STRATEGIC MATERIAL AREA
NORTH WEST COASTAL HIGHWAY
SLK 145.6

Environmental Impact Assessment and
Environmental Management Plan

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1. INTRODUCTION AND PROJECT DESCRIPTION

1.1 Introduction

Main Roads Gascoyne Region (Main Roads) over a number of years has slowly been exhausting material stock piles required for road construction and maintenance. Main Roads is currently in the process of developing a region wide strategic plan to identify potential future material sites. The identification of material sites will help the region locate required road building material for road construction and maintenance as well as for use during emergency situations that may arise after events such as cyclones.

As part of this region wide strategic material plan, Main Roads has identified a potential material site along North West Coastal Highway at SLK 145.6 (Figure 1).

This report details the environmental impact assessment conducted on Strategic Material Area SLK 145.6, which:

- Describes the significant aspects of the existing project environments; and
- Details the primary environmental and social impacts of the proposed works.

Environmental and social aspects identified as requiring consideration during the project have been identified in Table 1 and discussed in Section 2.

Table 1 Environmental and Social Aspects Considered Relevant

Environmental and Social Aspects	Section
Climate	2.1
Reserves and Conservation Areas	2.2
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1.2 Project Description

Over the past few years, the number of material stock piles required for much needed road construction and maintenance works along Main Roads' road networks have slowly been exhausted. Main Roads' Gascoyne Region is currently developing a region wide 20 year strategic plan that identifies potential future material areas.

Main Roads proposes to establish a strategic material site along North West Coastal Highway at SLK 145.6 (Figure 1). This material site has been vested to Main Roads through Section 19 approvals for material extraction, in accordance with the Mining Act 1978.

This potential material area was identified as part of the region wide strategic material plan and is located within Eurardy Station. This material area is the only viable road building material available within a few hundred kilometres. The proposed strategic material sites will therefore be used to supply vital road building material for construction and maintenance works, including emergency activities that may arise after heavy rainfall events.

As this proposed material area makes up part of this 20 year strategic plan, the area will be systematically cleared and revegetated in relatively small areas (for example 1 or 2ha per annum) as material is required. In this way, only small proportions of the material site will be cleared at any one time, with revegetation occurring as soon as the cleared areas are no longer required.

This strategic material area will be used for the maintenance of North West Coastal Highway, with the aim of providing safe road conditions for the travelling public. Given the anticipated activities requiring the use of this material area, it is expected that only a minimal amount of the proposed area identified at this site will need to be cleared for the purpose of material extraction.

This proposed material pit and the immediately surrounding area is the only location of viable road building material within a few hundred kilometres. This means that the relocation of the material areas is not practical as other raw materials in the area are not suitable for used in road construction and maintenances.

Main Roads proposes to initial extend a section of the gravel reserve to the south of the existing cleared area (see Figure 2).

The clearing of native vegetation associated with the initial stages of this project will be carried out using Main Roads' State Wide Purpose Permit CPS 818.

This permit was issued to Main Roads' WA by the Department of Environment and Conservation and allows Main Roads to undertake clearing for projects that have been assessed as not having a significant impact on the environment. Clearing carried out under the Main Roads' Purpose Permit will be in accordance with conditions set out within the Permit.

The total amount of native vegetation cleared during this project will not exceed the region's annual limit, as stated in the Purpose Permit CPS 818.

1.3 Project Location

The strategic material area is located approximately 1km off North West Coastal Highway on the eastern side.

Strategic material area SLK 145.6 is located within the Eurardy Station, approximately 30km north of the Murchison River. This strategic material area is currently vested to Main Roads through Section 19 approvals for material excavation activities, in accordance with the *Mining Act 1978.*

The access tracks into the pit are in good condition and will easily allow the movement of machinery in and out of the project area.

It is proposed that clearing endorsements be obtained for the entire strategic material area along North West Coastal Highway. Obtaining environmental clearances for the entire area identified will allow Main Roads Gascoyne Region to reserve these areas for the extraction of material outside of mining tenements and will allow material investigations to be conducted throughout the entire identified zones.

Main Roads proposes to initially extend a section of the gravel reserve to the south of the existing cleared area (see Figure 2).

The location and boundaries of the study area are shown in Figures 1-2.

Table 2 Key features of the Proposed Strategic Material Areas

Road Name	SLK	Project Site	Proposed Work	Study Area	Proposed Clearing (ha/year)
NWCH	145.6	Material Pit	Source Material Area	An area of 68.26 ha has been identified as a potential strategic material area. This project site will be used as a strategic supply area from which Main Roads can access road building materials for the long-term (up to 20 years). Initial clearing area of 4.5 hectares Site visits confirmed that the vegetation is in good or better condition.	Max. 2-3

1.4 Purpose of this Report

Main Roads requires an Environmental Impact Assessment (EIA) for the proposed strategic road-building material sources areas along North West Coastal Highway.

This report details the findings of the EIA for the project site, as identified in Table 2. This report provides a desktop assessment of factors of likely environmental significance and site investigations.

2. ENVIRONMENTAL ASPECTS

The following section identifies and discusses the environmental and social aspects considered relevant to the project areas, and those issues considered necessary to describe the project site.

2.1 Climate

The Eurardy Station region experiences a Mediterranean climate characterised by hot dry summers and mild wet winters.

The Bureau of Meteorology weather-recording stations located closest to the strategic material area are Kalbarri and Murchison, between 10 and 107km to the north and north-west of the project sites. The recorded climate data at Kalbarri and Murchison are summarised in Table 3.

Table 3 Climate Readings at Closest Weather Stations (Bureau of Meteorology, 2009)

Climatic Statistic	Kalbarri	Murchison
Mean Annual Maximum Daily Temperature Range (ºC)	21.7 (July) and 34.2 (Feb)	20.9 (Jul) and 39.2 (Jan)
Mean Annual Minimum Daily Temperature Range (ºC)	9.7 (July) and 20.5 (Feb)	6.1 (Jul) and 22.8 (Feb)
Mean Annual Rainfall	350.8	244
Mean annual Rain Days per Year (days)	45.3	31.6
Highest Monthly Rainfall (mm)	81.8 (June)	36.4 (Feb)

2.2 Reserves and Conservation Areas

The Kalbarri National Park and the Toolunga nature Reserve are located between 6-10km to the south and 50km to the north respectively of the proposed project areas.

Given the location of the proposed project area on the opposite site of the Highway to the National Park and the relatively small amount of clearing proposed to be undertaken, the proposed project will not impact on the environmental aspects of the National Park.

2.3 Surface Water, Groundwater, Water Supply & Drainage Catchments

The strategic material areas is not located within any surface water catchment area (DEC, 2009c).

The strategic material site is located within the Gascoyne Proclaimed Groundwater Area protected under the *Rights in the Water and Irrigation Act 1914* (DoW 2009a).

The proposed works will not impact on any gazetted Public Drinking Water Supply Area protected under the *Country Areas Water Supply Act 1947.* The nearest Public Drinking Water Supply Areas identified is Priority 1 area at Kalbarri Water Reserves, located approximately 50 to 100 km from the Project Sites (DoW 2009a).

The Project Sites have been identified by the Department of Water (DoW 2009b) as having, on average, groundwater salinity levels between 1,000 and 3,000 mg/L total dissolved solids (TDS).

2.4 Rivers, Creeks, Wetlands, Coastal Zones & Estuaries

There is very little surface run-off experience within the vicinity of the project areas due to the low rainfall, high evaporation and permeable soils. The Murchison River flows to the south of the proposed project area. No impacts to any watercourse or wetland will be expected due to this proposal.

No wetlands listed as conservation significant are identified within or near to the Project Area.

2.5 Flora & Vegetation

The vegetation of the Eurardy region lies on the northern edge of the South-West Botanical Province of Western Australia (Bush Heritage, 2009).

2.5.1 Site Vegetation Composition

The composition of remnant native vegetation at each of the proposed material areas was interpreted from mapping conducted by Beard (1975). According to this mapping, the Project Site is likely to contain the vegetation communities as identified in Table 4.

Table 4 Vegetation Communities likely to be present in each of the Project Sites (Beard, 1975)

Road Name	SLK	Project Site	Beard Vegetation Association Number	Beard Vegetation Description
NWCH	145.6	Strategic Material Area SLK 145.6	365	Shrublands; bowgada & jam scrub with scattered York gum & red mallee

2.5.2 Site Vegetation Condition

Vegetation condition was assessed during site visits in June and November 2008 by MRWA Environment Officer, Crystelle Evangelista. Factors such as the continuity and extent of vegetation, adjacent land use, proximity to exiting roads and other disturbances/disease vectors were considered.

Based upon this assessment, the majority of the vegetation within the proposed strategic material areas, SLK 145.6 has been assessed as in 'good or better condition' as defined by the Government of Western Australia (2000).

The vegetation condition was assessed by recognising the level of intactness of vegetation, which is defined by the following

- Completeness of vegetation structure levels;
- Extent of weed invasion;
- Historical disturbance from past land use; and
- The potential for natural or assisted regeneration.

This strategic material area is located in the Rural (Pastoral) Land-use Zone. This section of the state has been dominated by grazing and pastoral land use and although the extent of native vegetation remains largely intact, the structure and floristic composition have been substantially altered since European settlement through gazing by introduced animals such as sheep, cattle, goats and rabbits, and by altered fire regimes.

Disturbance factors within the proposed strategic material area were at a minimum and restricted to the edge of old material areas that have previously been cleared. It would be concluded that vegetation within this material area would be rated between Condition 2 (Excellent) to Condition 3 (Very Good) (*Government of Western Australia, 2000)*.

2.5.3 Site Vegetation in Regional Context

Position Statement No.2 Environmental Protection of Native Vegetation in Western Australia (EPA, 2000) defines that a vegetation type is considered to be underrepresented if there is less than 30% of its original extent remaining.

The status of vegetation communities can be categorised into five (5) classes, including:

- *Presumed extinct:* Probably no longer present in the bioregion
- *Endangered**: <10% of pre-European extent remains
- *Vulnerable**: 10-30% of pre-European extent exists
- *Depleted**: >30% and up to 50% of pre-European extent exists
- *Least concern:* >50% pre-European extent exists and subject to little or no degradation over a majority of this area.

* or a combination of depletion, loss of quality, current threats and rarity gives a comparable status

Extent of vegetation remaining and that occurring in pre-European times has been generated for Western Australia by Shepherd *et.al* (2002).

The results of vegetation communities within the Project Sites are summarised in Table 5 & 6.

Table 5 Assessment of Vegetation Extent (Shepherd *et.al,* 2000)

Vegetation Association	Description	Pre-European Extent (ha)	Current Extent (ha) (2007)	% Remaining (2007)	Status
365	Shrublands; bowgada & jam scrub with scattered York gum & red mallee	55,983.34	52,045.06	92.97	Least Concern

Table 6 IBRA Regional Extent of Vegetation Association (Geraldton Sandplains)

Vegetation Association	Description	Pre-European Extent (ha)	Current Extent (ha) (2007)	% Remaining (2007)	Status
365	Shrublands; bowgada & jam scrub with scattered York gum & red mallee	13,700.30	11,104.69	81.05	Least Concern

2.5.4 Environmentally Sensitive Areas

Environmentally Sensitive Areas (ESA's) are subject to definition under Section 51B of the *Environmental Protection Act 1986* and may include areas such as those requiring special management attention to protect important scenic values, fish and wildlife resources, historical and cultural values and other natural systems or processes.

The Department of Environment and Conservation (DEC, 2009b) has identified an ESA within the 5km of the proposed strategic material area. This ESA incorporates the Kalbarri National Park, it is not expected that the proposed strategic material area will impact significantly on this ESA.

2.5.5 Significant flora

Flora species that are considered to be significant are listed under the *Western Australian Wildlife Conservation Act 1950* and the *EPBC Act 1999.* Additionally, the DEC keeps a list of Priority species, that are not listed under legislation but for which the DEC feels there is cause for concern, or for which not enough information is known.

A search was undertaken through the Department of Environment and Conservation's (DEC) *Threatened (Declared Rare) Flora Database*, the DEC's *Declared Rare and Priority Flora Species List* and the *Western Australian Herbarium Specimen (WAHERB) database* for species of rare and priority flora located within the vicinity of the project sites.

Table 6 provides a description of those species recorded in the general vicinity of the proposed strategic material area on the DEC's Threatened (Declared Rare) Flora database, *the Declared Rare and Priority Flora Species List* and the *Western Australian Herbarium Specimen (WAHERB) database*. The species listed in these lists are those known to exist in the general surrounds and not to the project sites specifically.

No Declared Rare Flora were identified as having been recorded in the vicinity of proposed material area from the DEC database searches, however 37 priority flora species were recorded in the WAHERB, the Declared Rare and Priority Flora Species List (DRPFL) and the Threatened (Declared Rare) Flora Database.

In addition to the DEC database searches, an *Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)* Protected Matters Search was undertaken for the Project areas. The full list produced for the project area is recorded in Appendix F.

Table 7 Threatened and Priority Flora identified from DEC's Threatened (Declared Rare) Flora Database, Declared Rare and Priority Flora List and WAHERB Database

Species	Conservation Category	DEC Database Search	Description
Abutilon sp. Hamelin	P2	DRPFL	Shrub, 0.08–0.5 m high. Fl. yellow, orange, brown, Jul–Sep. Sand or loam. Limestone rises.
Acacia drepanophylla	P3	DRPFL	Tree, 2.5–4(–5) m high, bark grey, fibrous & fissured on main trunk. Fl. yellow, May–Jul. Red clay or loam over limestone. Flat to undulating plains, low rises.
Acacia gelasina	P2	DRPFL	Dense, spreading shrub, (0.4–)1–2.5 m high. Fl. yellow, Jun–Sep. Yellow sand. Sandplains, low rises.
Acacia isoneura subsp. isoneura	P3	DRPFL	Erect, open shrub, 0.5–3 m high. Fl. yellow, Aug–Sep. Yellow/brown sand. Flats, low rises
Acacia plautella	P3	DRPFL	Spreading, pungent shrub, 0.6–1 m high. Fl. yellow. Yellow sand. Sandplains.
Acacia sclerosperma subsp. glaucescens	P3	DRPFL	Spreading shrub, 1–3 m high, branchlets puberulous, sometimes glabrous. Fl. yellow, Jul–Aug. Sand, sandy loam, stony soils
Anthotroche myoporoides	P2		Erect, rounded, often intricately branched shrub, 0.6–3 m high. Fl. white, cream, green, Aug–Jan. Yellow or red sand. Sandplains
Beyeria gardneri	P1	DRPFL	Shrub, 0.25–0.5 m high. Fl. yellow, Aug–Sep. Yellow sand.
Chamelaucium conostigmum	P3	WAHERB	Sprawling or erect shrub, 0.2-0.7m. Fl. red, purple, Sep-Nov. White or yellow sand, sandy clay. Salt flats.
Chamelaucium oenanthum	P1	WAHERB	Erect shrub, 1.5–2 m high. Fl. white, red, purple, Sep–Nov. Red or yellow sand. Sandplains, flats.
Chthonocephalus spathulatus	P1	DRPFL	Annual, herb. Fl. yellow, Aug. Red- brown loam or sandy clay. Undulating plains
Dicrastylis linearifolia	P3	WAHERB	Much-branched shrub, 1–3 m high, inflorescence with scale-like indumentum; upper surface of leaves hairy; stamens usually 5. Fl. white, Nov–Dec. Red sand. Sandplain.
Eucalyptus diminuta	P4	DRPFL WAHERB	Mallee, 1.7–5 m high. Fl. white, cream, Jul–Nov. Sandy clay, white/grey sand, often over laterite. Sandplains, near swampy areas.
Eucalyptus zopherophloia	P4	DRPFL	Spreading mallee, 2.5–4(–6) m high, bark rough, fibrous. Fl. cream, white, Oct–Jan. Grey/white sand with limestone rubble. Coastal areas
Geleznowia verrucosa subsp. Kalbarri	P3	DRPFL	Rounded, erect, branching, woody shrub, to 1.5 m high. Fl. yellow, Aug–Oct. White/orange-brown sand, gravel, laterite, sandstone, limestone. Disturbed edges of quarries, slopes
Goodenia neogoodenia	P4	DRPFL	Prostrate annual, herb, flowers minute. Fl. brown, yellow, Aug–Sep. Red loam or clay. Near water.
Goodenia sericostachya	P3	WAHERB	Erect, short-lived annual or perennial, herb, 0.2–0.5 m high. Fl. purple, blue, pink, Oct–Jan. Red sand. Sandplains.
Grevillea stenostachya	P3	DRPFL	Grey, lignotuberous shrub, 0.9–2.2 m high. Fl. orange, red, pink, May–Dec. Red or yellow sand on limestone. Coastal areas
Hyalosperma stoveae	P2	WAHERB	Much-branched, semi-prostrate annual, herb. Sand or sandy clay.

