

25 September 2006

Chief Executive Officer
Redland Shire Council
PO Box 21
Cleveland QLD 4163

Attention: Mr Allen Edwards/Andrew Veres

Dear Allen/Andrew

**RE: 325-331 BOUNDARY ROAD, THORNLANDS: MATERIAL CHANGE OF
USE/RECONFIGURATION (COUNCIL FILE REF SB005105:MC009439)
RESPONSE TO INFORMATION REQUEST**

Pursuant to section 3.3.8 of the Integrated Planning Act 1997, we respond to Council's Information Request dated 15 June by providing all of the information requested (soil survey to be provided under separate cover) and respectfully request that Council proceed with the assessment of the application having regard to the following responses in order as they appear in the Information Request:

Town Planning Requirements

- Amended plans incorporating building location envelopes are provided within the Greenspace Assessment Report prepared by Cardno (QLD) Pty Ltd attached at **Appendix A**.

Environmental Assessment Requirements

- A Greenspace Assessment Report prepared by Cardno (QLD) Pty Ltd is attached at **Appendix A**.
- A survey accurate plot for all trees greater than 150mm DBH is included in the Greenspace Assessment Report.
- A Site Stormwater Report that provides hydrological information outlining proposed treatment areas and results using the program 'Music' has been prepared by Ross Campbell & Associates (QLD) Pty Ltd and is attached at **Appendix B**. A copy of the Site Stormwater Report has been provided to Department of Main Roads under separate cover on even date.

- Assessment of the proposed development against the SEQ Regional Plan, Interim Guidelines: Koalas and Development is contained within the Greenspace Assessment Report.
- A soil survey is to be provided under separate cover.
- Assessment of the proposed development against section 4.2.4 of the Strategic Plan is provided within the Greenspace Assessment Report.
- An aerial photograph of the site with indicative building envelopes for each proposed lot is provided within the Greenspace Assessment Report.

Open Space Requirements

- Survey accurate details of all land shown as park that is above the Q100 flood inundation line is shown on drawings prepared by Ross Campbell & Associates (QLD) Pty Ltd attached at **Appendix C**.
- Areas proposed for treating stormwater are identified on drawings prepared by Ross Campbell & Associates (QLD) Pty Ltd attached at **Appendix C**. A 3.0m wide stormwater easement is proposed on the western boundary of Lot 324, which will have a turfed diversion drain to the existing dams at the north of the lot.

Engineering Requirements

- Flood Inundation areas are shown on the Flood Inundation Plan included in the Site Stormwater Report prepared by Ross Campbell & Associates (QLD) Pty Ltd attached at **Appendix B**.
- Details of the treatment and discharge of stormwater concentrated at the sag point are provided on drawings prepared by Ross Campbell & Associates (QLD) Pty Ltd attached at **Appendix C**. It is proposed to grade the depression, adjacent to Lot 314 out to Megan Court. Proposed road gradings are also indicated for each of the roads along with hydraulic calculations based on the internal stormwater catchment plan. A 3.0m wide stormwater easement is proposed on the western boundary of Lot 324, which will have a turfed diversion drain to the existing dams at the north of the lot.
- A report on the Water Reticulation Analysis for the proposed development prepared by Ross Campbell & Associates (QLD) Pty Ltd is attached at **Appendix D**. The Water Reticulation Analysis has been modelled with and without the connection between the culs-de-sac and there is little difference. The report indicates that the existing surrounding development will benefit from the proposed development, in particular with regard to fire fighting requirements.

Pollution Prevention Requirements

- A Noise Impact Assessment Report prepared by NSA Acoustics is attached at **Appendix E**. A copy of this report has been provided to Department of Main Roads under separate cover on even date.

Should you require any further information or clarification, please do not hesitate to contact the writer.

Yours faithfully



Graham Clegg

cc Edgarange Pty Ltd
PO Box 181
Capalaba 4157
Attn Mr Rob Bennett

Right to Information Release

APPENDIX A

GREENSPACE ASSESSMENT REPORT

Right to Information Release



GREENSPACE ASSESSMENT

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Document Control

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**Boundary Road, Thornlands
Greenspace Assessment**

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1. INTRODUCTION

This Greenspace Assessment Report has been prepared by Cardno on behalf of Sutgold Pty Ltd, acting for D & S Walsh, in response to an Information Request issued by the Redland Shire Council on the 10th of February 2006, in respect to a Reconfiguring a Lot ("RaL") application over Lot 15 on SP118723, Boundary Road, Thornlands ("the site"). A locality plan for the site is presented in Figure 1.

The objectives of this report are to provide an analysis of the greenspace (biodiversity conservation) values of the site and the potential constraints to the development of the site, or parts thereof that may arise. This report also contains a response to some of the issues raised in an Information Request issued by Redland Shire Council on 10 February 2006.

The report is based on field surveys, examination of aerial photography, and a review of relevant literature resources.

This assessment report provides:

1. In Section 2.0, information concerning the general characteristics of the site.
2. In Section 3.0, information on the assessment methodology and field survey techniques.
3. In Section 4.0, a description of the vegetation occurring at the site with reference to the relevant Regional Ecosystem vegetation types and significant flora species.
4. In Section 5.0, information concerning common fauna species and fauna species of conservation significance that may potentially utilise the site or adjacent land.
5. In Section 6.0, a description of the proposed plan of development.
6. In Section 7.0, an assessment of the degree of compliance the proposed plan of development achieves with the requirements of the local planning scheme and relevant Commonwealth and State government legislation with a biodiversity conservation focus.
7. In Section 8.0, a response to the relevant sections of the Information Request issued by the Redland Shire Council.

2. SITE DESCRIPTION

The site is described as Lot 15 on SP118723, Boundary Road, Thornlands and encompasses a total area of approximately 17.63 ha. An aerial photograph of the site and its surrounding locality is presented in Figure 2.

The site is bound:

- to the north by Boundary Road and an aged care facility;
- to the east and west by an existing Park Residential area; and
- to the south by bushland and Eprapah Creek.

The majority of the site is designated as "Park Residential" pursuant to the Strategic Plan: Preferred Dominant Land Use Map of the Redland Shire Strategic Plan 1998 with the southern extent designated as "Special Protection Area". Within the Strategic Plan, the preferred dominant land use intent for "Park Residential" states that *"this designation indicates the location of areas which are to accommodate the establishment of larger residential allotments of around 6 000 m² and above in an open, semi-rural environment. These designations are located in areas which, whilst accessible to major urban facilities, are considered not to compromise future urban development potential within the Shire"*. The preferred dominant land use intent for "Special Protection Area" states that *"this designation indicates the location of areas within the main urban parts of the Shire which have been identified as possessing natural environmental qualities worthy of conservation. These include many areas of remnant vegetation which provide important habitat, corridor and visual landscape values."*

The majority of the site supports a non-remnant Scribbly gum (*Eucalyptus racemosa*) open woodland community with a riparian vegetation community in the southern extent of the site and disturbed land in the north.

3. ASSESSMENT METHODOLOGY

3.1 Overview

To assess the biodiversity and conservation values of the site and the potential impacts of the proposed plan of development on these natural values, the following was conducted.

1. An initial review of background information on the flora and fauna of the site and adjacent properties from relevant sources.
2. A field survey to collate information on the:
 - vegetation communities and flora species that occur on the site and on adjacent properties;
 - vertebrate fauna observed on the site, or those that are considered likely to utilise the site or adjacent properties due to the presence of suitable habitat; and
 - areas or aspects of the site identified as having functional wildlife conservation values or a high conservation status.
3. Evaluation of the potential impacts of the proposed plan of development on the ecological values of the site locality with particular attention given to those aspects which are of recognised conservation significance.
4. Evaluation of the degree of compliance the proposed plan of development achieves with the requirements of the local planning scheme and relevant State and Commonwealth legislation with a biodiversity conservation focus.

3.2 Field Survey Techniques

A field survey was conducted on site on the 5th of May 2006. An aim of the survey was to confirm the location of regional ecosystem types and their boundaries within the site. The survey effort also focused on detecting and assessing the presence of suitable habitat areas for flora species of formally recognised conservation significance that have been previously recorded, or are considered likely to occur, in the locality of the site.

The survey effort also focused on detecting and assessing the presence of suitable habitat areas and resources for fauna species, with particular emphasis on those species of formally recognised conservation significance that have been previously recorded, or considered likely to occur, in the locality of the site. In this respect, a search of the Queensland Environmental Protection Agency's (EPA) Wildnet database and the Commonwealth Department of Environment & Heritage's (DEH) online *Environment Protection and Biodiversity Conservation 1999* ("EPBC Act") database were used to assess records of species occurring, or likely to occur, within a 5 km radius of the site. The habitat requirements and the functional contribution that specific areas or aspects of the site may make towards the preservation of populations of these species in the site locality were then assessed.

