



## 1. Application details

### 1.1. Permit application details

Permit application No.: 2217/1  
 Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: BGC Clay Products

### 1.3. Property details

Property: LOT 11 ON PLAN 34937 (House No. 768 CHITTY HODDYS WELL 6566)  
 Local Government Area: Shire Of Toodyay  
 Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1.8		Mechanical Removal	Extractive Industry

## 2. Site Information

### 2.1. Existing environment and information

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

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Mattiske vegetation complex: Open woodland of Eucalyptus wandoo over Acacia acuminata with some Eucalyptus loxophleba on valley slopes, with low woodland of Allocasuarina huegeliana on or near shallow granite outcrops in arid and perarid zones.  (Mattiske consulting , 1998)	This proposal is to clear 1.8ha of native vegetation on Lot 11 Chitty Road, Toodyay for the purpose of extractive industry.  In the paddock section of the area under application the vegetation was in completely degraded condition with an overstorey of predominantly Corymbia calophylla and an understorey of grassy weeds. The paddock showed signs of grazing.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	Vegetation description based on a site inspection conducted by DEC officers on the 28 February 2008.  The Vegetation in the paddock area of the proposed clearing is in completely degraded condition.
Beard (4) Medium woodland marri and wandoo  (Shepherd,2006)	The creek line section of vegetation was in good condition with an overstorey of predominantly Eucalyptus accedens and Eucalyptus wandoo with an understorey of scattered shrubs including Dryandra sp. and Melaleuca sp..		The vegetation under application occurring along the creek line is in good condition

## 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 not likely to be at variance to this Principle**  
 The area under application includes 1.8ha of native vegetation ranging in condition from completely degraded in the paddock area to good condition in the creek line area. The dominant species in the overstorey of the paddock area includes Corymbia calophylla with an understorey of grassy weeds.  
  
 The vegetation in the creek line comprises an overstorey of Eucalyptus accedens and Eucalyptus wandoo with an understorey of scattered shrubs including, Dryandra sp. and Melaleuca sp..

Given that the vegetation is predominantly in completely degraded condition with low species diversity the proposed clearing is not considered likely to be at variance to this principle.

**Methodology** DEC Site inspection 28/02/2008

**(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 not likely to be at variance to this Principle**

Within the local area (~10km) there are two recorded occurrences of the Endangered Carnaby's black cockatoo located approximately 1.0km west and 1.0km north-east of the vegetation under application.

During a site inspection in February 2008 the vegetation under application in the paddock area was considered to be in completely degraded condition. The overstorey was very open and consisted of several paddock trees of *Corymbia calophylla*; however none appeared to contain any hollows with the potential to be utilised by Carnaby's black cockatoo. The understorey was completely degraded consisting mainly of paddock grasses and therefore considered not likely to support any ground dwelling mammals (DEC 2007).

The vegetation along the creek line which runs north-south through the vegetation under application is considered to be in good condition and comprises an overstorey of *Eucalyptus accedens* and *Eucalyptus wandoo* however none appear to contain any hollows with the potential to be utilised by Carnaby's black cockatoo (DEC 2007). The understorey along the creek line comprises only a few scattered shrubs including *Dryandra* sp. and *Melaleuca* sp. and therefore not considered likely to provide habitat for any ground dwelling mammals (DEC 2007).

The area under application is not considered likely to provide a significant ecological link or corridor for native fauna, to the remaining remnant vegetation surrounding the proposed area. The removal of the vegetation under application is not considered likely to impact on the movement of fauna between remaining areas of native vegetation.

Given the condition and limited area of vegetation under application, and considering there is not likely to be a suitable ecological corridor in the proposed area, the vegetation under application is not considered likely to provide significant habitat for native fauna.

**Methodology** DEC site inspection 28/02/2008  
DEC 2007  
GIS database: SAC Biodatasets accessed 25/02/2008

**(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**

Within the local area (~10km radius) there is one recorded occurrences of Declared Rare Flora (DRF) and 94 recorded occurrences of Priority Flora (P). The closest known population of DRF is *Acacia aphylla* and it occurs approximately 8.1km south east in relation to the vegetation under application.