Jacksonia velutina	P4	WAHERB	Erect, broom-like shrub, 0.3-1.5m high. Fl. yellow, orange, red, Aug- Sep. Yellow sand. Sandplains & Sandhills
Lepidium scandens	P3	WAHERB	Weak, ascending or twining shrub, 0.4–2 m high. Fl. white, Aug–Sep. Red sand, clay.
Macarthuria georgeana	P1	DRPFL WAHERB	Erect, many-stemmed perennial, herb or shrub, 0.15–0.4 m high. Fl. white, cream, Aug–Sep. Yellow sand. Sandplains & sand dunes.
Murchisonia fragrans	P2	WAHERB	Tuberous, tufted perennial, herb, to 0.18 m high. Fl. white, purple, Aug–Nov. Yellow or red sand, gravel.
Philotheca kalbarriensis	P2	WAHERB	Shrub, to 1 m high, leaves narrowly fusiform, ca 4 mm long; flowers solitary, axillary; staminal filaments ciliate. Fl. white, Aug. Yellow sandy clay. Acacia acuminata scrub.
Phlegmatospermum drummondii	P3	WAHERB	Erect annual, herb, to 0.3 m high. Fl. white, cream, Aug–Sep. Red clay & sand.
Physopsis chrysophylla	P3	DRPFL	Erect shrub, 1-5m high. Fl. yellow, orange, Sep-Jan. Red or yellow sandy soils. Sandplains.
Scholtzia sp. Bungabandi Creek	P1	DRPFL	-
Scholtzia sp. Eurardy	P2	DRPFL	Erect, compact shrub, 0.6–1.2 m high. Fl. pink, white, Aug–Dec. Sandy clay or loam
Scholtzia sp. Galena	P2	DRPFL	Shrub, 1–1.5 m high. Fl. pink, white, Aug–Sep. Yellow/orange sand.
Sondottia glabrata	P2	DRPFL	Annual, herb, to 0.1 m high. Fl. white, yellow, Sep–Oct. Saline flats
Thryptomene ninghanensis	P1	DRPFL WAHERB	Shrub, 0.75–1.2 m high. Fl. pink, white, red, Jul–Sep. Yellow sand, red clay. Sand dunes.
Thryptomene sp. Eurardy	P2	DRPFL	Shrub, ca 0.5 m high. Fl. pink, Nov. Yellow sand. Sandplains.
Verticordia capillaris	P4	WAHERB	Corymbose shrub, 0.3–1.5 m high. Fl. cream, white, Oct–Nov. Yellow sand, sandy loam, sandy clay. Sandplains.
Verticordia dichroma var. dichroma	P1	WAHERB	Erect, spindly or spreading shrub, 0.3–3 m high. Fl. yellow, orange, red, Oct–Dec. Yellow sand. Sandplains.
Verticordia eurardyensis x	P1	DRPFL WAHERB	Shrub, 0.3–1 m high. Fl. pink, purple, red, brown, Jan. Yellow sand.
Verticordia polytricha	P4	DRPFL	Shrub, 0.5–2.5 m high. Fl. cream, white, Sep–Oct/Jan. Sand, gravelly clay. Sandstone outcrops.
Xanthoparmelia nashii	P1	WAHERB	-

2.5.6 Threatened Ecological Communities

Ecological communities are defined as 'naturally occurring biological assemblages that occur in a particular type of habitat' (English and Blythe, 1997).

Threatened Ecological Communities (TEC's) are ecological communities that have been assessed and assigned to one of four categories related to the status of the threat to the community, that is:

- Presumed Totally Destroyed;
- Critically Endangered;
- Endangered; and
- Vulnerable.

Some TECs are protected under the Commonwealth *Environmental Protection and Biodiversity Conservation (EPBC) Act 1999.* Although TEC's are not formally protected under the *Wildlife Conservation Act 1950*, the loss of, or disturbance to, some TEC's trigger the *EPBC Act.* The Environmental Protection Authority (EPA) position on TEC's states that proposals that result in the direct loss of TEC's are likely to require formal assessment.

The *EPBC Act* Protected Matters Search Tool (Department of Environment, Water Heritage and the Arts 2008) did not identify any TEC within the vicinity of the Project Areas.

A search of the DEC's TEC's database was undertaken for the Project Area. No TEC's are known to be located within the Project Area.

However, there are occurrences of the following ecological community within approximately 3km of the Project Area:

- 'Priority 1' ecological community – *Kalbarri Ironestone Community'*

The Project Area is located on the extremities of this TEC's buffer zone.

2.6 Fauna

2.6.1 Fauna Habitat

The dominant habitat type located at the proposed strategic material area has been mapped as:

- Strategic Material Area 145.6 SLK - 'Shrublands; bowgada & jam scrub with scattered York gum & red mallee'

This vegetation would provide shelter for a range of reptile & amphibian species, small marsupials, bird species and invertebrates.

2.6.2 Threatened Fauna

The conservation status of fauna species is assessed under State and Commonwealth Acts; in particular the Western Australian *Wildlife Conservation Act 1950; Wildlife Conservation (Specially Protected Fauna) Notice 2006,* and the *Commonwealth EPBC Act 1999*.

The significant levels of fauna used in the *EPBC Act* are those recommended by the International Union for the Conservation of Nature and Natural Resources (IUCN). The *EPBC Act* also includes a list of migratory bird species that are recognised under international treaties such as the China Australia Migratory Bird Agreement (CAMBA), the Japan Australia Migratory Bird Agreement (JAMBA) and the Bonn Convention (The Convention on the Conservation of Migratory Species of Wild Animals) and any other native species identified in an international agreement approved by the Commonwealth Environment Minister.

The Western Australian *Wildlife Conservation (Specially Protected Fauna) Notice 2006* has classified threatened fauna in a number of Schedules. The DEC also developed a supplementary list of Priority fauna species which are not directly protected under legislation but for which the DEC feels there is cause for concern or which not enough information is known about these species.

Searches of the DEC *Threatened Fauna Database* and the EPBC Act Protected Matters Search Tool where undertaken for the proposed strategic material areas. The search result for the DEC Threatened Fauna Database and the EPBC Act Protected Matters Search are recorded in Table 7 and Appendix F

Given the relatively small clearing areas required for the proposed project, the large amount of similar vegetation in good to better condition surrounding the project sites and the mobile nature of most of the species identified, the impacts to these species is expected to be minimal.

Table 8 Threatened and Priority Fauna Likely to be Present in Proposed Project Areas (DEC's Threatened Fauna database Search and *EPBC Act* Protected Matters Tool Search)

Scientific Name	Common Name	Database	Other Information	Status	Likelihood of occurring in the Project Site
Acanthiza iredalei iredalei	Slender-billed Thornbill (Western sp.)	EPBC	The Slender-billed Thornbill (western sp.) occurs in arid and semi-arid regions of southern Western Australia and south-western South Australia.	Vulnerable	Negligible
Apus pacificus	Fork-tailed Swift	EPBC	Pacific Swifts breeds from central Siberia eastwards through Asia. This species is migratory, wintering south to Australia.	Migratory	Negligible
Ardea alba	Great Egret, White Egret	EPBC	This species is common throughout Australia, with the exception of most arid areas. Prefers shallow water, particularly when flowing, but may be seen on any water area including damp grasslands.	Migratory	Negligible
Ardea ibis	Cattle Egret	EPBC	In Australia it is most widespread and common in north-eastern Western Australia across the Top End, Northern Territory, and in south-eastern Australia from Bundaberg, Queensland to Port Augusta, South Australia, including Tasmania. The Cattle Egret is found in grasslands, woodlands and wetlands, and is not common in arid areas.	Migratory	Negligible
Cacatua leadbeateri	Major Mitchell's Cockatoo	DEC	This species is sporadically distributed through arid and semi-arid Australia and may occur in sparsely timbered grasslands and shrublands and rocky outcrops	Schedule 4	Negligible
Egernia stokesii badia	Western Spiny-tailed Skink	DEC EPBC	This species occurs in semi-arid scrub and woodlands of Shark Bay and the northern wheatbelt, sheltering in hollow logs and behind bark of fallen trees	Schedule 1 / Endangered	Negligible
Haliaeetus leucogaster	White-bellied Sea Eagle	EPBC	This species inhabits coastal and near coastal area of Australia.	Migratory	Low
Idiosoma nigrum	Shield-backed Trapdoor Spider	DEC	This species is in decline in its patchy distribution through the northern and central wheatbelt and coastal plain. It is a long-lived species that is very sensitive to disturbance.	Schedule 1	Low
Leioproctus contrarius	Bee	DEC	This species of native bee is apparently dependent on flowers of Goodeniaceae and possibly Lechenaultia stenosepala. Recent surveys have shown that it is more widespread than previously thought	Priority 3	Low
Lerista lineata	Lined skink	DEC	This species is a small, slender skink that inhabits white sands	Priority 3	Low
Leipoa ocellata	Malleefowl	DEC EPBC	This species was once widely distributed across southern Australia. It prefers woodlands or shrubland with an abundant litter layer that provides essential material for the construction of its nest mound	Schedule 1 / Vulnerable	Medium
Merops ornatus	Rainbow Bee-eater	EPBC	This species is distributed across much of mainland Australia, and occurs on several near-shore islands. It is thinly distributed in the most arid regions of central and Western Australia.	Migratory	Low

2.7 Weeds & Other Pathogens

2.7.1 Weeds

The Department of Agriculture and Food have recorded 83 Declared Plants as occurring within the Murchison region.

There was minimal weed species observed within the project area and surrounding environment. It is recommended that extensive weed management strategies are outlined in the EMP to minimise the introduction of weed species into the project area and surrounding environments.

2.7.2 Diseases or Pathogens

As identified in DEC's '*Best Practice Guidelines for the Management of Phytophthora cinnamomi'(2004), Phytophthora cinnamomi ('Dieback')* disease is generally restricted to areas in the south west of the State, south of the 26th parallel of latitude, in areas receiving an average annual rainfall of greater than 400mm.

The location of the Project Area can be considered to be susceptible to the development of the *Phytophthora cinnamomi* pathogen.

No other known plant diseases or pathogens are recognised as being present in the Murchison region.

2.8 Contamination (contaminated sites, salinity, acid sulfate soils)

A search for potential contaminated sites through the DEC online database was conducted (DEC, 2009c). This search concluded that no previously recorded contaminated sites occur within the project area, which is consistent with the pattern of historical land use in the area.

2.9 Indigenous Heritage

A search of the Department of Indigenous Affairs Register of Aboriginal Sites was conducted to determine the likelihood of the project impacting on listed Aboriginal heritage sites. No known sites of Aboriginal heritage significance were identified within the vicinity of the project area

It is considered possible that other unregistered sites are located within the vicinity of the project areas and it is recommended that further consultation with Nanga Native Title Claimant Group be undertaken.

2.10 Non-Indigenous Heritage

A search of the Australian Heritage database (Australian Government, 2008b) was conducted to determine the likelihood of the project impacting upon a listed World Heritage Site, National Heritage Site, Commonwealth Heritage Site or site listed on the Register of the National Estate.

No sites were identified to be within the vicinity of the project areas.

A search of the Heritage Council of Western Australia's (2007) Heritage Place database was conducted to determine the likelihood of the project impacting upon a Western Australian listed heritage site. No sites were located within the Eurardy region.

3. PROJECT IMPACTS AND MANAGEMENT

3.1 Aspects Considered Most Relevant for the Project Sites

Table 8 below identifies those environmental factors of most relevance to the project site where further works and / or approvals are recommended. The requirements for each of the factors are outlined in the summary below.

Table 9 Summary of Environmental and Heritage Aspects considered most relevant for each Strategic Material Area

Aspect	Strategic Material Area SLK 145.6
Reserves and Conservation Areas	-
World Heritage Areas	-
Groundwater	-
Clearing	√
Significant Vegetation or Flora	√
Priority Fauna	√
Heritage	√
Surrounding Land Use	√
Wetlands	-
Salinity	-
Acid Sulfate Soils	-
Diseases or Pathogens	√
Contaminated Sites	-
Air Quality and Dust	√
Noise and Vibrations	-
Visual Amenity	-
Public Safety and Risk	-

Key

- = Not an issue

√= Issues to be addressed

√ = potential issues to be addressed, more information required

A summary of those environmental factors of most relevance to the project site are discussed throughout this section.

3.2 Reserves and Conservation Areas

As previously mentioned in Section 2.2, the Kalbarri Nation Park is the closest conservation reserve to the proposed strategic material area and is located approximately 6-10km from the proposed project site.

Given the location of the proposed project area on the opposite site of North West Coastal Highway to the National Park and the relatively small amount of clearing proposed to be undertaken, the proposed project will not impact on the environmental aspects of the National Park.

3.3 Groundwater

The proposed material area is located within the Gascoyne Proclaimed Groundwater Area. If groundwater is required during any phrase of the propose project, application for a 26D licence under the *Rights in Water and Irrigation Act (1914)* to construct bores in this area and a 5C licence for abstraction of water will need to be submitted to the Department of Water.

3.4 Flora and Vegetation

3.4.1 Proposed Clearing

Table 9 below identifies the estimated clearing areas for each of the Project Sites.

Table 10 Estimated Proposed Clearing Totals Required for Material Site at SLK 145.6

Road Name	SLK	Proposed Works	Total Area of S19/279	Proposed Initial Clearing
NWCH	145.6	Extraction of Road Building Material	67.65 ha	4.5 ha

Note:

1. All temporary cleared area will be rehabilitated using Main Roads Generic Revegetation Plan for Pastoral Areas, approved by Department of Environment and Conservation, WA.