4. FLORA HABITAT VALUES

4.1 Overview

The majority of the site is dominated by non-remnant Scribbly gum (*Eucalyptus racemosa*) open woodland with a mosaic understorey of Black she-oak (*Allocasuarina littoralis*) and *Banksia integrifolia*. The north-western sectors of the site are weed infested and contain two constructed dams. The north-eastern sector of the site supports a vegetation community dominated by Slash pines (*Pinus elliotii*) and an area dominated by Broad-leaved paperbark (*Melaleuca quinquenervia*). The riparian vegetation in the southern sector of the site fringing Eprapah Creek supports a Broad-leaved paperbark community. The majority of the site supports very few weeds with the main weed incursions occurring along the site boundaries and within the northern sectors of the site. The vegetation communities that occur within the site are described below and their distributions are illustrated in Figure 3.

1. Scribbly gum (*Eucalyptus racemosa*) open woodland;
2. Disturbed cleared land;
3. Slash pine (*Pinus elliotii*) dominated plantation;
4. Broad-leaved paperbark (*Melaleuca quinquenervia*) woodland; and
5. Riparian vegetation.

A tree survey plan has been prepared for the site with the dimensions and the respective tree species names presented in Figures 4a, 4b, 4c and 4d. The site also contains a number of dead trees (stags), many supporting hollow limbs/trunks. The locations of the stags within the site are also illustrated on Figures 4a, 4b, 4c and 4d.

The current and certified Regional Ecosystem (RE) Map for the site locality indicates that the very southern extent of the site is mapped as RE 12.3.6 as illustrated in Figure 5. This RE type is described as:

RE 12.3.6 - *Melaleuca quinquenervia*, *Eucalyptus tereticornis*, *Lophostemon suaveolens* woodland. Occurs on Quaternary alluvial plains and drainage lines in coastal areas. This RE type has a *Not of Concern* status pursuant to the *VM Act*.

The balance area of the site is classified as being non-remnant vegetation, due to the effect of past vegetation clearance episodes.

4.2 Vegetation Types

4.2.1 Scribbly gum (*Eucalyptus racemosa*) open woodland

This vegetation community extends over the majority of the site as illustrated in Figure 3. The overstorey canopy is dominated by Scribbly gum (*Eucalyptus racemosa*) to a height of approximately 20m with scattered Brown bloodwood (*Corymbia trachyphloia*), Smudgee (*Angophora woodsiana*), Red stringybark (*Eucalyptus resinifera*), Pink bloodwood (*Corymbia intermedia*) and Queensland grey gum (*Eucalyptus major*). The

subcanopy consists of Black she-oak (*Allocasuarina littoralis*) to a height of approximately 10 m.

The understorey is a mosaic of dense Black she-oak regrowth to a height of approximately 8m and *Banksia integrifolia* with scattered species such as *Leptospermum polygalifolium*, Red ash (*Alphitonia excelsa*), *Banksia robur* and *Acacia* sp.

The groundstorey is densely grassed and dominated by Feather sedge (*Ptilothrix deusta*) with other species such as Kangaroo grass (*Themeda triandra*), Barbed wire grass (*Cymbopogon refractus*), *Dianella caerulea*, *Goodenia rotundifolia*, Bracken (*Pteridium esculentum*), Blady grass (*Imperata cylindrica*), Nodding orchid (*Geodorum densiflorum*), *Lomandra multiflora*, *Xanthorrhoea latifolia*, *Entolasia stricta*, *Schizaea bifida*, *Boronia rosmarinifolia*, *Hibbertia stricta*, *Monotoca scoparia* and *Pratia purpurascens*.

Within this vegetation community there is a paucity of weeds except for along the site boundaries adjacent to the existing residential properties. Weeds species that were recorded within this community include Blue billygoat weed (*Ageratum houstonianum*), Siratro (*Macroptilium atropurpureum*), Lantana (*Lantana camara*), Easter cassia (*Senna pendula* var. *glabrata*), Wild tobacco (*Solanum mauritianum*) and Corky passion vine (*Passiflora suberosa*).

4.2.2 Disturbed cleared land

This vegetation community is situated in the northern sector of the site. This area has been previously cleared and is heavily infested with weeds such as Elephant grass (*Pennisetum purpureum*), Slash pine, Blue billygoat weed, Lantana, Blady grass and Balloon cotton bush (*Gomphocarpus physocarpus*).

In the northern sector of this community are two constructed dams as illustrated in Figure 4a. The eastern dam is dominated by *Typha orientalis* with some sparsely scattered Broad-leaved paperbark fringing the dam. The western dam is fringed with Broad-leaved paperbark with the occasional Black she-oak. The area surrounding the dams supports weed species such as Easter cassia, Lantana, Blue billygoat weed, Cocos palm (*Syagrus romanzoffiana*), Asparagus fern (*Asparagus aethiopicus*) and Brazilian nightshade (*Solanum seforthianum*).

4.2.3 Slash pine (*Pinus elliotii*) dominated plantation

This community is situated in the north-eastern sectors of the site. The canopy is dominated by Slash pine with scattered Queensland grey gum (*Eucalyptus major*) and a single Queensland blue gum (*Eucalyptus tereticornis*). This community has an open understorey with the groundcover dominated by Blady grass. Scattered weed species include Easter cassia and Lantana.

4.2.4 Broad-leaved paperbark (*Melaleuca quinquenervia*) woodland

This vegetation community is situated in the north-eastern sector of the site. This community is dominated by Broad-leaved paperbark regrowth with scattered Swamp box (*Lophostemon suaveolens*) regrowth, Queensland grey gum and Slash pine. Weed species within this community include Easter cassia, Lantana and Umbrella tree (*Schefflera actinophylla*).

4.2.5 Riparian vegetation

This vegetation community is situated in the southern sector of the site and adjoins Eprapah Creek. This community is dominated by Broad-leaved paperbark with scattered species such as *Glochidion sumatranum*. The groundstorey is dominated by grasses and species such as *Christella dentata* with *Lomandra* sp. fringing the creekline.

The southern sector of this vegetation community is mapped as RE 12.3.6. This community is remnant although it is considered to be analogous to RE 12.3.5: *Melaleuca quinquenervia open forest on coastal alluvium* which has a Not Of Concern status pursuant to the VM Act.

4.3 Significant Flora Species

A review of flora records from the site locality was undertaken to assess the occurrence or likely occurrence of significant flora species pursuant to the *Nature Conservation Act 1992* ("NC Act"), the *EPBC Act* and the *Land Protection (Pest and Stock Route Management) Act 2002* ("LP Act"). Records utilised included records held within the EPBC Act Online Database (2006).

4.3.1 Threatened Species

A review of flora records from the site locality indicated 5 species of conservation significance that may potentially occur on the site based upon the availability of suitable habitat in the locality. These species, and their relevant status under the *EPBC Act* and *NC Act* are provided in Table 1.

Table 1 Significant flora species considered likely to occur within the site locality

Species Name	Common Name	Status *
<i>Baloghia marmorata</i>	Marbled balogia	CV, QV
<i>Bosistoa selwynii</i>	Heart-leaved bosistoa	CV
<i>Bosistoa transversa</i>	Three-leaved bosistoa	CV
<i>Corchorus cunninghamii</i>	Native jute	CE, QE
<i>Macadamia integrifolia</i>	Macadamia nut	CV, QV

* CE, CV = Commonwealth (Endangered, Vulnerable) – *EPBC Act*
QE, QV = Queensland (Endangered, Vulnerable) – *NC Act*

None of the above listed threatened flora species were recorded in the site during the field survey.

4.3.2 Weed Species

Surveys within the site have identified significant weed species pursuant to the *LP Act* and its related Regulation. The main purpose of the *LP Act* is to provide for pest management for land and stock route network management. The main policy objectives are to protect land and water from the adverse impacts of weeds and pest animals and to manage the stock route network in a sustainable manner for travelling stock and other purposes. Pursuant to the *LP Act* it is suggested that significant species be treated under three classes:

- **Class 1** - These species have the potential to become serious pests if they are ever introduced into the State. The aim is to keep these out of Queensland and eradicate any that are found.

