increase the incidence of flooding.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** Coffey Environments (2011)  
GIS Database:  
- Hydrography, linear  
- Topographic Contours, Statewide

**Planning instrument, Native Title, Previous EPA decision or other matter.**

**Comments**

There are three Native Title claims over the area under application. The claim WC2011/009 was registered at the National Native Title Tribunal on 11 October 2011. The claim WC2011/002 was filed at the Federal Court on 1 February 2011 and the claim WC2003/006 was filed at the Federal Court on 6 October 2003. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.



There are no registered Aboriginal Sites of Significance within the application area (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal sites of significance are damaged through the clearing process.

The clearing permit application was advertised on 11 August 2014 by the Department of Mines and Petroleum (DMP) inviting submissions from the public. Two submissions were received. The submissions received did not support the clearing permit application and provided the following comments:

- That the proposed clearing may impact on an area of remnant vegetation;
- That no referral has been made as part of the requirements of the *Environment Protection and Biodiversity Conservation Act 1999* to the Department of Sustainability, Environment, Water, Population and Communities (now Department of the Environment);
- That the application area is located within State Forest and Bush Forever;
- The proposed clearing will have a significant environmental impact; and
- A similar clearing permit nearby was refused due to the environmental sensitivity of the surrounding area.

The above mentioned issues have been addressed throughout this report in Principles (a), (b), (e) and (h).

Mining Lease 70/13 is located within a 'Priority Resource Location Area', as identified within State Planning Policy 2.4: Basic Raw Materials (SPP 2.4). Priority Resource Locations are considered regionally significant resources which should be recognised for future basic raw materials extraction and not be constrained by incompatible land uses or development (Western Australian Planning Commission, 2000a). SPP 2.4 is designed to facilitate the extraction of basic raw materials close to major markets in the metropolitan region. The policy recognises the importance of ensuring the extraction of basic raw materials occurs with minimal detriment to the environment, including regionally significant bushland and in a manner that allows for the future use and development consistent with the long-term planning intentions for the area (Western Australian Planning Commission, 2000a). SPP 2.4 does not remove obligations to identify environmental constraints that may determine the extent and/or manner in which a proposal can be implemented (Western Australian Planning Commission, 2000a). SPP 2.4 specifically states that the development of land for the extraction of basic raw materials should not adversely affect the environment. It is for this reason that key legislation for the protection of the environment, including the clearing provisions of the *Environmental Protection Act 1986*, applies to limestone extraction.

State Planning Policy 2.8 Bushland Policy for the Perth Metropolitan Region (SPP 2.8) provides a policy and implementation framework for the management and protection of bushland in the Perth Metropolitan Region (Western Australian Planning Commission, 2000b). The policy does not prevent development provided that it is consistent with the policy and other planning and environmental considerations (Western Australian Planning Commission, 2010). The policy contains a specific policy measure identified under sections 5.1.2.2 relating to 'Bush Forever Areas – Urban, Industrial or Resource Development' where land includes significant bushland identified as a priority resource location, key extraction area or extraction area, as identified in SPP 2.4 (Western Australian Planning Commission, 2000b). Section 5.1.2.2 allows decision makers to recognise regionally significant bushland as constrained by existing commitments and approvals, including existing mining operations, which may continue to operate in accordance with their existing levels of extraction approvals (Western Australian Planning Commission, 2000b).

DMP has considered SPP 2.4 and SPP 2.8 during the assessment of this clearing permit application, and has also considered information provided by the proponent and the Geological Survey of Western Australia highlighting the importance of the Wanneroo high grade limestone resource to the continued development of housing and infrastructure in the Perth northern corridor. Planning publications for the city of Wanneroo and Perth were also considered in this assessment (Western Australian Planning Commission, 2000a; 2007).

It is noted that the proposed clearing may impact on a protected matter under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The proponent may be required to refer the project to the (Federal) Department of the Environment for environmental impact assessment under the EPBC Act. The proponent is advised to contact the Department of the Environment for further information regarding notification and referral responsibilities under the EPBC Act.

The application area is located within an area subject to the *Environmental Protection (Gnangara Mound Crown Land) Policy 1992*. As such, advice was sought from the Environmental Protection Authority (EPA). The EPA determined not to assess this proposal under Part IV of the *Environmental Protection Act 1986* and recommended that the proposal be dealt with under Part V Division 2 of the *Environmental Protection Act 1986* (clearing of native vegetation).