The clearing of native vegetation associated with the initial stages of this project will be carried out using Main Roads' State Wide Purpose Permit CPS 818. All clearing for this initial stage will be carried out prior to the expiry of Main Roads' Purpose Permit CPS 818 in 2010.

This permit was issued to Main Roads' WA by the Department of Environment and Conservation and allows Main Roads to undertake clearing for projects that have been assessed as not having a significant impact on the environment. Clearing carried out under the Main Roads' Purpose Permit will be in accordance with conditions set out within the Permit.

The total amount of native vegetation cleared during this project will not exceed the region's annual limit of 150ha, as stated in the Purpose Permit CPS 818.

Main Roads Gascoyne Region will apply for a separate Clearing Purpose Permit under the provisions of the *Environmental Protection (Clearing of Native Vegetation) Regulation 2004* to clear native vegetation outside of this initial proposed area and after the expiry of Purpose Permit CPS818 in 2010.

The project has been assessed against the DEC's 10 Clearing Principles (see Appendix J). As the project is potentially at variance with some of the ten clearing principles, it is recommended that further studies be undertaken.

All proposed clearing will be undertaken in accordance with Main Road Corporate Procedure – 6707/008 Environmental Guideline – Pits and Quarries.

3.4.2 Significant Flora

The DEC's flora database search recorded that there were no known populations of Declared Rare Flora within or near the proposed project area, however, the DEC's *Threatened (Declared Rare) Flora Database, Declared Rare and Priority Flora List* and *WAHERB Database* recorded 37 priority flora species occurring near the project site.

Given the proximity to already recorded populations of priority flora and the large areas of proposed clearing for the initial stages of the material area, the likelihood of priority flora occurring within the project site is relatively high. Therefore a flora survey will be undertaken in late Winter/Spring to identify the presence of the species listed in Table 6, prior to material excavation.

3.4.3 Threatened Ecological Communities

No TEC were identified within the vicinity of the project area during the DEC database searches. A TEC assessment will be undertaken during the flora survey prior to material excavation, to confirm the desktop assessment.

3.4.4 Weeds

There was minimal weed species observed within the project area and surrounding environment. Extensive weed management strategies will be outlined in the EMP to help minimise the introduction of weed species into the project area and surrounding environments.

3.5 Fauna

3.5.1 Proposed Habitat Clearing

The clearing of vegetation associated with the project is expected to be minimal due to the small amount of materials required annually. Given the relatively small area of clearing required initially, the extent of vegetation in good or better condition within the region and that the remaining clearing is planned over a 20-year period, it is expected that clearing will not adversely impact upon the available fauna species habitat located in the area.

A fauna surveys will be undertaken for the entire project site to identify any potential habitat areas that may be impacted.

3.5.2 Significant Fauna

A number of Threatened Fauna Species have been identified from the DEC Threatened Fauna Database and EPBC Act Protected Matters Search as being recorded within the vicinity of the Project Sites, some of which are protected under then Commonwealth *EPBC 1999.*

Based upon the clearing area associated with the project site and taking into account the vegetation extent in the region, it is considered unlikely that the project will significantly impact upon the long-term survival of any species of threatened fauna that may occur in the area, as the fauna species are likely to be present in other similarly vegetated area within the vicinity of the project site.

Although the clearing of vegetation has the potential to have a direct impact on fauna, the project is unlikely to have a significant impact on the biodiversity values at the species and ecosystem levels in the region. A threatened fauna and threatened fauna habitat assessment will be undertaken in conjunction with the flora survey, prior to material extraction.

3.6 Indigenous Heritage

No Aboriginal heritage sites have been identified within the vicinity of the project area, however it may be possible that unregistered sites will be impacted during any proposed works.

Further consultation with the appropriate representatives of the local Aboriginal community and Native Title Claimant Group will be undertaken to determine the level of impact on Aboriginal heritage due to the proposed project.

All personnel working on the proposal will need to be aware of their obligations under the *Aboriginal Heritage Act 1972* during any construction works. The Environmental Management Plan will also include details regarding the protection and management of Aboriginal heritage issues relating to the proposed project.

3.7 Non-Indigenous Heritage

No non-Indigenous heritage sites have been identified to exist within the vicinity of the proposed material area. It is not expected that any of the proposed works will significantly impact on any heritage values.

The Environmental Management Plan will include details regarding the protection and management of any non-Indigenous heritage aspects.

3.8 Surrounding Land Use

The surrounding land use around the proposed project site is dominated by the following:

- Gazing - Pastoral Industry
- Conservation Parks, Nature Reserves, National parks
- Tourism
- Unallocated Crown Land

It is predicted that impacts will occur to conservation activities during the proposed project. An offset package will be developed and presented to DEC for approval, prior to any ground disturbing works.

3.9 Wetlands

No permanent or seasonally inundated wetlands occur within close proximity of the project site.

3.10 Salinity

The vegetation clearing required to be undertaken as part of the proposed roadworks is unlikely to be of sufficient scale to result in, or exacerbate, salinity at the project site.

3.11 Acid Sulfate Soils

The Project Sites are mapped as having no known risk of ASS occurring within 3m of natural soil surface and deeper (WAPC, 2003).

3.12 Diseases or Pathogens

Phytophthora cinnamomi ("Dieback") disease is generally restricted to areas in the south west of the State, south or the 26th parallel of latitude, and in areas receiving an average annual rainfall of greater than 400mm. The location of the Project Area can be considered to be susceptible to the development of the *Phytophthora cinnamomi* pathogen.

No other known plant diseases or pathogens are recognised as being present in the Murchison region.

It is also considered that hygiene measures outlined in Section 3.5.4 for weeds would minimise any risk of pathogen spread. In addition to those measures, no excavation works would be undertaken during wet conditions.

3.13 Contaminated Sites

No previously recorded contaminated sites occur within the Project Area and given the historical land use none would be expected.

Should any contamination be discovered during field works, DEC will be notified.

3.14 Air Quality and Dust

The proposed project is not expected to significantly impact on regional air quality.

Dust may be generated during construction and should be managed for the protection of road users, adjoining landholders and surrounding vegetation. Dust impacts upon the homestead are not considered to be an issue given the distance and temporary nature of the works.

Main Roads would control dust during material extraction works via the implementation of an Environmental Management Plan, with all temporary cleared areas being rehabilitated once they are no longer required.

3.15 Noise and Vibrations

Noise and vibration during the construction phase are not expected to be an issue, due to the lack of sensitive receptors in the vicinity of the project site.

Main Roads would control noise and vibrations via the implementation of an Environmental Management Plan.

3.16 Visual Amenity

The clearing of vegetation for the extraction of material will be undertaken in accordance with Main Roads' Corporate Procedure - 6707/008 Environmental Guideline – Pits and Quarries. It is expected that due to the minimal amount of vegetation needing clearing at any one time, the positioning and location of the material areas and the already existing land uses, the proposed projects will have minimal impact on visual amenity.

3.17 Public Safety and Risk

The site lies well outside any known or suspected Unexploded Ordinance (UXO) contaminated sites.

Public safety and traffic safety during material excavation works will be managed in accordance with Main Roads' standard traffic management measures.

4. REFERRAL AND FURTHER ACTIONS

This section sets out further actions that Main Roads will undertake due to the completion of the EIA assessment.

4.1 Requirement for Referral

Referral to the Environmental Protection Authority (EPA) and the Department of Environment, Water, Heritage & the Arts (DEWHA) is not considered necessary for this project.

Referral of the project in accordance with Main Roads' Statewide Purpose Permit CPS 818 to the Department of Environment and Conservation is warranted. Main Roads Gascoyne Region will refer the EIA, EMP, Revegetation Plan and Offset Package to the CEO of DEC prior to any ground disturbing works.

4.2 Further Actions

4.2.1 Environmental Management Plan

Main Roads will develop an Environmental Management Plan for proposed works at all Strategic Material Areas. Issues to be considered in this management plan include:

- Conservation reserves;
- Vegetation clearing;
- Rehabilitation;
- Fauna protection;
- Protection of threatened flora and threatened fauna habitat;
- Dust control;
- Groundwater consumption;
- Traffic safety and access;
- Fire management;
- Vehicle servicing;
- Weed and pathogen hygiene;
- Drainage management – including maintenance of hydraulic connectivity, control of erosion and sedimentation;
- Fuel and chemical storage and management;
- Rubbish disposal;
- Reporting procedures;
- Environmental training; and
- Indigenous and non-Indigenous heritage aspects.

4.2.2 Department of Water Licences

If additional groundwater is required, Main Roads will apply for a 26D Licence under the Rights in Water and Irrigation Act 1914 to construct bores in these areas and apply for a 5C Licence for the abstraction of ground water.

Where large quantities of water are to be taken from local aquifers, Main Roads will undertake consultation with surrounding land owners and the Department of Water.

4.2.3 Further Biological Surveys

Given the proximity of the project site to already recorded population of priority flora and the extensive area covered, the likelihood of priority flora occurring within the project site is relatively high. A flora survey will be undertaken in late winter/spring to identify the presence of any threatened flora species.

Further surveys will also be undertaken to identify if any other aspects will be impacted due to the proposed material areas. A threatened fauna, threatened fauna habitat assessment and threatened ecological community assessment will be undertaken at the same time as the flora surveys.

4.2.4 Weeds

Given the relatively weed free condition of the project sites, extensive weed management strategies will be outlined in the EMP to help minimise the introduction of weed species into the project area and surrounding environments.

4.2.5 Indigenous Heritage

Main Roads will undertake consultation with the appropriate representatives of the local Aboriginal community and Native Title Claimant Group to determine the level of impact to Aboriginal heritage due to the proposed Project Sites.

Given the long term nature of the proposed projects, Main Roads proposes to develop a Memorandum of Understanding between themselves and the appropriate Native Title Claimant Group. It is proposed that this Memorandum of Understanding will stipulate that Main Roads will commission the appropriate Native Title Claimant Group to undertake on ground heritage surveys prior to any ground disturbing works within their claim boundary.

4.2.6 Continued Consultation

Continued consultation will be undertaken with the following stakeholders to help minimise any impacts that may be caused by the proposed projects:

- Department of Environment and Conservation;
- Shire of Northampton;
- Department of Water;
- Native Title Claimant Groups; and
- Surrounding Land Owners.

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Environmental Impact Assessment
Appendices

STRATEGIC MATERIAL AREA
NORTH WEST COASTAL HIGHWAY
SLK 145.6

December 2009

Prepared by
Crystelle Evangelista
Environment Officer
Gascoyne Region

Printed copies are uncontrolled unless marked otherwise

FIGURES

APPENDICES

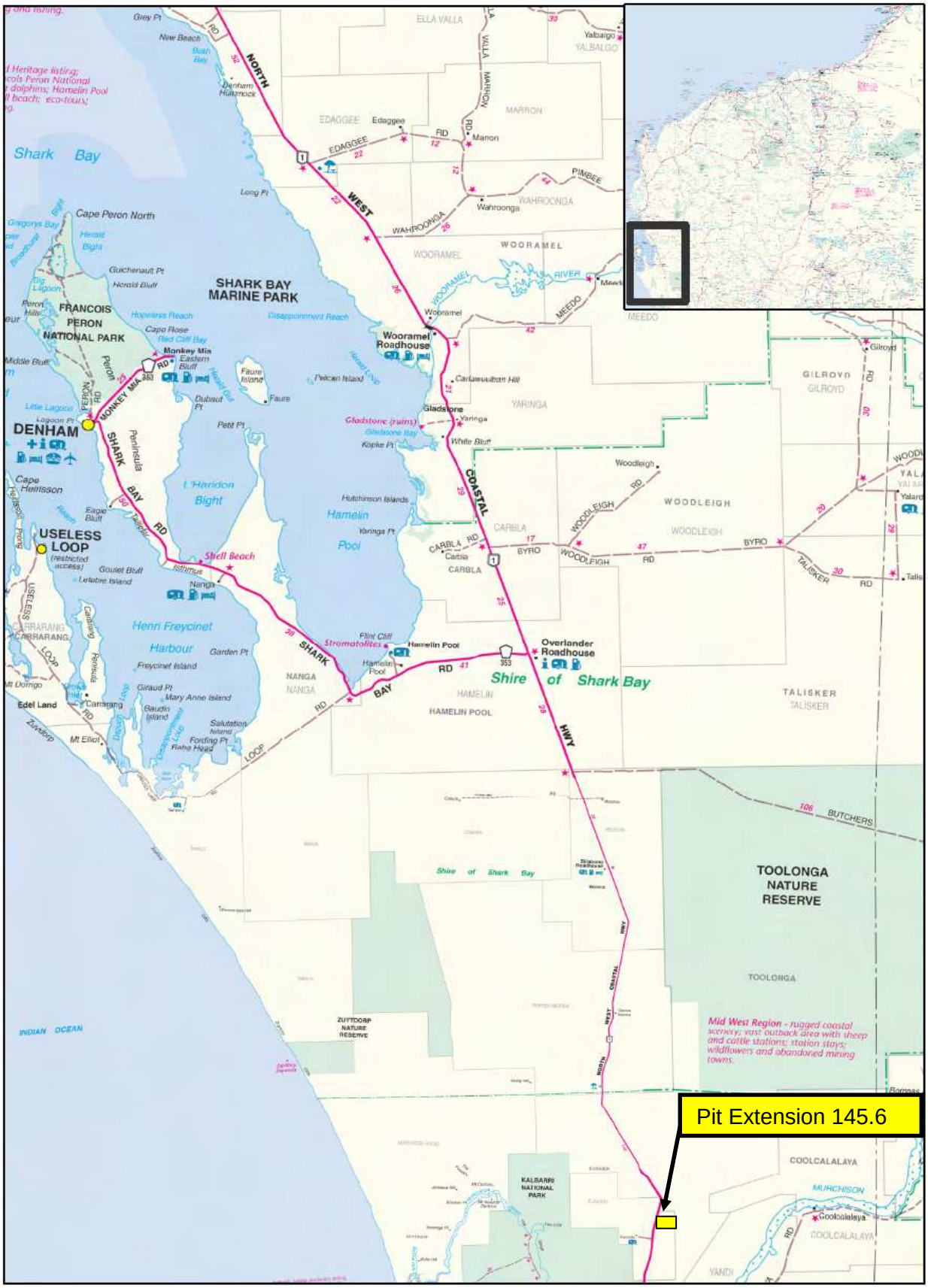

Figure 1 Location of Proposed Strategic Material Area on North West Coastal Highway, SLK 145.6