- **Class 2** - These species are major pests in Queensland. Most have the potential to spread over much larger areas of the State. The aim is to reduce the rate at which these species invade new areas and to suppress existing infestations.
- **Class 3** - These species are significant weeds that have spread over most of their potential range but need to be controlled in environmentally significant areas. Their sale needs to be restricted to help avoid re-invasion of areas where these pests have been controlled.

A list of significant weed species is presented below and provides an indication of their occurrence within the site and current classification under the regulation.

- Lantana (*Lantana camara*) – This species is a Class 3 declared pest plant and is scattered in its distribution within the site primarily in the northern sectors of the site and along the site's boundaries; and
- Asparagus fern (*Asparagus aethiopicus*) – This species is a Class 3 declared pest plant and within the site this species occurred adjacent to the dams in the disturbed cleared land community.

Right to Information Reports

5. FAUNA HABITAT VALUES

5.1 Overview

The fauna habitat assessment has been conducted according to the methodology outlined in Section 3.0. The Scribbly gum open woodland community which is distributed across the majority of the site and the riparian vegetation provide some functional habitat resources for native fauna. The disturbed cleared land and Slash pine dominated plantation community in the northern sectors of the site are highly degraded and possess limited ecological values in respect to native fauna. A summary of the site's fauna habitat values is provided below.

5.2 Birds

The Scribbly gum open woodland with numerous tree hollows and a subcanopy and understorey of Black she-oak represents potential nesting and foraging resources for the Glossy black cockatoo (*Calyptorhynchus lathamii*) which is listed as *Vulnerable* pursuant to the *NC Act*. It is relevant to note however that no evidence of Glossy black cockatoo feeding remains were recorded during the field survey. Within this community common avian species such as the Spangled drongo (*Dicrurus bracteatus*), Eastern spinebill (*Acanthorhynchus tenuirostris*), Rainbow lorikeet (*Trichoglossus haematodus*), Laughing kookaburra (*Dacelo novaeguineae*) and Torresian crow (*Corvus orru*) were recorded during the field survey.

The tree hollows within the site, often recorded in dead stags, may provide habitat resources for species such as the Barking owl (*Ninox connivens*), Southern boobook (*Ninox novaeseelandiae*) and Barn owl (*Tyto alba*).

The dams within the disturbed cleared land at the north-western sector of the site were being utilised by Pacific black ducks (*Anas superciliosa*) and Dusky moorhens (*Gallinula tenebrosa*) during the field survey. It is expected that other common avian species such as the Australian wood duck (*Chenonetta jubata*) and Grey teal (*Anas gracilis*) would also utilise these constructed waterbodies and Erapah Creek in the southern sector of the site.

5.3 Terrestrial Mammals

The vegetation across the majority of the site (i.e. the Scribbly gum open woodland community) provides suitable habitat for larger terrestrial fauna species such as the Red-necked wallaby (*Macropus rufogriseus*) and Swamp wallaby (*Wallabia bicolor*). Several wallabies were sighted within the site during the field survey and numerous macropod scats were observed throughout the site.

Smaller terrestrial species such as the Northern brown bandicoot (*Isodon macrourus*) and Yellow footed-Antechninus (*Antechinus flavipes*) may also occur within the site. Given the close proximity of the site to residential areas, it is expected that introduced species such as the Black rat (*Rattus rattus*), Cat (*Felis catus*) and Dog (*Canis familiaris*) would occur within the site. During the field survey the introduced Brown hare (*Lepus capensis*) was recorded within the site.

5.4 Flying Mammals

The presence of Broad-leaved paperbark with shedding bark within the riparian vegetation and Broad-leaved paperbark woodland communities, and the tree hollows within the Scribbly gum open woodland community provides suitable sheltering habitat

for a variety of common microchiropteran bats, such as the Chocolate wattled bat (*Chalinoobus morio*), Lesser long-eared bat (*Nyctophilus geoffroyi*) and Gould's long-eared bat (*Nyctophilus gouldi*). These species are likely to forage for insects above and below the canopy of the site's woodland communities.

A limited range of megachiropteran species, including the Grey headed flying fox (*Pteropus poliocephalus*), Black flying-fox (*Pteropus alecto*) and Little red flying-fox (*Pteropus scapulatus*) may occasionally forage within the site during the flowering period of its dominant tree species. However, given the relatively small size of the site and its location within a residential area, it is considered unlikely that the site provides megachiropteran species with significant foraging habitat.

5.5 Arboreal Mammals

The Eucalyptus and allied species within the Scribbly gum open woodland and riparian vegetation communities would provide potential habitat resources for the Koala (*Phascolarctos cinereus*). Although no Koalas were sighted during the field survey, scratch marks resembling those of a Koala were recorded on several trees.

The numerous tree hollows recorded within the site would provide potential habitat for common arboreal species such as the Common ringtail possum (*Pseudocheirus peregrinus*), Common brushtail possum (*Trichosurus vulpecula*) and Squirrel glider (*Petaurus norfolcensis*). Scats were recorded from the base of Scribbly gums which resemble those of a Common brushtail possum and Common ringtail possum.

5.6 Reptiles

The site's vegetation communities provide potential habitat resources for common species such as the Carpet python (*Morelia spilota*), Common tree snake (*Dendrelaphis punctulata*), Bynoe's gecko (*Heteronotia binoei*) and Eastern blue-tongued lizard (*Tiliqua scinoides*). A Bearded dragon (*Pogona barbata*) was recorded in the Scribbly gum open woodland community during the field survey.

A Water dragon (*Physignathus lesueurii*) was also recorded utilising the dams in the north-western sector of the site. It is also expected that Eprapah Creek, which adjoins the site to the south, provides suitable habitat for the Water dragon.

5.7 Amphibians

The riparian vegetation community in the south of the site, which is dominated by Broad-leaved paperbarks, provides suitable habitat for species such as the Wallum froglet (*Crinia tinnula*), Eastern sedgefrog (*Litoria fallax*), Graceful treefrog (*Litoria gracilentata*) and Striped marshfrog (*Limnodynastes peronii*). Given the lack of reeds and submergent vegetation in the western constructed dam and the infestation of weeds in both dams, it is considered that these waterbodies would provide limited habitat for native amphibian species. It is expected that the introduced Cane toad (*Bufo marinus*) would occur within the site.

5.8 Fauna Species of Significance

Field surveys and the EPA and DEH databases indicated that several fauna species of conservation significance have been recorded within the site locality, or are likely to occur within the site locality. Previous distribution records and habitat requirements for these species have been examined to identify the likelihood of occurrence within the site. Each species has been allocated a rating of Very High, High, Moderate or Low according to the following criteria:

Very High: species observed on the site.

High: no site observations but both the EPA and DEH database records for the species in the site locality, with substantial areas of suitable habitat on the site.

Moderate: no site observations, but EPA records for the species in the site locality, with suitable habitat at the site.

Low: no site observations, but either EPA records or DEH records for the species in the site locality, with little or no suitable habitat at the site.

In respect of the above categories it is noted that the EPA database is based on actual recorded sightings of a species whilst the DEH EPBC Act online database also includes species for which there are no actual sighting records. In this respect the EPA database records provides a more reliable indication that the species occurs in the survey area.

A summary of the significant fauna species which have a Very High, High or Moderate likelihood of occurrence within the site, based on the availability of suitable habitat, are listed in Table 2.

Table 2 Significant fauna species considered likely to occur on the site

Common Name	Species Name	Status *	Habitat Requirements	Likelihood of Occurrence on the Site
Grey-headed flying-fox	<i>Pteropus poliocephalus</i>	CV	Wet and dry sclerophyll forests	High
Wallum froglet	<i>Crinia tinnula</i>	QV	Paperbark swamps	Moderate
Grey goshawk	<i>Accipiter cirrocephalus</i>	QR	Forest, taller woodlands, timbered watercourses	Moderate
Glossy Black Cockatoo	<i>Calyptorhynchus lathamii</i>	QV	She-oaks (mainly <i>Allocasuarinas</i>) in woodlands, forests and timbered watercourses	Moderate
Lewin's rail	<i>Rallus pectoralis</i>	QR	Rushes, reed in creeks, swamp woodlands	Moderate
Koala	<i>Phascolarctos cinereus</i>	QV (SEQ)	Sclerophyll forest and woodland	High

* CV = Commonwealth (Vulnerable) – EPBC Act
QV, QR = Queensland (Vulnerable, Rare) – NC Act

The Wallum froglet may utilise the habitat provided in the riparian vegetation community associated with Erapah Creek, which is dominated by Broad-leaved paperbark. The EPA have advised that the southern sector of this vegetation community is mapped as Essential Habitat for the Wallum froglet although it is noted that there are no records for this species within a 5km radius of the site on the EPA online wildlife database.