During a DEC site inspection in February 2008 the vegetation under application was noted to be in completely degraded condition in the paddock area and good condition in the creek line area. The dominant species in overstorey of the paddock area includes *Corymbia calophylla* with an understorey of grassy weeds. The vegetation along the creek line comprised an overstorey of *Eucalyptus accedens* and *Eucalyptus wandoo* with an understorey of scattered shrubs including *Dryandra* sp. and *Melaleuca* sp. The soil was observed to be brown clay with lateritic gravel.

The vegetation under application occurs on different soil types and vegetation associations to the DRF species *Acacia aphylla*, therefore the area under application is not considered likely to be representative of the habitat requirements of these species (WA Herbarium, 1998).

*Hibbertia Montana* (P4) (~1.0km NW), *Eremaea blackwelliana* (P4) (~1.3km E) and *Sowerbaea multicaulis* (P4) (~1.5km SW) occur just outside the property boundary of the area under application: The habitat requirement of these species differ from the soil type and vegetation association found in the area under application (WA Herbarium, 2007). Given the condition of the vegetation under application is not representative of these species habitat requirements it is not considered likely that they would occur there.

*Verticordia serrata* var. *linearis* (P3) occurs within the property boundary outside the area under application however this species generally occurs in open banksia woodland with scattered *Corymbia calophylla* on white sand, gravel (WA herbarium 2007). Given that the area under application is completely degraded and is not representative of the *Verticordia*'s habitat requirements it is not considered likely that *Verticordia serrata* var. *linearis* occurs there.

Given that the Vegetation under application is completely degraded and does not suit the habitat requirements of DRF or Priority Flora that occur within the local area it is not considered likely that the vegetation under application includes, or is necessary for the continued existence of rare flora.

**Methodology** DEC site inspection 28/02/2008  
 WA Herbarium, 2007  
 GIS Database: SAC Bio datasets accessed 25/02/2008  
 Soils statewide  
 Mattiske  
 Pre-European Vegetation ? DA 01/01

**(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 is not likely to be at variance to this Principle**  
 There are no known occurrences of Threatened Ecological Communities (TEC) or Priority Ecological Communities (PEC) within the local area (~10km). The closest known communities of conservation significance in relation to the vegetation under application are TEC community type 20 ?Banksia attenuata and/or Eucalyptus marginata woodlands of the eastern side of the Swan Coastal Plain? (~40km west) and PEC community type 36 ?Avon Pools Deep pools of the Avon botanical district? located (~26.6km south-east). Vegetation and soil mapping associated with TEC community type 20 and PEC community type 36 differ to those associated with the vegetation under application.

The area under application includes 1.8ha of native vegetation ranging in condition from completely degraded in the paddock area to good condition in the creek line area. The dominant species in the overstorey of the paddock area includes Corymbia calophylla with an understorey of grassy weeds.

The vegetation in the creek line comprises an overstorey of Eucalyptus accedens and Eucalyptus wandoo with an understorey of scattered shrubs including, Dryandra sp. and Melaleuca sp.

Given the vegetation condition, distance to the nearest TEC or PEC, and that soil and vegetation mapping of vegetation under application is different to that of TEC community type 20 and PEC community type 36, the vegetation under application is not considered likely to comprise, or be necessary for the maintenance of a TEC or PEC.

**Methodology** DEC site inspection 28/02/2008  
 GIS Database: accessed 25/02/2008  
 SAC Bio datasets  
 Mattiske Vegetation  
 Pre-European Vegetation ? DA 01/01  
 Soils Statewide ? DA 11/99

**(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 not likely to be at variance to this Principle**  
 The area under application is part of the Jarrah Forest IBRA Region which has a current pre-European representation of 23.6% (Shepherd 2006). The vegetation under application is identified by Mattiske Consulting (1998) as Michbin complex of which there is 26.5% of pre-European vegetation remaining. The vegetation under application is also part of Beard Vegetation Association 4 which has a current representation level of 23.3% (Shepherd 2006).