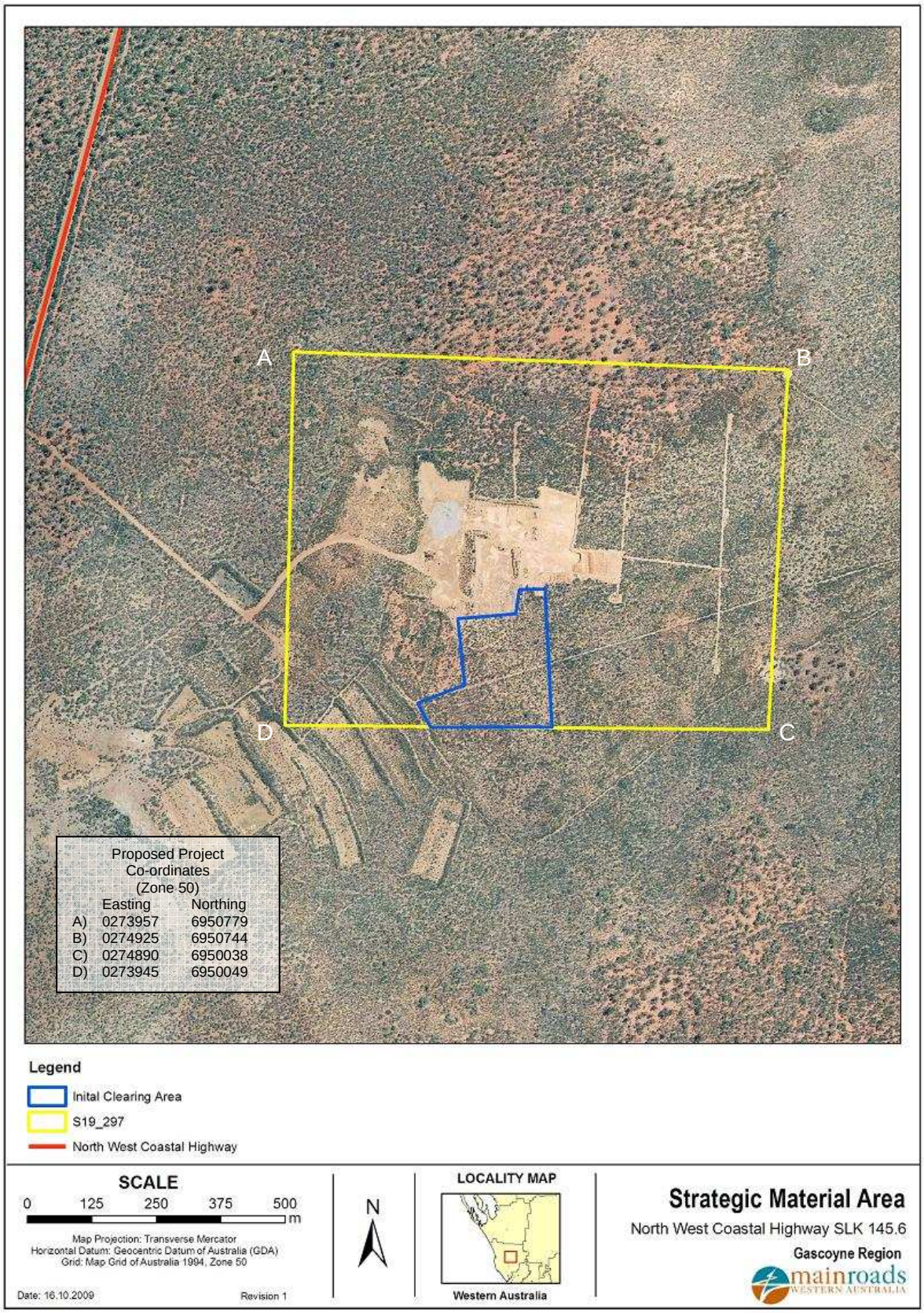

Figure 2 Proposed Strategic Material Area (S19/279) and Initial Clearing Areas on North West Coastal Highway, SLK 145.6

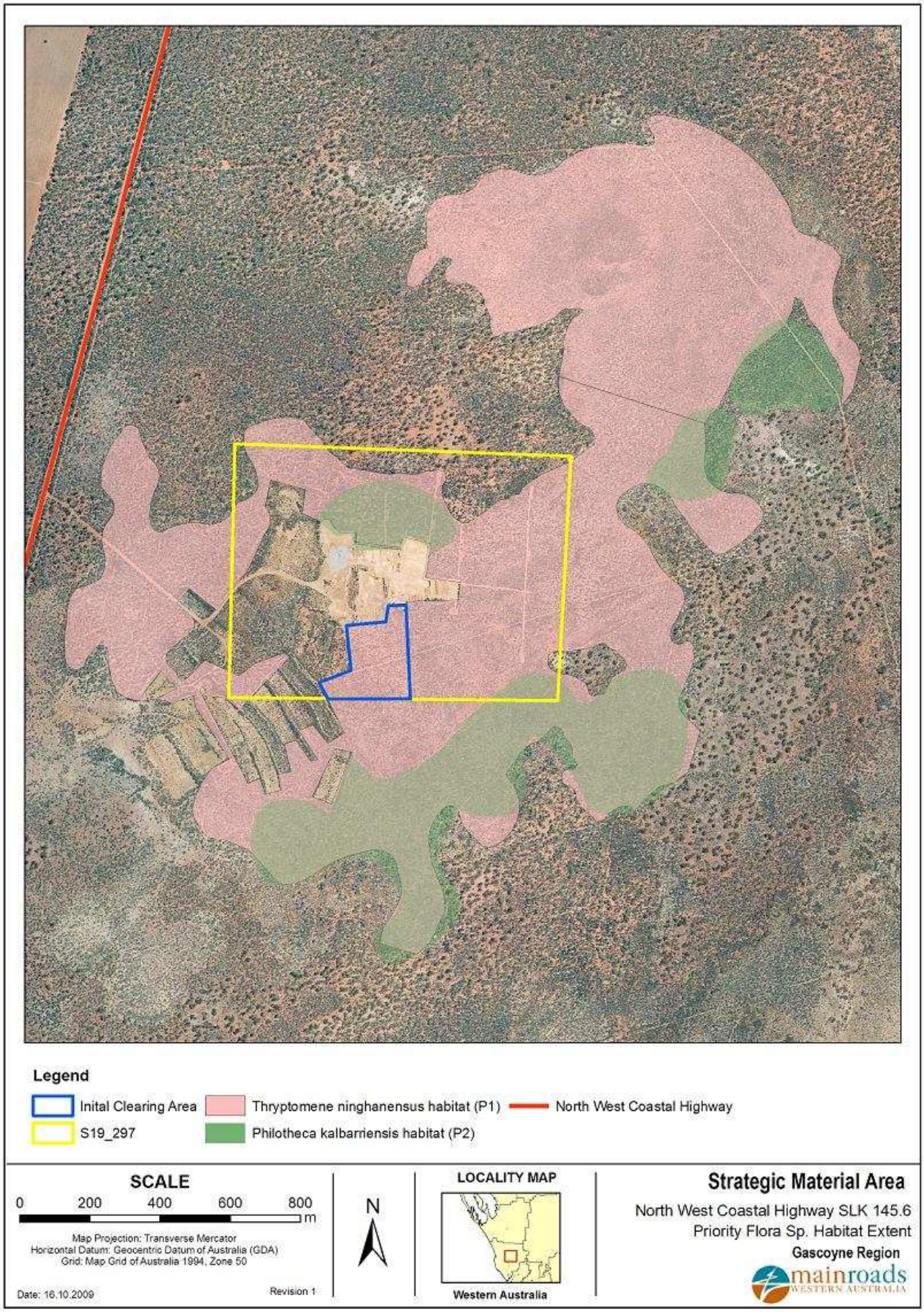

Figure 3 Extent of Priority Flora Populations in relation to the Proposed Strategic Material Area (S19/279) and Initial Clearing Areas on North West Coastal Highway, SLK 145.6

APPENDIX A

Project Site Photos

Photograph 1: Pit Extension 145.6 SLK – North West Coastal Highway – North

Photograph 2: Pit Extension 145.6 SLK – North West Coastal Highway – East View

Photograph 3: Pit Extension 145.6 SLK – North West Coastal Highway

Photograph 4: Pit Extension 145.6 SLK – North West Coastal Highway – East View

APPENDIX B

Consultation

During the preparation of this EIA, Main Roads Gascoyne Region contacted the following stakeholders. The responses to our request for comments are detailed below:

Mr Andrew Watson, Commissioner of Soil and Land Conservation – Office of the Commissioner Soil and Land Conservation in the Department of Agriculture and Food.

Regional scale geological mapping suggests that the pit extension will be located on Northampton Block geology. Clearing of such land in the agricultural area to the south has caused both erosion and salinity. It is unlikely that such land degradation would occur as a result of the proposed gravel extraction and progressive rehabilitation.

In the landscaping and rehabilitation works care should be exercised to establish safe batters and ensure that run off does not pond on the site and attract grazing animals including goats.

Government of **Western Australia**
Department of **Environment and Conservation**

Your ref: 09/29
Our ref: CPS 818/4
Enquiries: Caron Macneall
Phone: 9219 8778
Fax: 9219 8701
Email: caron.macneallI@dec.wa.gov.au

Mr Peter Sewell
Regional Manager
Gascoyne Region
Main Roads Western Australia
PO Box 480
CARNARVON WA 6701

Dear Mr Sewell

CPS 818/4 – SUBMISSION – NORTH WEST COASTAL HIGHWAY – EURARDY STATION

Thank you for your letter dated 6 November 2009, inviting the Department of Environment and Conservation's (DEC) Native Vegetation Conservation Branch to provide comment on Main Roads Western Australia's (MRWA) proposal to extract road base material from Lot 236 on Plan 238175, Eurardy Station. I understand that the proposal involves the clearing of approximately 4.5 hectares of native vegetation.

Submissions are invited in accordance with condition 8 of clearing permit CPS 818/4 for any clearing that 'may be at variance', 'is at variance' or 'is seriously at variance' with the clearing principles contained within Schedule 5 of the EP Act. I understand from your letter that an additional 1 hectare per year is proposed to be cleared as additional resource is required. Please note that DEC's advice below does not relate to these areas as they were not included in the MRWA or GHD Assessment.

In relation to the 4.5 hectares of native vegetation in 'good' to 'pristine' condition, DEC has undertaken a desktop survey of the proposal against the clearing principles in Schedule 5 of the EP Act.

In relation to clearing principle (a), you advise that the proposal 'is not at variance', however I consider the proposal 'may be at variance'. The proposed clearing impacts two priority flora species and occurs within the recommended buffer area for the Kalbarri Ironstone Priority Ecological Community (PEC). In addition GHD's survey of the project area in July 2009 identified a number of flora species within the area, beyond their current known ranges. Given this information the vegetation proposed to be cleared may comprise a high level of biological diversity in a local context.

In relation to clearing principle (c), you advise that the proposal 'may be at variance' due to the presence of priority flora within the proposed clearing area. While I concur with the finding that the proposal 'may be at variance' to this principle the presence of priority flora is not the determining factor. There are 4 rare flora species known to occur within the local area (10km radius) on similar habitats to those under application, three of which are orchids and do not flower until August / September. Therefore the Flora Survey conducted by GHD in July 2009 is unlikely to have identified these species if present.

In relation to clearing principle (g), you advise that the proposal 'is not at variance', however I consider the proposal 'may be at variance'. The proposed clearing will expose soils that are likely to be susceptible to soil erosion and waterlogging. I understand from the MRWA assessment of the proposal that staged clearing and revegetation management options will be implemented to ensure land degradation as a result of clearing is minimised.

Native Vegetation Conservation Branch
Phone: (08) 9219 8700 or (08) 9219 8744 Fax: (08) 9219 8701 Email: nvp@dec.wa.gov.au
Postal Address: Locked Bag 104, Bentley Delivery Centre, BENTLEY WA 6983
www.dec.wa.gov.au/nvc
wa.gov.au

In relation to clearing principles (b), (d), (e), (f), (h), (i) and (j), I suggest that the proposed clearing 'is not likely to be at variance' in the absence of conclusive evidence, rather than 'is not at variance' as indicated in the MRWA assessment report.

In accordance with conditions 5(a)(iii), 9(d) and 12 of clearing permit CPS 818/4, MRWA is required to submit for approval a management strategy developed in consultation with the Commissioner of Soil and Land Conservation as the clearing 'may be at variance' with clearing principle (g).

In accordance with conditions 5(a)(ii) and 9(c) and Part V of clearing permit CPS 818/4, MRWA is required to submit for approval an offset proposal as the clearing 'may be at variance' to clearing principles (a) and (c) in Schedule 5 of the EP Act. Please note that this requirement will need to be addressed before clearing proceeds.

If you have any queries regarding the matters raised above, please contact Caron Macneall at DEC's Native Vegetation Conservation Branch on (08) 9219 8744.

Yours sincerely

Keith Claymore

Keith Claymore
A/ ASSISTANT DIRECTOR
NATURE CONSERVATION DIVISION

Officer delegated under Section 20
of the Environmental Protection Act 1986

19 November 2009

Cc: Mr Murray Limb, Manager, Main Roads WA, PO Box 6202, East Perth 6892

Your Ref: Mr P. Sewell
Our Ref: 2008/001159-1
Enquiries: C. Wilson
Phone: 9334 0423
Fax: 9334 0199
Email: Cressida.Wilson@dec.wa.gov.au

Roadside Conservation Committee

Roadsides - The vital link

Mr Peter Sewell
PO Box 480
CANARVON WA 6701

Dear Mr Sewell,

Re: Invitation for submission – Material extraction within Eurardy Station – North West Coastal Hwy

Thank you for the opportunity to comment on the extraction of materials from within Eurardy Station.

I will not comment on the appropriateness of taking Priority species as specific information surround these species is not my field.

With regards to clearing and revegetating cleared gravel pits, it is always best to use cleared vegetation and removed top soil immediately as storing it kills soil flora and fauna and reduces seed viability in the soil's seed bank. In other words, when a new area of gravel is accessed, top soil should be carefully removed and spread over previously cleared areas that have been properly prepared for revegetation. Cleared vegetation should be spread as well, as this will provide some additional seed, help hold topsoil in place and provide microhabitats for growing seedlings. It is thus best to strip out sections of the proposed areas and exhaust that before moving on.

It is not clear in the letter provided if the revegetation planned for offsets includes the revegetation that will be undertaken on pits cleared as part of this initial stage. Off set revegetation should be separate to the revegetation of the exhausted pit, which would result in the revegetation of 2.2ha for every 1ha cleared.

I hope that when considering the next stage of gravel extract from this site the success rate of the revegetation is a major consideration in deciding whether or not to undertake more clearing.

It is good that the Priority species listed are doing well in revegetation, however, they are only a small part of the plant diversity and the other species are important too.

Yours sincerely

Cressida Wilson
Executive Officer

24 November 2009

EVANGELISTA
FOR YOUR FUNCTION
ACTION

30/11/2009

RECEIVED
30 NOV 2009
MAIN ROADS GASCOYNE

ROADSIDE CONSERVATION COMMITTEE
Technology Park, 17 Dick Perry Drive, Kensington, Western Australia 6151
Phone: (08) 9334 0423 Fax: (08) 9334 0199 Mobile: 0417 090 131
Postal Address: Locked Bag 104, Bentley Delivery Centre, Bentley, Western Australia 6983

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Simply Remarkable

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Our Ref: 12.1.6/OCR20210

RECEIVED
18 NOV 2009
MAIN ROADS GASCOYNE

Peter Sewell
Regional Manager – Gascoyne Region
Main Roads Western Australia
PO Box 480
CARNARVON WA 6701

Dear Peter,

INVITATION FOR SUBMISSION - MATERIAL EXTRACTION WITHIN EURARDY STATION - NORTH WEST COASTAL HIGHWAY

I refer to your correspondence 6 November 2009 regarding the above.