The Scribbly gum open woodland and riparian vegetation communities within the site provide suitable habitat for the Koala. Scratch marks of an indeterminable age, resembling those of a Koala, were recorded on several trees during the field survey, however no Koala scats or visual sightings were recorded. Given the relatively small size of the site, the larger, more suitable areas of habitat within the vicinity such as Sandy Creek Conservation Area and Pt Halloran Conservation Area, and the fact that the site is bounded to the west and east by established residential areas and to the north by a major arterial roadway which is soon to be upgraded to a four lane transport corridor, the site is not considered to represent habitat critical to the survival of the species. Notwithstanding the above, the southern section of the site provides habitat for the Koala and forms part of a functional movement corridor centred on Erapah Creek.

The Scribbly gum open woodland with numerous tree hollows and a subcanopy and understorey of Black she-oak provides potential nesting and foraging resources for the Glossy black cockatoo. Although no records exist for this species on the EPA wildlife database within a 5km radius of the site, the above described vegetation community is recognised as potential habitat for this species. However, given the relatively small size of the site and its location within an established park residential area, it is not considered to represent habitat critical to the survival of this species.

The riparian vegetation in the southern sector of the site which supports Broad-leaved paperbark provides habitat for the Grey-headed flying-fox. Within the site, this vegetation community is relatively small and given that larger more suitable areas of habitat are located within the vicinity, this site is not considered to represent habitat critical to the survival of this species.

The Grey goshawk may potentially utilise the woodland communities within the site, particularly those fringing Erapah Creek. However, given that the site is relatively small, is located within an established Park Residential area and within the site locality there are large areas of more suitable habitat, it is unlikely that that site represents habitat critical to the survival of this species.

The riparian vegetation community associated with Erapah Creek provides habitat resources for the Lewin's rail. This community provides a contiguous area of suitable habitat as adjoining the site to the east and west is a corridor of similar vegetation which fringes Erapah Creek.

In summary, the Scribbly gum open woodland community, which is the site's dominant vegetation community, provides potential foraging and habitat resources for a range of native fauna species. The riparian vegetation community also provides contiguous connective habitat with similar adjacent vegetation associated with Erapah Creek. However, given the relatively small size of the site, its location within an established Park Residential area and larger more suitable areas of habitat within the locality, such as Sandy Creek Conservation Area and Pt Halloran Conservation Area, it is not considered to represent habitat critical to the survival of the above listed threatened species. It is also relevant to note that the northern sectors of the site have been previously cleared and are heavily infested with weeds and as such possess limited ecological values for native fauna species.

5.9 Corridor Values

The area of greatest value in respect to facilitating fauna movement into and across the site is the vegetation communities in the south of the site associated with Eprapah Creek. The Scribbly gum open woodland which covers the majority of the site does provide some permanent and transitional habitat resources for native fauna. The disturbed cleared land within the northern sectors of the site has been previously cleared and as such provides little protection or sheltering resources for any dispersing smaller terrestrial fauna species. In this respect, the following is noted.

1. The southern sectors of the site form part of the site's major functional ecological corridor which facilitates fauna movement in an east-west direction. This vegetated corridor is associated with Eprapah Creek and links larger areas of habitat to the west, such as Sandy Creek Conservation Area, with coastal habitat such as that provided in the Eprapah Environmental Training Centre and Pt Halloran Conservation Area as illustrated in Figure 2. This corridor facilitates the dispersal and movement of native fauna such as Koalas, and is designated as a "Special Protection Area" pursuant to the Strategic Plan: Preferred Dominant Land Use Map of the Redland Shire Planning Scheme. This ecological corridor is also recognised in other regulatory provisions such as the *SEQ Regional Plan – Interim Guidelines: Koala and Development* and the *Regional Ecosystem Mapping for the site locality*.
2. A potential ecological corridor also exists to the north of the site which would allow for the dispersal and movement of native fauna in a north-south direction. This is due to a continuous connection of designated "Special Protection Areas" that commences to the north-west of the site and is associated with an unnamed waterway that extends out to Moreton Bay. However, it is also important to note that this potential corridor is dissected by Boundary Road which is soon to be upgraded to a four lane transport corridor. This roadway acts as a formidable barrier for fauna movement, particularly for species such as the Koala, as vehicles are a known significant source of Koala mortality, second only to habitat loss. It is also relevant to note that an established aged care facility is located on Boundary Road directly to the north of the site. This presence of this facility reduces the availability of suitable habitat for fauna to the north of the site. It is also relevant to note that the site is surrounded by existing residential developments to the east and west, as illustrated in Figure 2, thereby reducing the availability of adjacent suitable habitat for dispersing native fauna.

6. PROPOSED DEVELOPMENT

D & S Walsh propose the subdivision of the land for Park Residential purposes. The proposed plan of development includes the creation of 24 Park Residential allotments, roadways, associated infrastructure and a park at the southern extent of the site. The proposed plan of development is illustrated in Figures 4a, 4b and 4c.

From an ecological perspective, key elements of the proposed plan of development include the following.

1. The establishment of a park at the southern extent of the site which conserves the functional ecological corridor that is associated with Eppah Creek and provides a buffer to this adjoining waterway, thereby protecting the creek's environmental values.
2. The subdivision of the land will create large residential lots at least 6000sqm in area, which would enable part of the vegetation contained within the allotment to be retained. Defined building location envelopes ("BLEs") within each allotment are included as part of the proposed plan of development to minimise the clearing of vegetation. The BLEs are positioned with the aim of retaining large habitat trees. The BLEs are approximately 1500 - 2000 sqm in size. As illustrated in Figures 4a, 4b and 4c, the defined location of the BLEs will allow for the retention of 83.3% of the surveyed trees (i.e. trees with a stem diameter in excess of 200mm) on site, comprising of 95 trees and 34 stags.
3. The clearance of vegetation outside of the defined BLEs will be regulated by the provisions of the Local Law No. 6 – Protection of Vegetation of the Redland Shire Council. Under the provisions of this local law, a permit is required for the removal or destruction of any protected vegetation. In this respect, the Local Law will ensure that native vegetation occurring outside of the BLEs that may provide habitat resources to native fauna is retained and protected.
4. It is recommended that fauna friendly fencing is used throughout the site. Where dogs are to be kept on allotments, it is recommended that dogs should be restricted to a limited area around the dwelling and that a fauna-proof fence is constructed to prevent native fauna, such as Koalas, from entering that area and dogs from escaping into the surrounding areas of retained bushland.
5. The proposed plan of development also provides for onsite effluent treatment and disposal.

7. BIODIVERSITY CONSERVATION VALUES AND LAND USE CONSTRAINTS

Development of the site is subject to constraints imposed by various regulations that give recognition to and specific management requirements for species, communities and aspects of significant biodiversity conservation value. The degree of compliance that the proposed development achieves with the purpose, intent and specific performance criteria of various regulations with a biodiversity conservation focus is considered below.

7.1 Environment Protection and Biodiversity Conservation Act 1999

The *EPBC Act* requires that a person must receive Commonwealth approval for any action that has, will have, or is likely to have a significant impact on matters of national environmental significance. Matters of national environmental significance that are recognised by the *EPBC Act* and which can act as a trigger for the Commonwealth assessment and approval process include:

- World Heritage properties;
- National Heritage Places;
- Ramsar wetlands of international significance;
- Threatened species and ecological communities;
- Migratory species;
- Nuclear actions, including uranium mining; and
- The Commonwealth marine environment.

7.1.1 Recognised Values

The matters of national environmental significance that have been identified within the site locality include a Ramsar wetland and listed threatened species.

In respect of the matters of national environmental significance recognised by the *EPBC Act* it is noted that:

1. the site is situated within the catchment of a Ramsar wetland, namely Moreton Bay; and
2. the site provides habitat resources for the Grey-headed Flying-fox which is a listed threatened fauna species.

No other matters of national environmental significance have been recognised on the site.

7.1.2 Land Use Constraints

Given the presence on the site and within the site locality of matters of national environmental significance, any development or use of the site would be constrained by the *EPBC Act* if that development or use will have, or is likely to have, a significant impact on matters of national environmental significance. With reference to the *EPBC Act's* Administrative Guidelines on Significance the following are noted.