The State Government is committed to the National Objectives Targets for Biodiversity Conservation which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-1750 (Commonwealth of Australia, 2001).

The vegetation under application is considered to be in completely degraded condition in the paddock area and good condition in the creek line area.

Given the majority of the vegetation is in completely degraded condition and the vegetation under application is limited to 1.8ha, it is not considered likely to be significant as a remnant of native vegetation in the local area, and therefore is not considered likely to be at variance to this principle.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion				
Jarrah Forest***	1,025,022.694	241,500.218	23.6	4.4
Shire of Toodyay**	173,440	88,082	50.8	NA

Local Area (~10km radius)	~ 314,000	~ 167,178	~ 53.2	NA
Beard vegetation type***				
4	1,054,316.709	245,361.687	23.3	4.4
Mattiske				
Michbin Complex	1,345.524	356,512	26.5	NA

\* (Shepherd, 2006)

\*\*\* (Shepherd et al, 2002)

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\* (Shepherd, 2006)

\*\*\* (Shepherd et al, 2002)

**Methodology** Commonwealth of Australia (2001)  
EPA (2006)  
Mattiske Consulting (1998)  
Shepherd (2006)  
DEC site inspection 28/02/2008  
GIS Database: accessed 25/02/2008  
SAC biodatasets  
Mattiske Vegetation  
Pre-European Vegetation ? DA 01/01

**(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 at variance to this Principle**

The vegetation under application occurs within the Avon River Management area. Jimperding Brook is a significant stream located approximately 1.25km south-west of the area under application. There is also a mapped seasonal creek which runs north-south through the area under application

A minor non-perennial watercourse was observed to be in association with the vegetation under application. The vegetation is considered to be in good condition and comprises an overstorey of *Eucalyptus accedens* and *Eucalyptus wandoo* with an understorey of scattered shrubs including *Dryandra* sp. and *Melaleuca* sp..

Given the limited amount of fringing vegetation remaining in the wheatbelt, and the importance of this vegetation as a biological filter and soil stabiliser, the removal of this fringing vegetation under application is considered likely to be at variance to this principle.

**Methodology** DEC site inspection 28/02/2008  
GIS Database: accessed 25/02/2008  
Hydrography linear (heirarchy)  
Rivers  
Waterways Conservation Act, Waterway Management Area - DOW

**(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 soil type mapped within the area under application is described as sandy and clayey alluvial soils over sandstone on gentle slopes (Northcote et al. 1960-68). The risk of salinity is mapped as low in the area under application

During a site inspection in February 2008 the soil type was observed to consist of brown clay with lateritic gravel. The removal of vegetation from the paddock area is not considered likely to result in water or wind erosion due to the groundcover of non-native grasses. However, it is considered that the removal of vegetation from the clayey soils adjacent to the creek may result in water erosion.

Given that removing the fringing vegetation along the creek line may result in water erosion, the proposed clearing may be at variance to this principle

**Methodology** Northcote et al. (1960-68)  
DEC site inspection 28/02/2008  
GIS Database: accessed 25/02/2008  
Rivers  
Soils Statewide ? DA 11/99

**(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 not likely to be at variance to this Principle**

Within the local area (~10km radius) there are the following nearby conservation areas and their relative location to the vegetation under application:

&#61485;	Clackline Nature Reserve, system 6, 4.3km SE
&#61485;	Woondowing Nature Reserve, system 6, 7.4km SW
&#61485;	Bobakine Nature Reserve, 7.1km E
&#61485;	Nanamoolan Nature Reserve ,3km NE
&#61485;	Mavis Jeffries Nature Reserve, 7.4km N

During a site inspection in February 2008 the vegetation under application was noted to be in completely degraded condition in the paddock area and good condition in the creek line area. There was also considered to be a lack of connectivity to any nearby conservation areas.

Given that the majority of vegetation under application is completely degraded and does not provide a corridor to any of the surrounding conservation areas and the distance to the nearest reserves, the proposed clearing is not considered likely to have a direct or indirect impact on the environmental values of the conservation reserves within the local area.