It is advised that the Northampton Shire Council has no comments or concerns with the proposed material extraction and clearing requirements.

Should you wish to further discuss the above please do not hesitate to contact me.

Yours faithfully

GARRY L KEEFFE
CHIEF EXECUTIVE OFFICER

12/11/2009

NW — ERHill
For information & file please.
23/11
Env. off — for note

BUSH HERITAGE
AUSTRALIA

Peter Sewell
Regional Manager
Main Roads Western Australia
PO Box 480
CARNARVON WA 6701

10 December 2010

Dear Mr Sewell

Thank you for your correspondence of the 6 November 2009, received at my office on the 18 November 2009, inviting submissions regarding the material extraction within Eurardy Station off the North West Coastal highway.

In addition to your letter, I have also taken the opportunity to briefly discuss the Main Roads proposal with your Environmental Officer, Crystelle Evangelista. In particular, we have discussed some of the details being offered in relation to the offset arrangements and the legislative assessment process to be followed.

Bush Heritage acquired and actively manages the Eurardy property for conservation purposes, and is especially targeting the poorly preserved vegetation associations and creek systems where there are known rare and threatened flora and fauna. Eurardy Reserve (as it is now called) is part of the National Reserve System. The conservation activities undertaken by Bush Heritage at Eurardy Station make a vital contribution to the National Reserve System.

In reviewing the biological survey documents produced by GHD in August 2009, I make the following points for your consideration:

- Desktop search efforts for the proposed Project Area using NatureMap do not corroborate with the established records Bush Heritage has from its regular ecological monitoring program conducted throughout the property (which, amongst other things, show the presence of over 50 species of birds – a number which is increasing each season). The data from Kalbarri National Park also suggest that threatened, priority and endemic fauna species could be present in the vicinity of the proposed Project Area. There is insufficient data being used to form the basis of the GHD statements, which demonstrates a need for additional survey work to be completed on the proposed Project Area, particularly of fauna and avi-fauna.

- *Phytophthora cinnamomi* hygiene measures, to address susceptible vegetation communities, are not addressed. Some consideration of, and reference to, the planned mitigations and hygiene measures to be undertaken, which will prevent and/or limit the introduction and spread of the pathogen, is necessary.

- Malleefowl mounds are an indicator that the species breeds in the area but cannot be used as an indicator of Malleefowl foraging habitat. In semi-arid woodlands, the home ranges of this species can be in excess of 4 km^2 and Bush Heritage data shows Malleefowl are active in the area. Therefore, a dedicated bird survey is necessary to properly establish the presence of Malleefowl and their use of the site.

- *The Project Area does not contain significant habitat for fauna species* (page 32) is a statement made without sufficient information. Dedicated survey work needs to be conducted on the Malleefowl (as mentioned above) and other threatened fauna, including the Trapdoor Spider and Spiny-Tailed Skink, to appropriately assess and understand the significance of the site for fauna.

These points are raised to highlight what Bush Heritage considers are deficiencies in the scientific knowledge on which the GHD statements are based. It is our strong recommendation that dedicated surveys and assessments of the proposed Project Area, specifically targeting the issues raised above, be conducted.

Bush Heritage appreciates the opportunity to comment on the Main Roads proposal and we look forward to your response.

Regards

David Whitelaw
NATIONAL OPERATIONS MANAGER
BUSH HERITAGE AUSTRALIA

APPENDIX C

DEC's Rare and Priority Flora Database Search

Department of Environment and Conservation

Your reference:
Our reference: 2008/001163-1
Enquiries: Bridgitte Long

Phone: 9334 0123
Fax: 9334 0278
Email: bridgitte.long@dec.wa.gov.au

Main Roads Western Australia
Gascoyne Region

Attention: Crystelle Evangelista

Dear Ms Evangelista

REQUEST FOR RARE FLORA INFORMATION

I refer to your request of 24th April 2008 for information on rare flora in the Earardy and Carlaweelban Hill areas. The search co-ordinates used were 27^0 30' - 27^0 35' S and 114^0 39' - 114^0 45' E, and 25^0 49' - 25^0 54' S and 114^0 15' - 114^0 21' E (GDA94).

A search was undertaken for this area of **(1)** the Department's *Threatened (Declared Rare) Flora* database (for results, *if any*, see "Threatened Flora Data" – coordinates are GDA94), **(2)** the *Western Australian Herbarium Specimen* database for priority species opportunistically collected in the area of interest (for results, *if any*, see "WAHERB"- coordinates are GDA94 – see condition number 9 in the attached 'Conditions in Respect of Supply' and **(3)**, the Department's *Declared Rare and Priority Flora List* [this list is searched using 'place names'. This list which may also be used as a species target list, contains species that are declared rare (Conservation Code R or X for those presumed to be extinct), poorly known (Conservation Codes 1, 2 or 3), or require monitoring (Conservation Code 4) – for results, *if any*, see "Declared Rare and Priority Flora List"]. The results are attached electronically to this email.

Attached also are the conditions under which this information has been supplied. Your attention is specifically drawn to the seventh point, which refers to the requirement to undertake field investigations for the accurate determination of rare flora occurrence at a site. *The information supplied should be regarded as an indication only of the rare flora that may be present and may be used as a target list in any surveys undertaken.*

The information provided does not preclude you from obtaining and complying with, where necessary, land clearing approvals from other agencies.

It would be appreciated if any populations of rare flora encountered by you in the area could be reported to this Department to ensure their ongoing management.

If you require any further details, or wish to discuss rare flora management, please contact Dr Ken Atkins, Manager, Species and Communities Branch, on (08) 9334 0455.

Yours faithfully

for Keiran McNamara
DIRECTOR GENERAL
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

28th April, 2008

Please note: Co-ordinates supplied for all data search requests must be provided in latitude/longitude format, 'eastings and northings' are no longer suitable. Thank you.

SPECIES & COMMUNITIES BRANCH: 17 Dick Perry Ave, Technology Park, Kensington
Postal Address: Locked Bag 104, Bentley Delivery Centre, Bentley, Western Australia 6983
Phone: (08) 9334 0455 Fax: (08) 9334 0278 Website: www.dec.wa.gov.au

DEPARTMENT OF ENVIRONMENT AND CONSERVATION

RARE FLORA INFORMATION

CONDITIONS IN RESPECT OF SUPPLY OF INFORMATION

1. All requests for data to be made in writing to the Director General, Department of Environment and Conservation, Attention: Threatened Flora Database Officer, Species and Communities Branch.

2. The data supplied may not be supplied to other organisations, nor be used for any purpose other than for the project for which they have been provided, without the prior written consent of the Director General, Department of Environment and Conservation.

3. Specific locality information for Declared Rare Flora is regarded as confidential, and should be treated as such by receiving organisations. Specific locality information for DRF may not be used in public reports without the written permission of the Director General, Department of Environment and Conservation. Publicly available reports may only show generalised locations or, where necessary, show specific locations without identifying species. The Department is to be contacted for guidance on the presentation of rare flora information.

4. Note that the Department of Environment and Conservation respects the privacy of private landowners who may have rare flora on their property. Rare flora locations identified in the data as being on private property should be treated in confidence, and contact with property owners made through the Department of Environment and Conservation.

5. Receiving organisations should note that while every effort has been made to prevent errors and omissions in the data provided, they may be present. The Department of Environment and Conservation accepts no responsibility for this.

6. Receiving organisations must also recognise that the database is subject to continual updating and amendment, and such considerations should be taken into account by the user.

7. **It should be noted that the supplied data do not necessarily represent a comprehensive listing of the rare flora of the area in question. Its comprehensiveness is dependant on the amount of survey carried out within the specified area. The receiving organisation should employ a botanist, if required, to undertake a survey of the area under consideration.**

8. Acknowledgment of the Department of Environment and Conservation as source of the data is to be made in any published material. Copies of all such publications are to be forwarded to the Department of Environment and Conservation, Attention: The Manager, Species and Communities Branch.

9. The development of the PERTH Herbarium database was not originally intended for electronic mapping (eg. GIS ArcView). The latitude and longitude coordinates for each entry are not verified prior to being databased. It is only in recent times that collections have been submitted to PERTH with GPS recorded in latitude and longitude coordinates. Therefore, be aware when using this data in ArcView that some records may not plot to the locality description given with each collection.

THE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

DECLARED RARE AND PRIORITY FLORA LIST

for Western Australia

CONSERVATION CODES

R: Declared Rare Flora - Extant Taxa

Taxa which have been adequately searched for and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such.

X: Declared Rare Flora - Presumed Extinct Taxa

Taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such.

1: Priority One - Poorly known Taxa

Taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

2: Priority Two - Poorly Known Taxa

Taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

3: Priority Three - Poorly Known Taxa

Taxa which are known from several populations, and the taxa are not believed to be under immediate threat (i.e. not currently endangered), either due to the number of known populations (generally >5), or known populations being large, and either widespread or protected. Such taxa are under consideration for declaration as 'rare flora' but are in need of further survey.

4: Priority Four - Rare Taxa

Taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5-10 years.

Note, the need for further survey of poorly known taxa is prioritised into the three categories depending on the perceived urgency for determining the conservation status of those taxa, as indicated by the apparent degree of threat to the taxa based on the current information.

28/04/2008 **DEPARTMENT OF ENVIRONMENT AND CONSERVATION** Page 1
DECLARED RARE AND PRIORITY FLORA LIST
26 February 2008

SPECIES / TAXON	CONS CODE	CALM REGION	DISTRIBUTION	FLOWER PERIOD
Acacia gelasina	2	MW	Kalbarri NP, Eurardy	
Acacia isoneura subsp. isoneura	3	MW,WB	Mingenew, Three Springs, Caron, Buntine, Perenjori, Wubin, Eurardy	
Acacia plautella	3	MW	Ajana, Wannoo Roadhouse, Murchison, Eurardy Station, Kalbarri NP, Cooloomia NR	Aug-Jan
Beyeria gardneri	1	MW	Murchison River, Eurardy Station, Badgingarra, Kalbarri NP	Aug
Eucalyptus diminuta	4	MW,WB	Yandanooka, Moresby Range, Mindaloo, Beacon, Watheroo, Binnu, Three Springs, Eurardy Stn	Oct-Dec
Eucalyptus zopherophloia	4	MW	Dongara, Cliff Head, Illawong, Jurien Bay, Peron Peninsula, Zuytdorp, Eurardy	Nov-Jan
Geleznowia verrucosa subsp. Kalbarri (L.M. Broadhurst 123)	3	MW,WB	Kalbarri, Hill River, Geraldton, Eneabba, Eurardy, Eradu, Northampton, Binnu, White Peak	Jun-Sep
Goodenia neogoodenia	4	MW	Eurardy, Yalgoo, Mt Magnet, Burnerbinmah Stn	Aug
Macarthuria georgeana	1	MW	Eurardy	Aug-Sep
Physopsis chrysophylla	3	MW	Eurardy Stn, Shark Bay, Kalbarri	Oct-Jan
Scholtzia sp. Bungabandi Creek (M Quicke EURA 48)	1	MW	Eurardy Stn	Nov
Scholtzia sp. Eurardy (JS Beard 6886)	2	MW	Eurardy, Murchison House Station, Kalbarri, Meadow Station, Port Gregory	Oct-Dec
Scholtzia sp. Galena (WE Blackall 4728)	2	MW	Eurardy	Aug,Sep
Thryptomene ninghanensis	1	MW	Eurardy, Yuna, Mt Singleton	Jul-Sep
Thryptomene sp. Eurardy (Bellairs 1649)	2	MW	Eurardy	Jul,Nov
Verticordia eurardyensis x	1	MW	Eurardy Station, Kalbarri NP	Oct-Nov
Verticordia polytricha	4	MW	Kalbarri N.P. to Eurardy Station	-

28/04/2008 **DEPARTMENT OF ENVIRONMENT AND CONSERVATION** Page 1
DECLARED RARE AND PRIORITY FLORA LIST
26 February 2008

SPECIES / TAXON	CONS CODE	CALM REGION	DISTRIBUTION	FLOWER PERIOD
Abutilon sp. Hamelin (AM Ashby 2198)	2	MW	Shark Bay, Hamelin Pool, Yaringa Stn	Jul-Sep
Acacia drepanophylla	3	MW	Overlander, Billabong R/H, Coburn Stn, Hamelin, Yaringa	
Acacia sclerosperma subsp. glaucescens	3	MW	Yaringa Station, Wooramel Station, Edaggee Station	Jul-Aug
Chthonocephalus spathulatus	1	MW	Bookogooro, Wooramel Roadhouse, Hamelin Pool	
Grevillea stenostachya	3	MW	Toolonga, Murchison, Belele, Talisker, Kalli, Wannoo, Wooramel, Tallering Peak, Wandina	Aug
Lepidium scandens	3	MW	Sanford River, Murgoo Stn, Jingemarra Stn, Bush Bay, Wooramel	Aug,Sep
Sondottia glabrata	2	MW	Peron Peninsula, Wooramel River, Edaggee	Sep

APPENDIX D

DEC's Rare and Priority Fauna Database Searches

9334 0579
9334 0278
kellie.mantle@dec.wa.gov.au

2007/000430
Kellie Mantle

Crystelle Evangelista
Main Roads Western Australia
Gascoyne Region

Dear Crystelle

REQUEST FOR THREATENED FAUNA INFORMATION

I refer to your request of 24th April for information on threatened fauna occurring in the vicinity of the proposed pit extensions for the North West Coastal Highway.

A search was undertaken for this area of the Department's Threatened Fauna database, which includes species which are declared as '*Rare or likely to become extinct* (Schedule 1)', '*Birds protected under an international agreement* (Schedule 3)', and '*Other specially protected fauna* (Schedule 4)'.

Attached also are the conditions under which this information has been supplied. Your attention is specifically drawn to the sixth point that refers to the requirement to undertake field investigations for the accurate determination of threatened fauna occurrence at a site. The information supplied should be regarded as an indication only of the threatened fauna that may be present.

It would be appreciated if any populations of threatened fauna encountered by you in the area could be reported to this Department to ensure their ongoing management.

If you require any further details, or wish to discuss threatened fauna management, please contact my Principal Zoologist, Dr Peter Mawson on 08 93340421.