1. In order to achieve compliance with the purpose and intent of the *EPBC Act* as it relates to **wetlands of international significance**, development or use of the site would be constrained to the extent that such development or use does not have, or is unlikely to have, a significant impact upon the Ramsar values of Moreton Bay. In this respect the proposed plan of development is not likely to have a significant impact due to the fact that it would not result in:
 - areas of the wetland being destroyed or substantially modified; or
 - a substantial measurable change in the hydrological regime of the wetland – for example a substantial change to the volume, timing, duration and frequency of ground and surface water flows to and within the wetland; or
 - the habitat or lifecycle of native species dependent upon the wetland being seriously affected; or
 - a substantial and measurable change in the physico-chemical status of the wetland – for example a substantial change in the level of salinity, pollutants, or nutrients in the wetland, or water temperature which may adversely impact on biodiversity, ecological integrity, social amenity or human health; or
 - an invasive species that is harmful to the ecological character of the wetland being established in the wetland.

2. In order to achieve compliance with the purpose and intent of the *EPBC Act* as it relates to **Threatened (Vulnerable) Species**, development or use of the site would be constrained to the extent that such development or use should not have, and be unlikely to have a significant impact upon the Grey-headed Flying-fox. In respect of the above, the development is not likely to have a significant impact on any threatened species due to the fact that it would not:
 - lead to a long-term decrease in the size of population of a species, or
 - reduce the area of occupancy of population, or
 - fragment an existing population into two or more populations, or
 - adversely affect habitat critical to the survival of a species, or
 - disrupt the breeding cycle of population, or
 - modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline, or
 - result in invasive species that are harmful a species becoming established in the species' habitat*, or
 - interferes substantially with the recovery of the species.

In summary, it is considered that the proposed plan of development is not likely to have a significant impact on any matters of national environmental significance recognised by the *EPBC Act*.

7.2 Nature Conservation Act 1992

The *NC Act* and associated *Nature Conservation (Wildlife) Regulation 1994* provide a framework for the conservation of nature. One of the primary mechanisms by which this objective is to be achieved is through the declaration of and the specification of management principles and intents for wildlife species of particular conservation significance. The site possesses values recognised by the *NC Act* and associated Regulation and therefore development or use of the site is subject to constraints derived therefrom.

7.2.1 Recognised Values

Wildlife species that are recognised as being of formal conservation significance pursuant to the *Nature Conservation Act 1992* and *Nature Conservation (Wildlife) Regulation 1994* and which are considered to have a high to moderate probability of occurring on the site include:

- Vulnerable** – Koala (*Phascolarctos cinereus*), Wallum froglet (*Cinia tinnula*), Glossy black cockatoo (*Calyptorhynchus lathami*); and
- Rare** – Grey goshawk (*Accipiter cirrhocephalus*), Lewin's rail (*Rallus pectoralis*).

The Scribbly gum open woodland and riparian vegetation communities within the site provide suitable habitat for the Koala. Scratch marks of an indeterminable age, resembling those of a Koala, were recorded on several trees during the field survey, however no Koala scats or visual sightings were recorded. Given the relatively small size of the site and the fact that the site is bounded to the west and east by established residential areas and to the north by a major arterial roadway which is soon to be upgraded to a four lane transport corridor, the site is not considered to represent habitat critical to the survival of the species. This assessment is consistent with the fact that the majority of the site does not form part of a Koala Conservation Area, Koala Sustainability Area or Urban Koala Area as defined in the *SEQ Regional Plan – Interim Guidelines: Koala and Development* (refer Section 7.4 for further discussion). Notwithstanding the above, the southern section of the site which would provide habitat for the Koala and a movement corridor to facilitate Koala dispersal will be protected within a park as part of the proposed plan of development.

The Wallum froglet and Lewin's rail may utilise the habitat provided in the riparian vegetation community associated with Erapah Creek. This community provides a contiguous area of suitable habitat that extends to the east and west of the site along Erapah Creek. This habitat is to be protected and conserved as the southern sector of the site is to be dedicated as a park as part of the proposed plan of development.

The Scribbly gum open woodland with numerous tree hollows and a subcanopy and understorey of Black she-oak would provide potential nesting and foraging resources for the Glossy black cockatoo. However, given the relatively small size of the site and its location within an established Park Residential area, it is not considered to represent habitat critical to the survival of this species. Notwithstanding the above, it is recommended that where practicable, Black she-oak and hollow-bearing trees are to be retained within allotments to preserve nesting and foraging resources for this *Vulnerable* species.

The Grey goshawk may potentially utilise the woodland communities within the site, particularly those adjacent to Erapah Creek. However, given that the site is relatively small, is located within an established Park Residential area and within the site locality there is large areas of more suitable habitat, it is unlikely that that site represents habitat critical to the survival of this species.

No flora species of conservation significance pursuant to the *NC Act* were recorded on the site.

7.2.2 Land Use Constraints

Specific constraints to the development or use of the site, associated with the *NC Act* and the associated *Nature Conservation (Wildlife) Regulation 1994*, include a requirement that such development or use be consistent with the Declared Management Intent for Endangered, Vulnerable and Rare wildlife species.

Relevant aspects of the *Nature Conservation (Wildlife) Regulation 1994* Declared Management Intents for Endangered, Vulnerable or Rare wildlife species are as follows:

- to take action to ensure viable populations of the wildlife in the wild are preserved or re-established;
- to recognise that the habitat of endangered, vulnerable and rare wildlife is likely to be a critical habitat or area of major interest; and
- to monitor and review the adequacy of environmental impact assessment procedures to ensure that they take into account the need to accurately assess the extent of the impact on endangered, vulnerable and rare wildlife and develop effective mitigation measures.

Pursuant to the *Nature Conservation (Wildlife) Regulation 1994* governments should, when dealing with land use planning issues, have regard to the occurrence of significant species and the management requirements needed to conserve existing populations of such wildlife.

The proposed plan of development is compliant with the Declared Management Intent of the *NC Act* given that the area of greatest environmental value within the site, being the functional ecological corridor in the southern sector of the site, is being conserved and protected as a park.

7.3 Vegetation Management Act 1999

The *VM Act* and associated State Policy for Vegetation Management on Freehold Land 2004 ("VM Policy") provide a formal framework for the recognition and management of the biodiversity values of vegetation in Queensland.

7.3.1 Recognised Values

The current and certified Regional Ecosystem map indicates that the southern extent of the site is mapped as supporting *Not of Concern* remnant vegetation pursuant to the *VM Act*. This RE type is described as:

RE 12.3.6 - *Melaleuca quinquenervia*, *Eucalyptus tereticornis*, *Lophostemon suaveolens* woodland. Occurs on Quaternary alluvial plains and drainage lines in coastal areas.

The majority of the site is designated as urban (i.e. "Park Residential") with the southern extent of the site designated as non-urban (i.e. "Special Protection Area") as illustrated in Figure 6. It is relevant to note that the mapped *Not of Concern* remnant vegetation occurs within the non-urban sector of the site as illustrated in Figure 5.

7.3.2 Land Use Constraints

Vegetation clearance in urban areas is exempt from the provisions of the *VM Act* unless the vegetation is mapped as an *Endangered* regional ecosystem, or has been declared by the Minister as an area of high nature conservation value. The urban sector of the site does not contain any remnant vegetation and therefore development of this area is not constrained by the provisions of the *VM Act*.

The remnant vegetation that occurs within the non-urban area designated as a "Special Protection Area" pursuant to the Strategic Plan, will be constrained by the provisions of the *VM Act*, as the designated "Special Protection Area" does not constitute an "urban area" as defined by the *VM Act*.

In this respect any Material Change of Use ("MCU") application submitted for the site will trigger Department of Natural Resources, Mines and Water (DNRMW) concurrence agency assessment as:

- a. the site contains remnant vegetation; and
- b. the existing use is a rural or environmental use, and
- c. the size of the site is 2 hectares or larger.

In addition, any Reconfiguring a Lot ("RaL") application submitted for the site will trigger DNRMW concurrence agency assessment as:

- a. the site contains remnant vegetation; and
- b. the size of the lot before the reconfiguration is 2 hectares or larger; and
- c. 2 or more lots are created; and
- d. the size of any lot created is 25 hectares or smaller.

As a concurrence agency, DNRMW will assess the proposed development against DNRMW's MCU concurrence agency policy code ("the MCU Code") and RaL concurrence agency policy code ("the RaL Code"). In this regard, a Property Vegetation Management Plan (PVMP) will need to be submitted for the site which assesses the proposed development against the relevant section of both the MCU Code and RaL Code. In this instance, the relevant section of both Codes is Part C, which pertains to applications for a non-urban area "where there is no clearing of assessable vegetation". In this respect, the development achieves compliance with the performance requirement of Part C as no remnant vegetation will be cleared as part of the proposed development.