The proponent has applied to clear 10.99 hectares of native vegetation however given the high environmental values associated with the area applied to be cleared, only 5.1 hectares of the application area has been approved to be cleared, subject to conditions including the requirement for an offset proposal. The approved area is located in the northwest section of the application area which includes regrowth within the old limestone pit in a degraded to completely degraded condition, avoids 569 individuals of the recorded Priority 4 Flora *Jacksonia sericea*, minimises the impact on the potential PEC and avoids the preferred habitat for the Threatened Flora species *Eucalyptus argutifolia*. The approved area still allows for ecological linkages between the south, east and western bushland, and conserves fauna habitat and Carnaby's Cockatoo foraging habitat with the highest environmental values.

- Methodology** Western Australian Planning Commission (2000a)  
Western Australian Planning Commission (2000b)  
Western Australian Planning Commission (2007)  
GIS Database:  
- Aboriginal Sites of Significance  
- Native Title Claims - Determined by the Federal Court  
- Native Title Claims - Registered with the NNTT

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## 5. Glossary

### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government
<b>DAA</b>	Department of Aboriginal Affairs, Western Australia
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia
<b>DEC</b>	Department of Environment and Conservation, Western Australia (now DPaW and DER)
<b>DER</b>	Department of Environment Regulation, Western Australia
<b>DMP</b>	Department of Mines and Petroleum, Western Australia
<b>DRF</b>	Declared Rare Flora
<b>DotE</b>	Department of the Environment, Australian Government
<b>DoW</b>	Department of Water, Western Australia
<b>DPaW</b>	Department of Parks and Wildlife, Western Australia
<b>DSEWPaC</b>	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
<b>EPA</b>	Environmental Protection Authority, Western Australia
<b>EP Act</b>	<i>Environmental Protection Act 1986</i> , Western Australia
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
<b>GIS</b>	Geographical Information System
<b>ha</b>	Hectare (10,000 square metres)
<b>IBRA</b>	Interim Biogeographic Regionalisation for Australia
<b>IUCN</b>	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
<b>PEC</b>	Priority Ecological Community, Western Australia
<b>RIWI Act</b>	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
<b>s.17</b>	Section 17 of the <i>Environment Protection Act 1986</i> , Western Australia
<b>TEC</b>	Threatened Ecological Community

### Definitions:

{DPaW (2013) **Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia**:-

<b>T</b>	<b>Threatened species:</b> Specially protected under the <i>Wildlife Conservation Act 1950</i> , listed under Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna or the Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).  Threatened Fauna and Flora are further recognised by DPaW according to their level of threat using IUCN Red List criteria. For example Carnaby's Cockatoo <i>Calyptorhynchus latirostris</i> is specially protected under the <i>Wildlife Conservation Act 1950</i> as a threatened species with a ranking of Endangered.  <u>Rankings:</u> CR: Critically Endangered - considered to be facing an extremely high risk of extinction in the wild. EN: Endangered - considered to be facing a very high risk of extinction in the wild. VU: Vulnerable - considered to be facing a high risk of extinction in the wild.
<b>X</b>	<b>Presumed Extinct species:</b> Specially protected under the <i>Wildlife Conservation Act 1950</i> , listed under Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora (which may also be referred to as Declared Rare Flora).
<b>IA</b>	<b>Migratory birds protected under an international agreement:</b> Specially protected under the <i>Wildlife Conservation Act 1950</i> , listed under Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice. Birds that are subject to an agreement between governments of Australia and Japan, China and The Republic of Korea relating to the protection of migratory birds and birds in danger of extinction.
<b>S</b>	<b>Other specially protected fauna:</b> Specially protected under the <i>Wildlife Conservation Act 1950</i> , listed under Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice.
<b>P1</b>	<b>Priority One - Poorly-known species:</b> Species that are known from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, rail reserves and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.
<b>P2</b>	<b>Priority Two - Poorly-known species:</b> Species that are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, unallocated Crown land, water reserves, etc. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and

appear to be under threat from known threatening processes.

**P3**

**Priority Three - Poorly-known species:**

Species that are known from collections or sight records from several localities not under imminent threat, or from few but widespread localities with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.

**P4**

**Priority Four - Rare, Near Threatened and other species in need of monitoring:**

- (a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands.
- (b) Near Threatened. Species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.
- (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

**P5**

**Priority Five - Conservation Dependent species:**

Species that are not threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.