Yours sincerely

.....
for Keiran McNamara
DIRECTOR GENERAL
Department of Environment and Conservation

4th May, 2008

27.35 °S **114.54 °E** / **27.74 °S** **114.86 °E** Site1- Pit Extension 145.6 slk (plus~20km buffer)

*	*Date*	*Certainty*	*Seen*	*Location Name*	*Method*
Schedule 1 - Fauna that is rare or is likely to become extinct					
Leipoa ocellata			**Malleefowl**		*2 records*
This species was once widely distributed across southern Australia. It prefers woodland or shrubland with an abundant litter layer that provides essential material for the construction of its nest mound.					
	2000	1	1	Eurady	Dead
	2004	1	1	Nerren Nerren	Day sighting
Idiosoma nigrum			**Shield-backed Trapdoor Spider**		*1 records*
This species is in decline in its patchy distribution through the northern and central wheatbelt and coastal plain. It is a long-lived species that is very sensitive to disturbance.					
	1954	1	1	Galena	Caught or trapped
Schedule 4 - Other specially protected fauna					
Cacatua leadbeateri			**Major Mitchell's Cockatoo**		*1 records*
This species is sporadically distributed through arid and semi-arid Australia and may occur in sparsely timbered grasslands and shrublands and rocky outcrops.					
	1980	1	1	Eurardy	Day sighting
Priority Three: Taxa with several, poorly known populations, some on conservation lands					
Leioproctus contrarius			**(bee)**		*1 records*
This species of native bee is apparently dependent on flowers of Goodeniaceae and possibly Lechenaultia stenosepala. Recent surveys have shown that it is more widespread than previously thought.					
	2000	1	1	Eurardy	Caught or trapped

* Information relating to any records provided for listed species:-
Date: date of recorded observation
Certainty (of correct species identification): 1=Very certain; 2=Moderately certain; and 3=Not sure.
Seen: Number of individuals observed.
Location Name: Name of reserve or nearest locality where observation was made
Method: Method or type of observation

Friday, 2 May 2008

Department of Environment and Conservation

Threatened and Priority Fauna Database

25.401 °S 113.913 °E / 26.323 °S 114.77 °E Site 2 - Pit Extension 345.4 slk (plus~50km buffer)

*	*Date*	*Certainty*	*Seen*	*Location Name*	*Method*
Schedule 1 - Fauna that is rare or is likely to become extinct					
Egernia stokesii badia			**Western Spiny-tailed Skink**		*1 records*
This species occurs in semi-arid scrubs and woodlands of Shark Bay and the northern wheatbelt, sheltering in hollow logs and behind bark of fallen trees.					
	2003	1	1	Woodleigh	Caught or trapped
Priority Three: Taxa with several, poorly known populations, some on conservation lands					
Lerista lineata			**Lined Skink**		*1 records*
A small, slender skink that inhabits white sands.					
	1994	1	3	Woodleigh	Caught or trapped

* Information relating to any records provided for listed species:-
Date: date of recorded observation
Certainty (of correct species identification): 1=Very certain; 2=Moderately certain; and 3=Not sure.
Seen: Number of individuals observed.
Location Name: Name of reserve or nearest locality where observation was made
Method: Method or type of observation

Friday, 2 May 2008

Department of Environment and Conservation

APPENDIX E

Department of Environment, Water, Heritage and the Arts Database Search

Australian Government
Department of the Environment, Water, Heritage and the Arts

Protected Matters Search Tool

You are here: Environment Home > EPBC Act > Search

18 June 2009 10:43

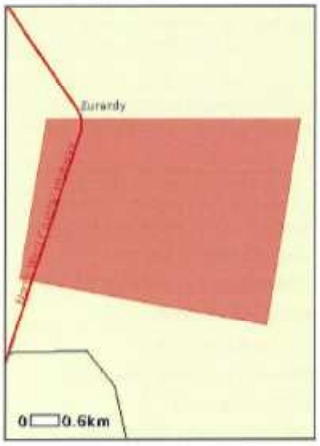
EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

You may wish to print this report for reference before moving to other pages or websites.

The Australian Natural Resources Atlas at http://www.environment.gov.au/atlas may provide further environmental information relevant to your selected area. Information about the EPBC Act including significance guidelines, forms and application process details can be found at http://www.environment.gov.au/epbc/assessmentsapprovals/index.html

Search Type: Area
Buffer: 0 km
Coordinates: -27.4967,114.7152, -27.4967,114.7633, -27.5359,114.7570, -27.5270,114.7102



This map may contain data which are © Commonwealth of Australia (Geoscience Australia) © 2007 MapData Sciences Pty Ltd, PSMA

Report Contents:

Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance - see http://www.environment.gov.au/epbc/assessmentsapprovals/guidelines/index.html.

World Heritage Properties: None
National Heritage Places: None

Wetlands of International Significance: (Ramsar Sites)	None
Commonwealth Marine Areas:	None
Threatened Ecological Communities:	None
Threatened Species:	6
Migratory Species:	8

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place and the heritage values of a place on the Register of the National Estate. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage/index.html.

Please note that the current dataset on Commonwealth land is not complete. Further information on Commonwealth land would need to be obtained from relevant sources including Commonwealth agencies, local agencies, and land tenure maps.

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species. Information on EPBC Act permit requirements and application forms can be found at http://www.environment.gov.au/epbc/permits/index.html.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Places on the RNE:	None
Listed Marine Species:	5
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Other Commonwealth Reserves:	None
Regional Forest Agreements:	None

Details

Matters of National Environmental Significance

Threatened Species [Dataset Information]	Status	Type of Presence

Birds		
Acanthiza iredalei iredalei Slender-billed Thornbill (western)	Vulnerable	Species or species habitat likely to occur within area
Leipoa ocellata Malleefowl	Vulnerable	Species or species habitat likely to occur within area
Reptiles		
Egernia stokesii badia Western Spiny-tailed Skink	Endangered	Species or species habitat likely to occur within area
Plants		
Beyeria lepidopetala Small-petalled Beyeria, Short-petalled Beyeria	Endangered	Species or species habitat likely to occur within area
Caladenia bryceana subsp. cracens Northern Dwarf Spider-orchid	Vulnerable	Species or species habitat likely to occur within area
Eucalyptus beardiana Beard's Mallee	Endangered	Species or species habitat likely to occur within area
Migratory Species [Dataset Information]	Status	Type of Presence
Migratory Terrestrial Species		
Birds		
Haliaeetus leucogaster White-bellied Sea-Eagle	Migratory	Species or species habitat likely to occur within area
Leipoa ocellata Malleefowl	Migratory	Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater	Migratory	Species or species habitat may occur within area
Migratory Wetland Species		
Birds		
Ardea alba Great Egret, White Egret	Migratory	Species or species habitat may occur within area
Ardea ibis Cattle Egret	Migratory	Species or species habitat may occur within area
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift	Migratory	Species or species habitat may occur within area
Ardea alba Great Egret, White Egret	Migratory	Species or species habitat may occur within area
Ardea ibis Cattle Egret	Migratory	Species or species habitat may occur within area

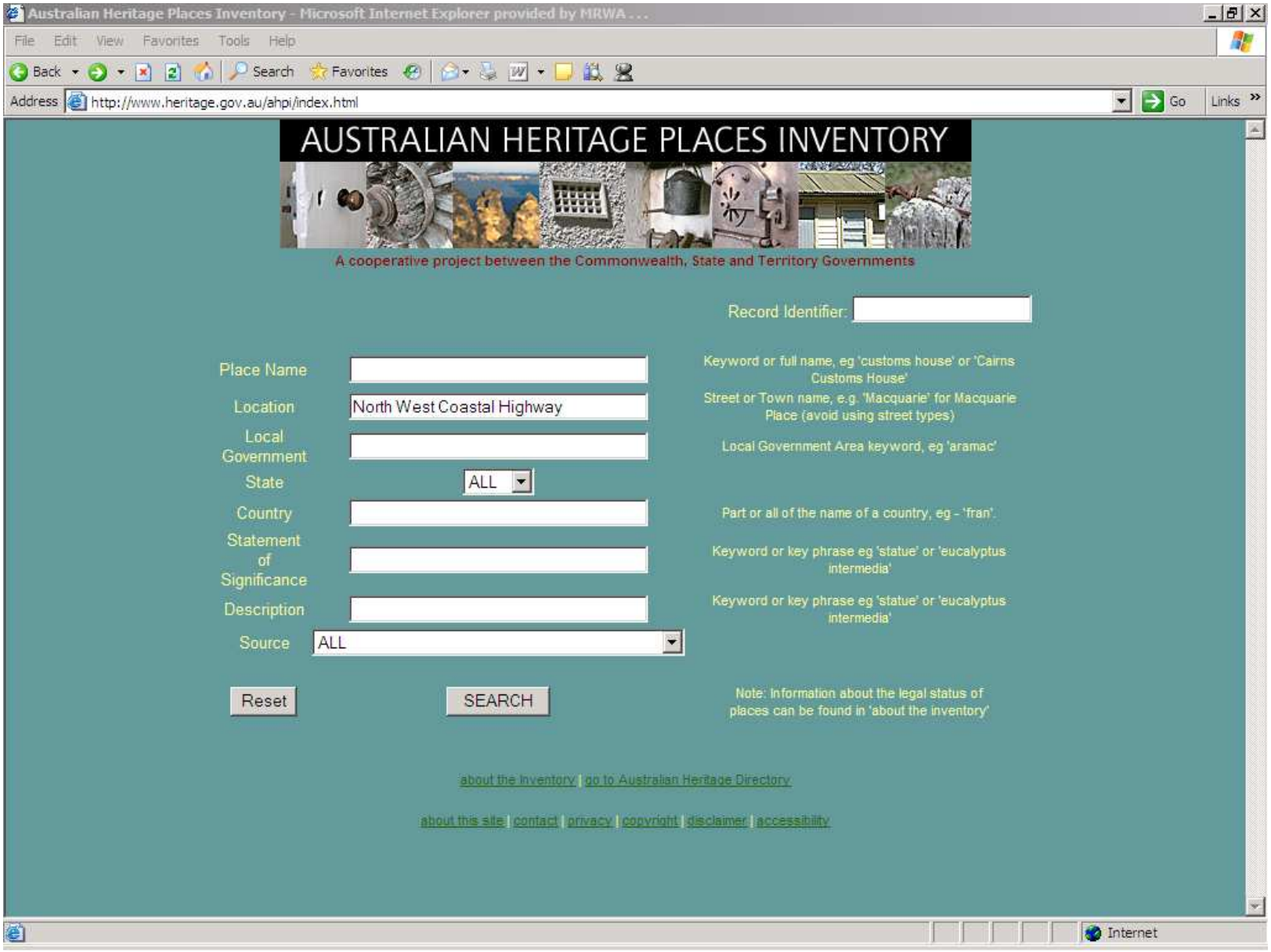
Other Matters Protected by the EPBC Act

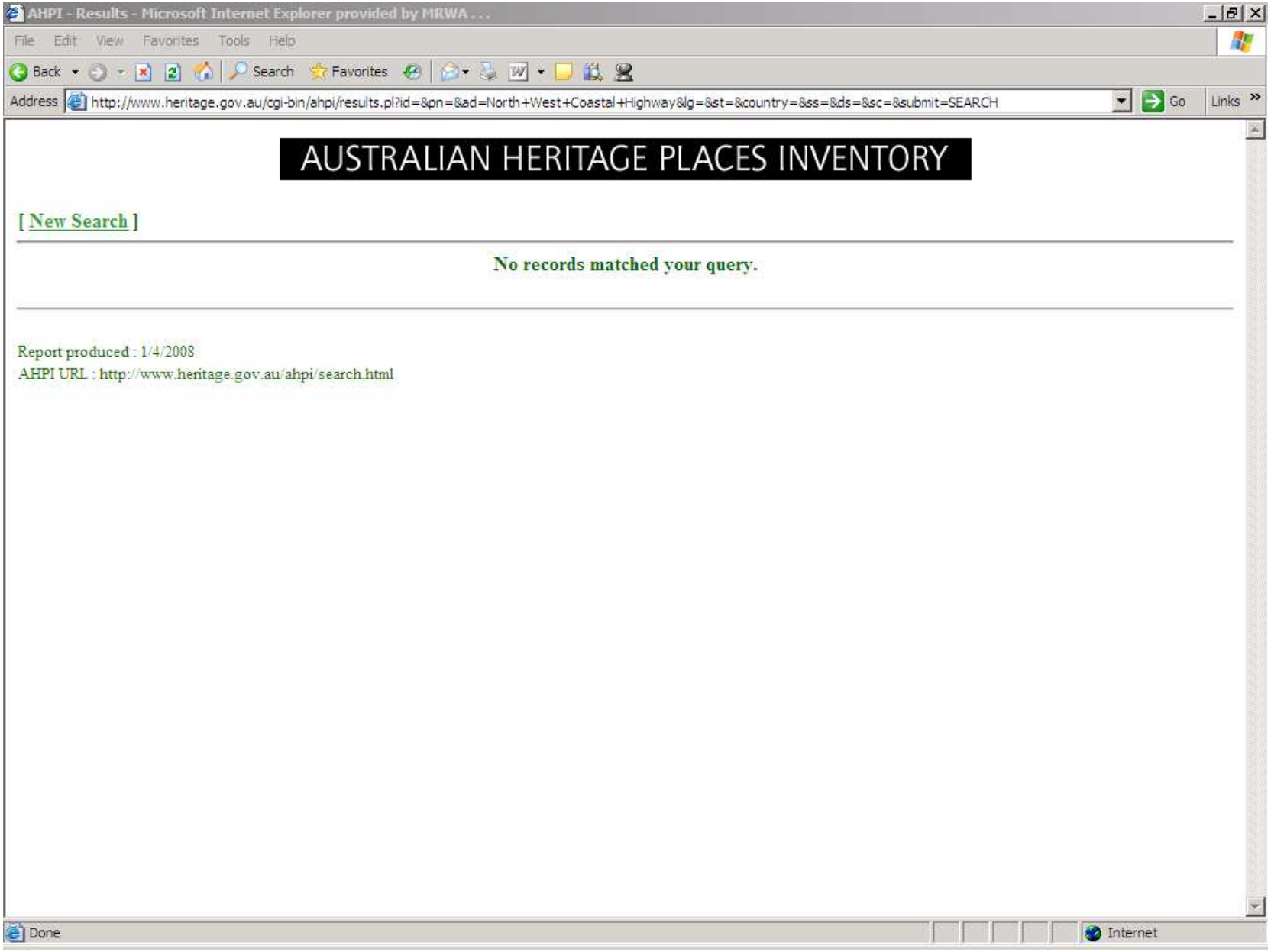
Listed Marine Species [Dataset Information]	Status	Type of Presence
Birds		
Apus pacificus Fork-tailed Swift	Listed - overfly marine area	Species or species habitat may occur within area
Ardea alba Great Egret, White Egret	Listed - overfly marine area	Species or species habitat may occur within area
Ardea ibis Cattle Egret	Listed - overfly	Species or species habitat may occur within area

	marine area	
Haliaeetus leucogaster White-bellied Sea-Eagle	Listed	Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater	Listed - overfly marine area	Species or species habitat may occur within area

APPENDIX F

Australian Heritage Places Inventory, Heritage Council of Western Australia and the Municipal Heritage Inventory Database Searches