7.4 SEQ Regional Plan

The *SEQ Regional Plan – Interim Guidelines: Koala and Development* is a statutory instrument under the *Integrated Planning Act 1997*. The regional plan addresses development and planning schemes in SE Queensland whilst ensuring that significant environmental values are protected. The plan identifies areas of conservation significance for Koalas and includes policies to address conflicts between development and key areas of Koala habitat. The regional plan replaces the *State Planning Policy 1/05: Conservation of Koalas in South-east Queensland* (SPP 1/05).

7.4.1 Recognised Values

The southern section of the site is mapped as a "Koala Conservation Area" pursuant to the Interim Guidelines. The extent and location within the site of the "Koala Conservation Area" is illustrated in Figure 7.

7.4.2 Land Use Constraints

The proposed plan of development conserves the majority of the area within the site that is designated as a "Koala Conservation Area". This area is to be dedicated as a park, thereby protecting any potential Koala habitat that may occur within this sector of the site. The proposed roadway in the southern sector of the site however does traverse land that is mapped as a "Koala Conservation Area". In this respect, the roadway is proposed for the northern, outer extent of the mapped Koala habitat area and follows the existing geometry of the already built sections of Luke Street to the east and west of the site. The construction of this proposed roadway would be likely to result in the removal of two Koala food trees.

The criteria listed in the Interim Guidelines states that the "development protects koala habitat to the greatest extent practicable" and "development minimises adverse effects on koalas". The majority of the mapped Koala habitat will be protected within the designated park thereby retaining virtually all of the vegetation within the mapped Koala habitat area. Impacts on Koalas will be minimised as vegetation removal is limited to only where the proposed roadway is to be constructed, the alignment of which is dictated by the current road alignment of Luke Street. To further minimise adverse impacts on Koalas, the proposed roadway will have a low speed limit and any removal of trees will be supervised by a qualified spotter catcher. As such, the proposed plan of development achieves compliance with the provisions of the Interim Guidelines.

The balance of the land is not mapped as Koala habitat pursuant to the Interim Guidelines, however, the position of building location envelopes has been designed to retain, where practicable, Koala food trees. It is also recommended that fauna friendly fencing is used throughout the site. Where dogs are to be kept on allotments, it is recommended that dogs should be restricted to a limited area around the dwelling (i.e. the BLE) and that a fauna-proof fence is constructed to prevent Koalas from entering that area and dogs from escaping into the surrounding areas of retained bushland.

7.5 Redlands Shire Council

The Strategic Plan of the Redland Shire Planning Scheme conveys the broad planning goals and strategies of the Redland Shire. The Strategic Plan addresses development, planning and conservation issues of importance within the Shire whilst providing direction for the overall development of the Redland Shire.

7.5.1 Recognised Values

The majority of the site is designated as "Park Residential" with the very southern extent designated as a "Special Protection Area" pursuant to the Strategic Plan: Preferred Dominant Land Use Map as illustrated in Figure 6.

Pursuant to the Local Law No. 6 - Protected Vegetation of the Redland Shire Council the vegetation on the site is defined as "protected vegetation".

7.5.2 Land Use Constraints

The land use intent of "Park Residential" areas within the Redland Shire Strategic Plan 1998 states that *"the Council may require allotments in this designation to be greater than 6 000 m² where necessary due to physical or environmental features of the land concerned, such as flood plains, wetlands, waterways or habitat for fauna and flora"*. The land use intent for the "Special Protection Area" states that *"this designation indicates the location of areas within the main urban parts of the Shire which have been identified as possessing natural environmental qualities worthy of conservation. These include many areas of remnant vegetation which provide important habitat, corridor and visual landscape values."* In this respect, the proposed plan of development is in compliance with Council's land use intent of the site as the proposed allotments all have an area greater than 6 000 m² within the designated "Park Residential" areas and the designated "Special Protection Area" is contained within a park, thereby conserving important habitat and corridor values.

It is relevant to note however, that the northern section of the "Special Protection Area" is traversed by a proposed roadway. The alignment of this proposed roadway is dictated by the current alignment of Luke Street which has previously been constructed to the east and west of the site.

The provisions of the Local Law No. 6 enable vegetation outside of defined building location envelopes to be protected and conserved as a permit is required to damage protected vegetation. The retention of this vegetation in combination with controls over fencing will preserve habitat and feeding resources for native fauna species that currently utilise the site. The designated park at the southern extent of the site will maintain the functional ecological corridor that exists in an east-west direction.

Right to Information

8. INFORMATION REQUEST RESPONSE

This section of the report specifically addresses some of the ecological issues raised in the Information Request issued by the Redland Shire Council on the 10th of February 2006 in respect to a RaL application over the site. The relevant sections of the information request are detailed below.

Request

Please describe the environmental values of the existing land in association with a site-specific Greenspace Assessment Report. For terms of reference please refer to Redland Shire Council, 1998 Strategic Plan Section 5.2.2 a (c). The terms of reference are also attached at the end of this document. Please demonstrate how these environmental values will be retained, and enhanced, by the proposed development.

Response

The environmental values of the existing land and how these values will be retained by the proposed development have been described herein in Sections 4.0 to 7.0 of this Greenspace Assessment report.

Request

Provide a survey accurate plot for all trees greater than 150 mm DBH and supporting text about:

- a) *Species classification and locations;*
- b) *Approximate diameter of trunk and canopy spread;*
- c) *Approximate locations of remnant vegetation patches (e.g. clumps of shrubs and smaller trees);*
- d) *Survey accurate location of any larger trees with habitat values including dead trees identified as having existing habitat value;*
- e) *How any proposed works may impact on this vegetation;*
- f) *The impact of the proposal on adjacent or nearby habitat corridors, how fauna corridors and habitat generally within the subject land will be retained and enhanced, how connections to adjacent habitat will be configured and how significant edge effects will be prevented, given that the applicant cannot always guarantee individual human behaviour. A concept plan will be required indicating the proposed arrangements together with an assessment of any of impacts, and measures to enhance benefits and reduce impacts;*
- g) *Details of any historically significant vegetation specimens on site, whether native or exotic;*
- h) *Details of any current weed infestation, including declared plants, environmental weeds, and native invasive species.*
- i) *Details of planted vegetation to be used in stormwater treatment. Liaison with the relevant stormwater consultant may be required.*
- j) *Overland flowpaths and any associated wetland areas.*
- k) *Any plans for flora enhancement that may form part of this proposal.*

Response

The trees on the site, their location, trunk dimensions and species classification are provided in the tree survey plan (refer Figures 4a, 4b, 4c and 4d). The tree survey plan also provides the location of large dead trees (stags) within the site. A number of large trees and stags within the site were recorded as supporting hollow limbs/trunks which

are known to provide various fauna species with nesting and sheltering resources. The survey plan indicates the location of trees with a DBH of 200mm or greater. Trees with a DBH of less than 200mm were not recorded as this would have included a large number of smaller regrowth Black she-oak (*Allocasuarina littoralis*) and *Banksia integrifolia* within the site. The identification of habitat trees or significant trees for possible retention within the site would have been difficult if the survey plan had included numerous smaller regrowth trees.

The vegetation communities and flora species recorded within the site are discussed in Section 4.0 herein. In summary, the site supports five vegetation communities including Scribbly gum open woodland, disturbed cleared land, Slash pine dominated plantation, Broad-leaved woodland and riparian vegetation. The distribution of these vegetation communities are illustrated in Figure 3.

The vegetation in the southern extent of the site, which includes the riparian vegetation community and part of the Scribbly gum open woodland, is to be retained within a designated park as part of the proposed plan of development. Vegetation outside of defined BLEs is to be protected and its clearance will be regulated under the provisions of the Local Law No. 6 – Protection of Vegetation of the Redland Shire Council.

The major functional ecological corridor within the site is situated in the southern sectors of the site and is associated with Eprapah Creek. This ecological corridor facilitates the movement of fauna in an east-west direction and links large areas of habitat such as Sandy Creek Conservation Area with Eprapah Environmental Training Centre and Pt Halloran Conservation Area as illustrated on Figure 2.

The site does not contain any historically significant vegetation specimens.

The details of any existing weed species or infestations that occur within the site are discussed in Section 4.0. In summary, across the majority of the site there is a paucity of exotic weeds with the main incursions occurring along the site's boundary and in the northern disturbed sector of the site. Declared pest plants pursuant to the *LP Act* which were recorded on the site include Lantana and Asparagus fern.