**Methodology** DEC site inspection 28/02/2008  
GIS Database: accessed 25/02/2008 :  
Northam 1m orthomosaic DLI 12/03  
CALM managed land

**(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 may be at variance to this Principle**

The vegetation under application occurs within the Avon River Management Area. There are no Public Drinking Water Source Areas (PDWSA) within the local area (~10km radius).

The risk of salinity is mapped as low in the area under application, therefore the proposed clearing is not considered likely to result in deterioration of groundwater through salinity.

The vegetation growing in association with the creek line in the area under application is considered to be in good condition and comprises an overstorey of *Eucalyptus accedens* and *Eucalyptus wandoo* with an understorey of scattered shrubs including *Dryandra* sp. and *Melaleuca* sp..

The soil type mapped within the area under application is described as sandy and clayey alluvial soils over sandstone on gentle slopes (Northcote et al. 1960-68). During a site inspection the soil was observed to be brown clay with lateritic gravel. The main erosion risk associated with this soil type is considered to be water erosion. It is considered that the removal of native vegetation in good condition in and adjacent to the creek may result in increased surface water runoff resulting in sedimentation, which would cause a deterioration in surface water quality.

Given the high risk of water erosion associated with the soil type found on site, it is considered that the removal of vegetation from the creekline may cause deterioration in surface water quality, therefore the proposal may be at variance to this principle.

The risk of water erosion will be managed by the extractive industry license.

**Methodology** DEC site inspection 28/02/2008  
 Northcote et al. (1960-68)  
 GIS Database: accessed 25/02/2008  
 PDWSA  
 Waterways Conservation Act, Waterway Management Area - DOW

**(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**  
 The vegetation under application occurs within the Avon River Management Area. Jimperding Brook is a significant stream located upslope approximately 1.25km south-west of the area under application. There is also a seasonal creek runs north-south through the area under application.

Given that the vegetation under application is limited to 1.8ha and mostly in completely degraded condition the proposal is not considered likely to cause or exacerbate the incidence or intensity of flooding.

**Methodology** DEC site inspection 28/02/2008  
 GIS Database: accessed 25/02/2008 :  
 Topographical Contours statewide  
 Waterways Conservation Act, Waterway Management Area ? DOW  
 Hydrography linear (heirarchy)  
 Rivers

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

**Comments**  
 There is no Native Title Claim over the area under application.  
 The Shire of Toodyay has granted the extractive industry license for Lot 11, Chitty Road, Hoddys Well.  
 The proponent intends to extract clay from the area under application containing the minor non perennial water course. The impacts of water erosion will be minimised as the proposed extraction pit will prevent water from running off away from the site.  
 There are no other approvals required by the Department of Water or the Department of Environment and Conservation.

**Methodology** Shire of Toodyay (2008) TRIM Ref. DOC40339  
 GIS Database: accessed 25/02/2008  
 Native Title Claims

**4. Assessor's comments**

Purpose	Method	Applied area (ha)/ trees	Comment
Extractive Industry	Mechanical Removal	1.8	The assessable criteria have been addressed and the clearing as proposed is likely to be at variance to Principle f and may be at variance to principles g and i.

**5. References**

Commonwealth of Australia (2001) National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.  
 DEC. (2008). NatureBase ? Fauna Species Profile: Western Brush Wallaby. <http://www.naturebase.net/content/view/840/1288/> (Accessed 25/02/2008).  
 EPA (2006) Guidance for the Assessment of Environmental Factors -level of assessment of proposals affecting natural areas within the System 6 region and Swan Coastal Plain portion of the System 1 Region. Report by the EPA under the Environmental Protection Act 1986. No 10 WA.  
 Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.  
 Mattiske Consulting (1998) Mapping of vegetation complexes in the South West forest region of Western Australia, CALM.  
 Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.  
 Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.  
 Western Australian Herbarium (1998-). FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.calm.wa.gov.au/> (Accessed xx/xx/xxxx).

## 6. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)