Australian Heritage Places Inventory - Microsoft Internet Explorer provided by MRWA . . .
File Edit View Favorites Tools Help
Back Search Favorites
Address http://www.heritage.gov.au/ahpi/index.html
Go Links
AUSTRALIAN HERITAGE PLACES INVENTORY
A cooperative project between the Commonwealth, State and Territory Governments
Record Identifier:
Place Name
Keyword or full name, eg 'customs house' or 'Cairns Customs House'
Location
North West Coastal Highway
Street or Town name, e.g. 'Macquarie' for Macquarie Place (avoid using street types)
Local Government
Local Government Area keyword, eg 'aramac'
State
ALL
Country
Part or all of the name of a country, eg - 'fran'.
Statement of Significance
Keyword or key phrase eg 'statue' or 'eucalyptus intermedia'
Description
Keyword or key phrase eg 'statue' or 'eucalyptus intermedia'
Source
ALL
Reset
SEARCH
Note: Information about the legal status of places can be found in 'about the inventory'
about the inventory | go to Australian Heritage Directory
about this site | contact | privacy | copyright | disclaimer | accessibility
Internet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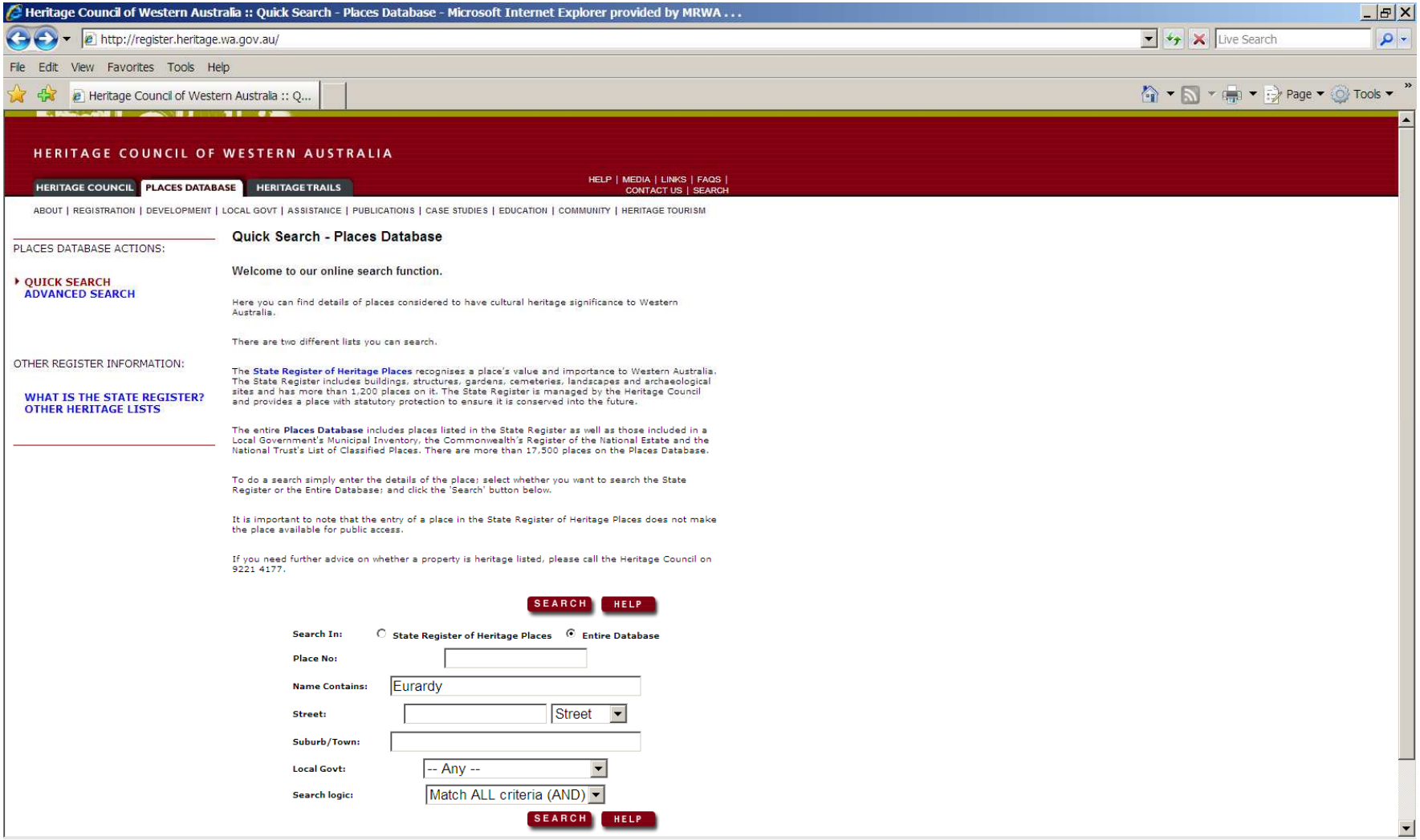
Back Search Favorites
Address http://www.heritage.gov.au/cgi-bin/ahpi/results.pl?id=&pn=&ad=North+West+Coastal+Highway&lg=&st=&country=&ss=&ds=&sc=&submit=SEARCH
Go Links
AUSTRALIAN HERITAGE PLACES INVENTORY
[New Search]
No records matched your query.
Report produced : 1/4/2008
AHPI URL : http://www.heritage.gov.au/ahpi/search.html
Done
Internet


Heritage Council of Western Australia :: Quick Search - Places Database - Microsoft Internet Explorer provided by MRWA . . .
http://register.heritage.wa.gov.au/
Live Search
File Edit View Favorites Tools Help
Heritage Council of Western Australia :: Q...
Page Tools
HERITAGE COUNCIL OF WESTERN AUSTRALIA
HERITAGE COUNCIL PLACES DATABASE HERITAGE TRAILS
HELP | MEDIA | LINKS | FAQS | CONTACT US | SEARCH
ABOUT | REGISTRATION | DEVELOPMENT | LOCAL GOVT | ASSISTANCE | PUBLICATIONS | CASE STUDIES | EDUCATION | COMMUNITY | HERITAGE TOURISM
PLACES DATABASE ACTIONS:
QUICK SEARCH
ADVANCED SEARCH
OTHER REGISTER INFORMATION:
WHAT IS THE STATE REGISTER?
OTHER HERITAGE LISTS
Quick Search - Places Database
Welcome to our online search function.
Here you can find details of places considered to have cultural heritage significance to Western Australia.
There are two different lists you can search.
The State Register of Heritage Places recognises a place's value and importance to Western Australia. The State Register includes buildings, structures, gardens, cemeteries, landscapes and archaeological sites and has more than 1,200 places on it. The State Register is managed by the Heritage Council and provides a place with statutory protection to ensure it is conserved into the future.
The entire Places Database includes places listed in the State Register as well as those included in a Local Government's Municipal Inventory, the Commonwealth's Register of the National Estate and the National Trust's List of Classified Places. There are more than 17,500 places on the Places Database.
To do a search simply enter the details of the place; select whether you want to search the State Register or the Entire Database; and click the 'Search' button below.
It is important to note that the entry of a place in the State Register of Heritage Places does not make the place available for public access.
If you need further advice on whether a property is heritage listed, please call the Heritage Council on 9221 4177.
SEARCH HELP
Search In: State Register of Heritage Places Entire Database
Place No:
Name Contains: Eurardy
Street: Street
Suburb/Town:
Local Govt: -- Any --
Search logic: Match ALL criteria (AND)
SEARCH HELP


Heritage Council of Western Australia :: No Results - Microsoft Internet Explorer provided by MRWA . . .
http://register.heritage.wa.gov.au/search_results.html
Live Search
File Edit View Favorites Tools Help
Heritage Council of Western Australia :: N...
Page Tools
HERITAGE COUNCIL OF WESTERN AUSTRALIA
HERITAGE COUNCIL
PLACES DATABASE
HERITAGE TRAILS
ABOUT | REGISTRATION | DEVELOPMENT | LOCAL GOVT | ASSISTANCE | PUBLICATIONS | CASE STUDIES | EDUCATION | COMMUNITY | HERITAGE TOURISM
PLACES DATABASE ACTIONS:
QUICK SEARCH
ADVANCED SEARCH
RESULTS LIST
LOCATION REPORT
SAVE DATA
OTHER REGISTER INFORMATION:
WHAT IS THE STATE REGISTER?
OTHER HERITAGE LISTS
There are no Places matching your search criteria.
If you'd like to perform a new search, please select a new Places database search, from the menu on the left-hand side.
top of page
[disclaimer]
© copyright 2009 heritage council of western australia
Done
Internet
140%
Start
5 Microsoft Offic...
L:\Project Manage...
\\carsrv01\public\...
5 Microsoft Offic...
Environment - Micr...
Heritage Council...
TRIM Context
Completed Enviro...
2:49 PM

APPENIDX G

Department of Indigenous Affairs Database Search

Government of **Western Australia**
Department of **Indigenous Affairs**

Aboriginal Heritage Inquiry System

Register of Aboriginal Sites

Search Criteria

0 sites in a search box. The box is formed by these diagonally opposed corner points:

MGA Zone 50	
Northing	Easting
6946566	271783
6957378	278596

Disclaimer

Aboriginal sites exist that are not recorded on the Register of Aboriginal Sites, and some registered sites may no longer exist. Consultation with Aboriginal communities is on-going to identify additional sites. The AHA protects all Aboriginal sites in Western Australia whether or not they are registered.

Copyright

Legend

Restriction

N	No restriction
M	Male access only
F	Female access

Access

C	Closed
O	Open
V	Vulnerable

Coordinate Accuracy

Accuracy is shown as a code in brackets following the site coordinates.

[Reliable]	The spatial information recorded in the site file is deemed to be reliable, due to methods of capture.
[Unreliable	The spatial information recorded in the site file is deemed to be unreliable due to errors of spatial data capture and/or quality of spatial information reported.

Status

L	Lodged
I	Insufficient Information
P	Permanent register
S	Stored data

IR	Insufficient Information (as assessed by Site Assessment Group)
PR	Permanent register (as assessed by Site Assessment Group)
SR	Stored data (as assessed by Site Assessment Group)

Site Assessment Group (SAG)

Sites lodged with the Department are assessed under the direction of the Registrar of Aboriginal Sites. These are not to be considered the final assessment.

Final assessment will be determined by the Aboriginal Cultural Material Committee (ACMC).

Spatial Accuracy

Index coordinates are indicative locations and may not necessarily represent the centre of sites, especially for sites with an access code "closed" or "vulnerable". Map coordinates (Lat/Long) and (Easting/Northing) are based on the GDA 94 datum. The Easting / Northing map grid can be across one or more zones. The zone is indicated for each Easting on the map, i.e. '5000000:Z50' means Easting=5000000, Zone=50.

Government of Western Australia
Department of Indigenous Affairs

Aboriginal Heritage Inquiry System

Register of Aboriginal Sites

Legend

- Highlighted Area
- Town
- Map Area
- Search Area

Appendix H

Main Roads WA – Revegetation Plan for Pastoral Areas

Main Roads WA – Revegetation Plan for Pastoral Areas
Condition 14(e), CPS 818

Date:	Unknown.	**Project:**	Strategic Material Areas Shark bay Road
Manager:	Main Roads WA.		
Location and size of clearing:	For project areas located within the pastoral / rangelands region north of the agricultural area as described in the Environmental Protection Authority's Position Statement No.2.		
Location and size of revegetation:	Primarily for areas that were cleared for searching and extracting road building materials (e.g. borrow pits, etc.), and other project related temporary clearing.		
Clearing description:	Machine clearing.		
Revegetation description:	Replacement of topsoil material regeneration.		
Reason for revegetation:	Revegetation of temporary cleared areas, in accordance with condition 14 of clearing permit CPS 818.		
Revegetation / rehabilitation requirements:			
Site preparation:	All vegetation will be cleared from the works area and non-weed infested vegetation is stockpiled. Stockpiled vegetation will be placed in a manner that will prevent damage to adjacent vegetation by machinery. Weed infested vegetation will be disposed of at an appropriate site and not used for revegetation purposes. Burning of the cleared vegetation will not be permitted. Topsoil will be stripped to a maximum depth of 100mm, and will be stored in a weed free (as far as possible) area, as close as possible to the area to be rehabilitated. Topsoil will be placed in windrows of less than 1.5m in height and reinstated as soon as practicable to maintain viability of in-situ seeds.		
Weed control:	Appropriate weed control will be carried out when weeds are present, both prior to topsoil stripping and where weeds become established on or between the stockpiled materials. Weed control will take place prior to the respreading of topsoil to ensure weeds are killed and not transported to other areas. Control measures include the removal of weeds to an approved dumpsite, or treatment of weeds such as by using herbicides mixed in accordance with manufacturer's instructions and applied by a licensed operator. Where practicable, weeds will be removed prior to or when they are in flower, and prior to seeding. All machinery will be cleared of soil build up and vegetative material before entering and leaving the site to help minimise the transportation of weeds and their seeds. Exposed areas such as bare batters and borrow pits shall be promptly rehabilitated to reduce the potential for weed establishment. Where works are adjacent to good quality vegetation, where weeds from within the project area are likely to spread to and result in environmental harm to the adjacent area, those weeds will be controlled annually until 12 Dec 2010..		

Main Roads WA – Revegetation Plan for Pastoral Areas Condition 14(e), CPS 818	
Regeneration / direct seeding / planting at an optimal time:	The following rehabilitation works are undertaken on areas of disturbed earth requiring rehabilitation: • Topsoil is uniformly respread to a typical depth of 100mm over the project area. In project areas where topsoil has not been removed and/or is not available, other substrate, such as gravel, may be substituted as a growth medium. • Project areas will be ripped to a minimum depth of 200mm deep with rip lines approximately 300mm apart. Where slopes are present, rip lines shall follow natural contours. The following rehabilitation works are undertaken at borrow / gravel pits: • Overburden and then topsoil will be uniformly and evenly spread over the disturbed areas of the pit. Depending on the slope of drainage lines within the pit, small swales from the topsoil will be formed to reduce erosion velocities and encourage the deposition of seeds. • The whole of the existing pit floor, including drainage lines, will be ripped to a depth of 300-500mm deep with rip lines between 500-800mm apart (if the material in the pit is able to be ripped). • All stockpiled vegetation will be spread along the contour and the pit floor to help promote seed deposition and to reduce erosion velocities.
Vegetation establishment period:	The vegetation establishment period is for at least twelve months following the completion of the works. During this period, maintenance and monitoring will be undertaken (see below).
Ongoing maintenance and monitoring:	After revegetation works, revegetated areas will be inspected annually for a minimum of two years to monitor and control weeds and to measure the effectiveness of revegetation works. When unwanted weed foliage cover exceeds 25% after the initial two year period, further actions will be implemented to monitor and control these weeds. The additional monitoring and weed control will be conducted annually until 12 Dec 2010 or until the unwanted weed foliage cover falls below 25%, whichever is sooner.
Monitoring commitments:	Post revegetation site inspections will be carried out annually for a minimum of two years to monitor unwanted weeds and measure the effectiveness of revegetation works. Monitoring of sites where unwanted weed foliage cover exceeds 25% after the initial two year period will continue annually until 12 Dec 2010 or until the unwanted weed foliage cover falls below 25%, whichever is sooner.
Management commitments:	Undertake annual weed control of unwanted weeds annually until 12 Dec 2010 or until the unwanted weed foliage cover falls below 25%, whichever is sooner.
Agencies consulted and submissions received:	Nil.

APPENIDX I

Vegetation Clearing Assessment Report

MRWA Vegetation Clearing Assessment Report

This guideline has been prepared to assist MRWA in addressing condition 7 "Assessment of Clearing Impacts" under Clearing Permit CPS 818/3.

For guidance on how to complete the form, refer to DEC completed reports (active permits) at http://203.20.251.100/cps_reports/.

AREA UNDER ASSESSMENT DETAILS

Proponent details

Proponent's name: **MRWA Gascoyne Region**

Contacts:
Name: Crystelle Evangelista
Phone: (08) 9941 0777
Fax: (08) 9941 0701
Email: crystelle.evangelista@mainroads.wa.gov.au

Property details

Property: Strategic Material Areas – North West Coastal Highway – SLK 145.6

Colloquial name:

Area under assessment

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:	Site Plan Attached
The proposed material area is part of a 20 year strategic plan and will be systematically cleared and revegetated in relatively small areas (e.g. 1 or 2 ha) as material is required.		Mechanical	Road building material	Yes / No: Yes

Avoidance/Minimise clearing

How have the clearing impacts been minimised?

Areas proposed for material extension have been carefully selected based upon preliminary material investigations. This proposed material pit and the immediately surrounding areas are the only location of viable road building material within the local area. This means that the relocation of the material areas is not practical as other raw materials in the area are not suitable for used in road construction and maintenances.

BACKGROUND

Existing environment and information

This material pit occurs within vegetation association No. 365 which is described as 'Shrublands; bowgada & jam scrub with scattered York gum & red mallee'. According to Native Vegetation Association Data (DEC & DAF), this vegetation association is well represented in the Geraldton Sandplains Interim Biogeographic Regionalisation for Australia region, with 81.1% pre-European extent remaining. Vegetation condition throughout the project area ranged from Condition 1-2 (*Pristine or nearly so – Excellent*) to Condition 6 (*Completely Degraded*). The main disturbance factor was historical clearing for the purpose of material extraction. Areas of vegetation within the Project Areas exhibited signs of fire and drought disturbance. The most obvious of which was observed in the dominant upper-storey *Acacia* species.

Site Visit Undertaken	Yes	No	**Fauna / Flora Survey Undertaken**	Yes	No
Site Report Attached	Yes	No	**Fauna / Flora Survey Report Attached**	Yes	No
Site Photos Attached	Yes	No	**Other Relevant References Attached**	Yes	No

Vegetation Complex	Clearing Description	Vegetation Condition	Comment
365	Mechanical	Condition 1-2 (*Pristine or nearly so – Excellent*) to Condition 6 (*Completely Degarded)*	

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 considered likely to at variance to this Principle

The vegetation of the Project Area is identified by Beard (1976) as likely to contain Vegetation Association No. 365, which is described as 'Shrublands: bowgada and jam scrub with scattered York Gum and red mallee'. The extend of the vegetation in the Project Area is of *Least Concern*, with 81.1% (11,128.9 ha) of pre-European extend considered to be remaining in the Geraldton Sandplain Interim Biogeographic Regionalisation for Australian (IBRA) region (Shepherd, 2005)

72 flora species were recorded during the field survey. The vegetation condition throughout the Project Area ranged from Condition 1-2 (*Pristine or nearly so – Excellent*) to Condition 6 (*Completely Degraded).*

The native vegetation in the area comprises a moderate degree of biological diversity. However, it is of a comparable level of diversity to the remaining native vegetation in the surrounding area.

Two priority flora species were identified during the flora survey as occurring within the project area and surrounding environment. The two priority flora species that were identified were:

- Thryptomene ninghanensis (Priority 1)
- Philotheca kalbarriensis (Priority 2)

The project is likely to be at variance to this clearing principle as the vegetation is necessary the continued *in situ* existence of significant habitat for priority flora species published by the Department of Environment and Conservation.

The clearing of native vegetation within the Project Area is considered likely to be at variance to this Principle.

Methodology

Flora and Fauna Survey -30 July 2009
GIS Databases:
- Interim Biogeographic Regionalisation of Australia –

(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

The dominant habitat type located in the Project Area is mapped as Shrublands. This vegetation would provide shelter for a range of reptile and bird species.

From the DEWHA and DEC databases, a number of protected fauna species were identified as potentially occurring within the Project Area. A reconnaissance fauna survey was undertaken in conjunction with a flora survey during July 2009, eight fauna species were recorded during the field survey.

Three habitat types were identified within the Project Area. Based on the field survey, habitat exists for a limited range of fauna species in the Project Area. Some habitat exists for bird species, with five bird species (three of which are listed marine species) observed during the field survey. No Malleefowl mounds were discovered within the Project Area.

The vegetation types located in the Project Area are common for the area surrounding Eurardy. Similar fauna habitats are also present within the Kalbarri National Park, located 5 km from the Project Site.

Given the high percentage of similar fauna habitat in areas surrounding the Project Area, the clearing of 4.5 ha of native vegetation is considered not likely to be at variance to this principle.

Methodology

Flora and Fauna Survey -30 July 2009
DEC advice – 02/05/08

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

Comments

Proposal is considered to maybe at variance to this Principle

DEC Threatened Flora Database search was conducted and no rare flora was known to exist within the project areas.

A flora survey was undertaken and confirmed that no declared rare flora are located within the Project Area. However, 4 rare flora species are known to occur within the local are (10km radius) on similar habitat to those under application. The flora survey conducted during July 2009 may not have identified these rare flora species

This proposal is considered to maybe at variance with this Principle.

Methodology

Flora and Fauna Survey -30 July 2009
GIS Databases:
- Declared Rare and Priority Flora list – DEC

(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 considered not likely to be at variance to this Principle

No Threatened Ecological Communities (TEC) protected under the *EPBC Act 1999* are known to be present within the Project Area. A search of the DEC's TEC database was undertaken for the Project Area. No TEC's are known to be located within the Project Area.

However, there are occurrences of the following ecological community within approximately 3 km of the search area:

- 'The Priority 1' ecological community – 'Kalbarri ironstone community'

The buffer area of this TEC encompasses the Project Area.

All vegetation units identified during the flora survey were not considered to be representatives of any Priority or Threatened Ecological Community.

This proposal is therefore considered not likely to be at variance with this Principle.

Methodology

Flora and Fauna Survey -30 July 2009
GIS Databases:
- Threatened Ecological Communities – DEC

(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 considered not likely to be at variance to this Principle

The vegetation of the Project Area is identified by Beard (1976) as likely to contain Vegetation Association No. 365, which is described as 'Shrublands: bowgada and jam scrub with scattered York Gum and red mallee'.

The extend of the vegetation in the Project Area is of *Least Concern*, with 81.1% (11,128.9 ha) of pre-European extend considered to be remaining in the Geraldton Sandplain Interim Biogeographic Regionalisation for Australian (IBRA) region (Shepherd, 2005)

Given the high percentage of similar vegetation type present within the local region, the proposal is considered not likely to be at variance with this Principle.

Methodology

Flora and Fauna Survey -30 July 2009
GIS Databases:
- Interim Biogeographic Reginalisation of Australia –
- Pre-European Vegetaion

(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 considered not likely to be at variance to this Principle

The Murchison River is located approximately 30km to the south east of the Project Area at its closest point. Bundabandi Creek is located to the west of the Project Area, running through Eurardy Station on the western side of North West Coastal Highway.

Wetlandbase (2009) identified three lakes labelled as *wetlands –exposed water* approximately 1 km to 5 km south-west of the Project Area. No wetlands listed as conservation significant are identified within or near to the Project Area

No wetlands or watercourse have been identified within the Project Area. This proposal is therefore considered not likely to be at variance with this Principle.

Methodology

Flora and Fauna Survey -30 July 2009
Wetlandbase (2009)
GIS Databaes:
- Hydrography, linear
- Hydrographic Catchments – Catchments

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

Comments

Proposal is not considered to be at variance to this Principle

The area under proposal is located at the northern extent of the Chapman soil-landscape zone of the Greenough province. Yellow deep sands with red shallow loamy duplexes and some red shallow sandy duplexes, red loamy earths and shallow gravels are found in this area (Tille, 2006). The rainfall in this area is low, with less then 350mm per year, and the areas does not fall within an acid sulphate soil risk area or in a salinity risk area.

The area proposed to be cleared is relatively small (1ha), localised and short-term soil erosion may occur but not to an extent that would be considered appreciable. The proposed clearing is also considered unlikely to;

- Increase salinity either on site or off site,
- Increase waterlogging either on site or off site,
- Result in nutrient export,
- Increase wind and soil erosion offsite or
- Increase in soil acidity.

Consultation with the Commissioner of Soil and Land Conservation in the Department of Agriculture and Food has confirmed that the proposed clearing is unlikely to cause appreciable land degradation.

Excavation, pit design and pit management will be completed under the supervision of engineers in accordance with an Environmental Management Plan which takes into account land degradation issues. In addition, the area will be scarified and reseeded in accordance with a Main Roads' Revegetation Plan for Pastoral Regions which has been approved by Western Australia's Department of Environment and Conservation. Therefore the proposal is unlikely to be at variance to this Principle.

Methodology

Tille 2006
Flora and Fauna Survey -30 July 2009
Rainfall, Mean Average – BOM, 08/05/09
GIS Databases:
- Acid Sulphate Soil risk map

(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 considered not likely to be variance to this Principle

Kalbarri National Park and Toolunga Nature Reserve are located approximately 5 km to the south-west and 50 km to the north-east of the Project Area respectively.

These conservation areas are a significant distance from the Project Area. Clearing of vegetation within the Project Area is not likely to have an impact on the environmental values of these conservation areas.

This proposal is therefore not considered to be at variance with this Principle.

Methodology

Flora and Fauna Survey -30 July 2009
DEC's web based Geographic Data Atlas mapping tool

(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 considered not likely to be variance to this Principle

The Project Area is not located within any gazetted Public Drinking Water Source Areas protected under the *Country Areas Water Supply Act 1947.* The nearest Public Drinking Water Source Area identified in Kalbarri Water Reserve, located approximately 50 km west of the Project Area (Department of Water, 2009)

It is not considered that the proposed vegetation clearing will alter the quality of surface or ground water within the Project Area.

This proposal is considered not likely to be at variance with this Principle.

Methodology

Flora and Fauna Survey -30 July 2009
DEC's web based Geographic Data Atlas mapping tool
Rainfall, Mean Annual – BOM -08/05/09

(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 considered not likely to be variance to this Principle

The clearing of native vegetation is not considered to cause any alteration to flood durations or flood height.

This proposal is considered not likely to be at variance with this Principle.

Methodology

Flora and Fauna Survey -30 July 2009
Rainfall, Mean Annual – BOM - 08/05/09

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments

A search of the Department of Indigenous Affairs Register of Aboriginal Sites was conducted to determine the likelihood of the project impacting on listed Aboriginal heritage sites. No known sites of Aboriginal heritage significance were identified within the vicinity of the project area

It is considered possible that other unregistered sites are located within the vicinity of the project areas and it is recommended that further consultation with Nanga Native Title Claimant Group be undertaken.

Methodology

SUBMISSIONS

If required have submissions been requested and addressed

Submission Requested from	Request Sent (Date)	Submission Received (Date)	Issues Raised	Comments
Commissioner of Soils and Land Conservation	6 November 2009	18 November 2009	Regional scale geological mapping suggests that the pit extension will be located on Northampton Block geology. Clearing of such land in the agricultural area to the south has caused both erosion and salinity. It is unlikely that such land degradation would occur as a result of the proposed gravel extraction and progressive rehabilitation. In the landscaping and rehabilitation works care should be exercised to establish safe batters and ensure that run off does not pond on the site and attract grazing animals including goats.	Rehabilitation will be undertaken using Main Roads' Revegetation Plan for Pastoral Regions, which has been approved by DEC. Soil erosion will be managed through the implementation of Main Roads Corporate Procedure - 6707/008 Environmental Guideline – Pits and Quarries. This corporate procedure outlines approached to erosion management for pits and quarries. An EMP has been developed and includes management actions to help avoid land degradation.
Conservation Council of WA	6 November 2009	No response received	N/A	N/A
Eurardy Station Bush Heritage Reserve	6 November 2009	10 December 2009	Bush Heritage Australia has raised concerns about the deficiencies in the scientific knowledge on which the GHD statements within the Flora and Fauna Report (GHD, 2009) have been based. Bush Heritage Australia has recommended that dedicated surveys and assessments of the proposed Project area be conducted.	The vegetation types located in the Project Area are common for the area surrounding Eurardy. Similar fauna habitats are also present within the Kalbarri National Park, located 5 km from the Project Site. Given the high percentage of similar fauna habitat in areas surrounding the Project Area, the clearing of 4.5 ha of native vegetation is considered not likely to be at variance to this principle.
Department of Water	6 November 2009	No response received	N/A	N/A
Shire of Northampton	6 November 2009	18 November 2009	No issues raised	N/A
Department of Environment and Conservation (Geraldton Office)	6 November 2009	No response received	N/A	N/A
Department of Environment and Conservation - Native Vegetation Conservation Branch	6 November 2009	25 November 2009	Proposed clearing may be at variance to Clearing Principle a, c, g. In accordance with condition 5(a)(iii) of CPS818/4, MRWA is required to submit for approval a management strategy developed in consultation with the Commissioner of Soil and Land Conservation. In accordance with condition 5(a)(ii) & 9(c) of CPS818/4, MRWA is required to submit for approval an offset proposal. See Appendix B	An offset proposal will be submitted to CEO of DEC for approval to help mitigate impacts to Clearing principle (a) and (c). Further consultation with the Commissioner of Soils and Land Conservation, has indicated that the clearing is not likely to cause appreciable land degradation. It is therefore felt that clearing of native vegetation is not likely to be at variance to Clearing Principle (g). An EMP has been developed and includes management actions to help avoid land degradation.
Northern Agricultural Catchment Council	6 November 2009	No response received	N/A	N/A
Roadside Conservation Council	6 November 2009		Suggestion to use cleared vegetation and remove top soil immediately on the rehabilitation of previously cleared sites.	Revegetation of newly and previously cleared areas will be done in accordance with Main Roads' Revegetation Plan for Pastoral Regions, which has been approved by DEC.

ASSESSOR'S RECOMMENDATIONS

List of Principles seriously at variance, at variance or maybe at variance
This propsoal is at variance to principles (a) & (c).

The propsoal will not be at variance to all other principles.

Recommendation
As the proposed project will involve temporary clearing, a revegetation management plan is required. An Environmental Management Plan has been developed for this proposal.

REFERENCES

Beard, J.S. (1976) *Vegetation Survey of Western Australia: The Vegetation of the Ajana Area, Western Australia*. Vegmap Publications, Perth.

Department of Water (2009) *Geographic Data Atlas of Western Australia.* Accessed online at: http://maps.dec.wa.gov.au/idelve/doedataext/ on [06/07/2009].

Shepherd (2005) *PreEuropean Vegetation Western Australia* (NVIS compliant version). Department of Agriculture and Food, Western Australia.

Wetlandbase (2009) The Western Australian Wetlands Database. State of Western Australia. Accessed online at: http://spatial.agric.wa.gov.au/wetlands/framesetup.asp on [08/05/09].

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