Details regarding the hydrologic regimes, stormwater treatment and overland flowpaths within the site are being addressed in detail by other consultants. However it is considered that this small in-fill development will not require or involve any significant alterations to existing hydrological regimes.

There is the potential for flora enhancement within the park area in the southern sector of the site. This would involve the removal of any recognised exotic or environmental weed species, thereby enhancing the ecological values of this area.

Request

This property is designated as "Koala Conservation Area" under the SEQ Regional Plan, Interim Guidelines: Koala and Development. Please demonstrate how this proposal is compatible with the conservation of koalas as outlined in the Koala and Development guidelines.

Response

The southern sector of the site is designated as a "Koala Conservation Area" pursuant to the Interim Guidelines as illustrated in Figure 7. The proposed plan of development conserves the majority of the area within the site that is designated as a "Koala

Conservation Area". This area is to be dedicated as a park, thereby protecting any potential Koala habitat that may occur within this sector of the site. The proposed roadway in the southern sector of the site however does traverse land that is mapped as a "Koala Conservation Area". In this respect, the roadway is proposed for the northern, outer extent of the mapped Koala habitat area and follows the existing geometry of the already built sections of Luke Street to the east and west of the site. The construction of this proposed roadway would be likely to result in the removal of two Koala food trees.

The criteria listed in the Interim Guidelines states that the "development protects koala habitat to the greatest extent practicable" and "development minimises adverse effects on koalas". The majority of the mapped Koala habitat will be protected within the designated park thereby retaining virtually all of the vegetation within the mapped Koala habitat area. Impacts on Koalas will be minimised as vegetation removal is limited to only where the proposed roadway is to be constructed, the alignment of which is dictated by the current road alignment of Luke Street. To further minimise adverse impacts on Koalas, the proposed roadway will have a low speed limit and any removal of trees will be supervised by a qualified spotter catcher. As such, the proposed plan of development achieves compliance with the provisions of the Interim Guidelines.

The balance of the land is not mapped as Koala habitat pursuant to the Interim Guidelines, however, the position of building location envelopes has been designed to retain, where practicable, Koala food trees. It is also recommended that fauna friendly fencing is used throughout the site. Where dogs are to be kept on allotments, it is recommended that dogs should be restricted to a limited area around the dwelling (i.e. the BLE) and that a fauna-proof fence is constructed to prevent Koalas from entering that area and dogs from escaping into surrounding areas of retained bushland.

Request

Please demonstrate how the proposed lot sizes and access arrangements will protect and enhance the environmental values on the land. Please refer to section 4.2.4 paragraph 5 in the Council's Strategic Plan. This may include the identification of design principles for internal roads and driveways, and measures to maintain and enhance habitat generally, and habitat corridors through the land.

Response

Section 4.2.4, paragraph 5 of the Redland Shire Strategic Plan 1998, in reference to Park Residential designations, states that "the Council may require allotments in this designation to be greater than 6,000m² where necessary due to physical or environmental features of the land concerned, such as flood plains, wetlands, waterways or habitat for fauna and flora." In this respect, the proposed allotments are of a minimum size of 6000 m² as illustrated in Figures 4a, 4b and 4c. In addition, designated building location envelopes ("BLEs") which are responsive to the tree survey have been incorporated as part of the proposed plan of development. The BLEs have been positioned in a manner which maximises tree retention. The defined location of the BLEs will allow for the retention of 83.3% of the significant trees on site, comprising of 95 trees and 34 stags.

Access to the proposed allotments will be via already established roadways (i.e. Megan Court, Anisila Road and Luke Street) and through the proposed extension of these roadways into the site. The use of these existing roadways for allotment access and

minimising the construction of new roadways will reduce the need for vegetation clearance.

The southern sector of the site, to the south of the proposed extension of Luke Street, is to be designated as a park which will maintain the major functional ecological corridor within the site.

Request

Please provide on an aerial photograph of the site, an overlay of the indicative building envelopes for each proposed lot.

Response

An aerial photograph of the site with an overlay of the designated BLEs is presented in Figure 4e. The designated BLEs for each proposed allotment are positioned in a manner to maximise tree retention. Towards the eastern extent of this aerial photograph is an example of another residential development which demonstrates how trees can be retained outside of the BLEs.

Right to Information Release

9. CONCLUSIONS

This assessment of the ecological values of the site for the proposed reconfiguration of a Lot has been carried out for a number of purposes including:

- to document the ecological values of the site and specific areas thereof;
- to identify constraints to site development associated with the presence of areas and aspects of ecological significance as defined by reference to relevant State and Commonwealth government regulations; and
- to assess the degree of compliance that the proposed plan of development achieves with the requirements of the local planning scheme and relevant Commonwealth and State government legislation with a biodiversity conservation focus.

The conclusions of this assessment are as follows.

1. The vegetation on the site is dominated by non-remnant Scribbly gum open woodland with a mosaic understorey of Black she-oak and *Banksia integrifolia*. The northern extent has been previously cleared and is in a degraded, weed infested state. The southern riparian vegetation community associated with Erapah Creek forms part of a major ecological corridor linking upstream habitat to coastal habitat. This southern sector of the site is to be dedicated as a park thereby conserving and protecting the functional connective values of the site.
2. Matters of national environmental significance pursuant to the *EPBC Act* occur within the site locality. It is considered that the proposed plan of development is unlikely to have a significant impact on these matters of national environmental significance.
3. In respect to the *NC Act*, field surveys did not record any flora or fauna species of conservation significance, however, it is recognised that the site does provide suitable habitat for several listed fauna species. However, given the site's relatively small size and its location within an established Park Residential area, the site is not considered to represent habitat critical to the survival of these species. Notwithstanding the above, the most valuable ecological area within the site which provides a functional corridor to other areas of similar habitat is the southern sector associated with Erapah Creek. This area is to be retained and protected as part of the proposed plan of development. In addition, defined BLEs within proposed allotments have been positioned in a manner to maximise the retention of native vegetation which may provide habitat resources for listed fauna species.
4. The very southern extent of the site is mapped as containing "Not of Concern" remnant vegetation pursuant to the *VM Act*. As such, any MCU and RaL application submitted in respect to the site would trigger assessment against the DNRMW's MCU policy code and RaL policy code. The PVMP prepared for the site by Cardno, provides a compliance assessment of the development against the relevant section of both the MCU and RaL codes. The PVMP documents the fact that the proposal achieves compliance with the relevant Performance Requirements of the DNRMW's Concurrence Agency Policies.
5. The southern sectors of the site which are mapped as "Koala Conservation Areas" pursuant to the Interim Guidelines are to be contained within a dedicated park,

thereby conserving Koala habitat and protecting the corridor that would facilitate dispersing Koalas in the locality.

6. The Redland Shire Strategic Plan 1998 designates the central and northern sectors of the site as "Park Residential" with the southern sector designated as a "Special Protection Area". The proposed plan of development achieves compliance with the land use intents of these designations. The Local Law No. 6 – Protection of Vegetation of the Redland Shire Council is used to protect and regulate the vegetation that occurs outside of the BLEs.

Notwithstanding the above, it is recommended that reasonable and relevant conditions should be attached to any approval of the RaL application. Such conditions should require:

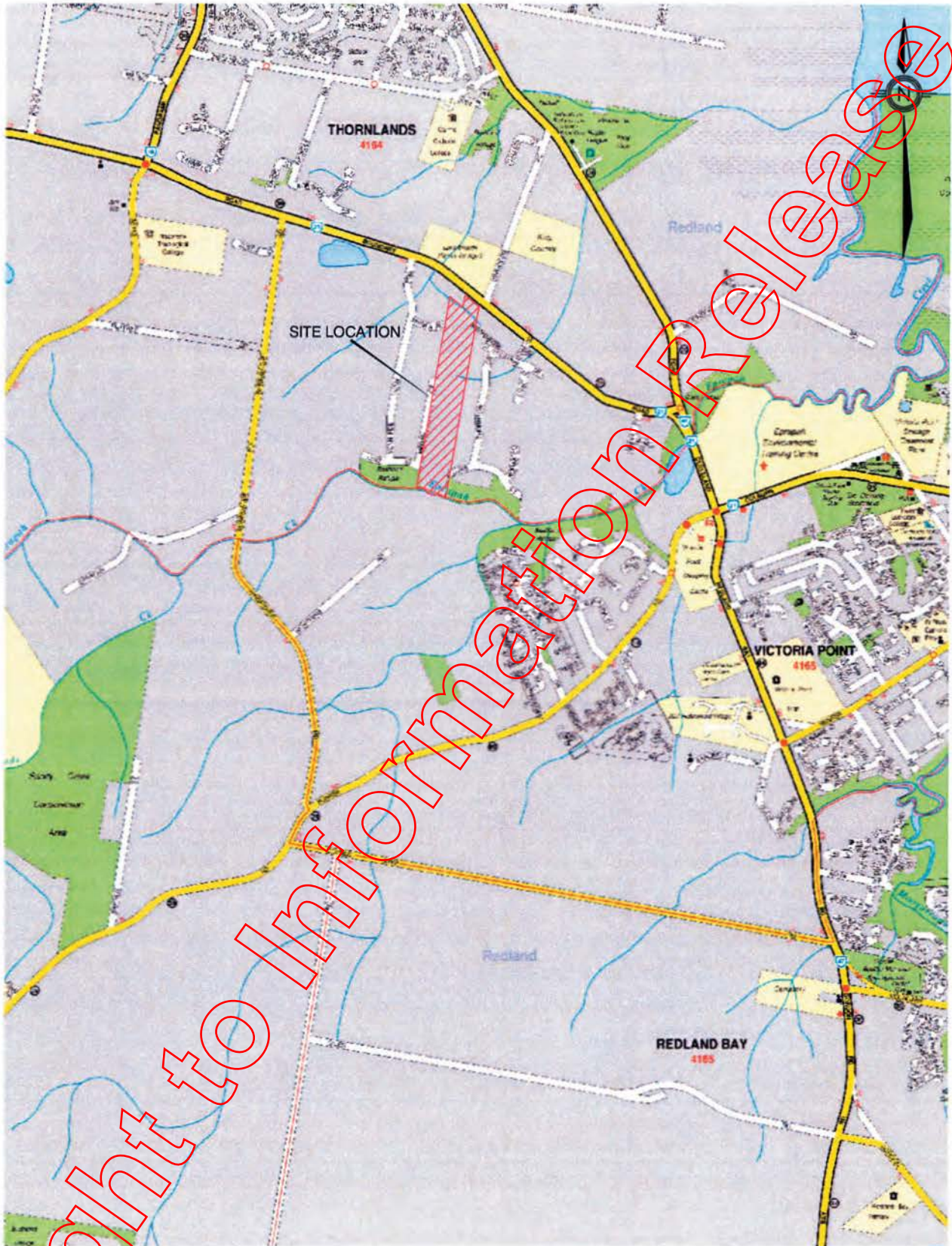
- The preparation of a detailed Vegetation and Fauna Habitat Management Plan, to be submitted in support of any Operational Works applications, that clearly specifies the extent of vegetation clearance to be carried out and the manner in which such works should be conducted; and
- The establishment of fauna friendly fencing around the perimeter of individual allotments; and
- The establishment of secure (fauna proof) fencing, restricted to the BLE, on any allotments where a dog is to be kept.

Right to Information

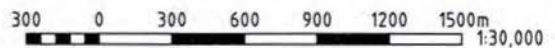
FIGURES

- Figure 1** **Locality Plan**
- Figure 2** **Aerial Photograph**
- Figure 3** **Vegetation Communities**
- Figure 4a** **Tree Survey Plan**
- Figure 4b** **Tree Survey Plan**
- Figure 4c** **Tree Survey Plan**
- Figure 4d** **Tree Schedule**
- Figure 4e** **Aerial Photograph with Building Location Envelopes**
- Figure 5** **Regional Ecosystem Mapping**
- Figure 6** **Excerpt of Strategic Plan: Preferred Dominant Land Use Map**
- Figure 7** **Koala Habitat Area Map**

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Scale 1:30,000 (A4)

**FIGURE 1
LOCALITY PLAN**

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Sandy Creek
Conservation Area

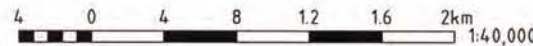
Pt Halloran
Conservation Area

Epapah Environmental
Training Centre

Date of Aerial: 11/02/02

LEGEND

 Site Boundary



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**FIGURE 2
AERIAL PHOTOGRAPH**

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PRINT DATE: 26 July, 2006 - 9:47am



Date of Aerial: 11/02/02

LEGEND



- Site boundary
- 1 Scribbly gum (*Eucalyptus racemosa*) open woodland
- 2 Disturbed cleared land
- 3 Slash pine (*Pinus elliotii*) dominated plantation
- 4 Broad-leaved paperbark (*Melaleuca quinquenervia*) woodland
- 5 Riparian vegetation

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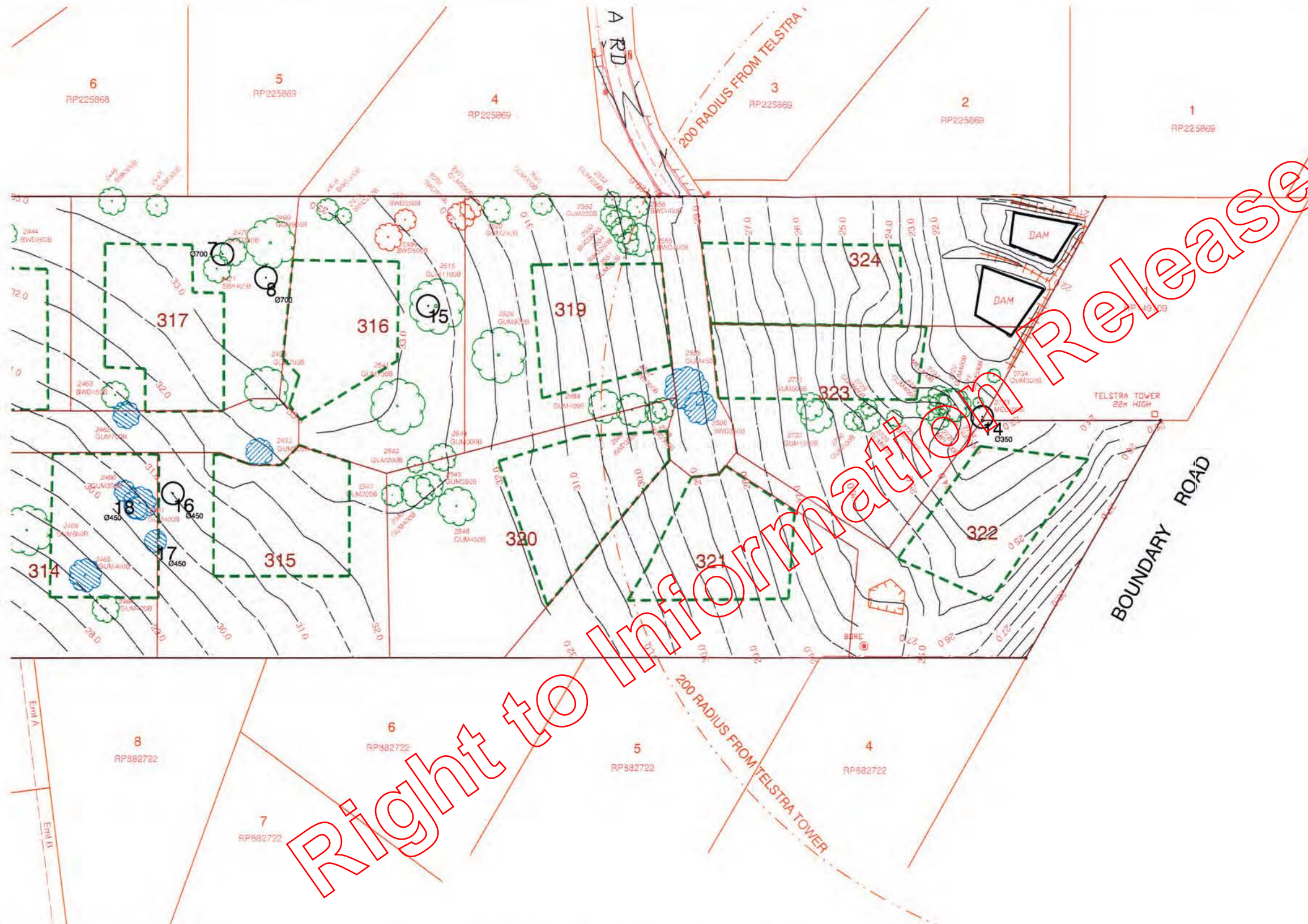
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CAD FILE: I_7396-19_Acad_Greenspace Assessment - Figure 3 - Vegetation Communities.dwg
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Scale 1:4000 (A3)

**FIGURE 3
VEGETATION COMMUNITIES**

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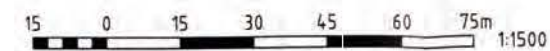


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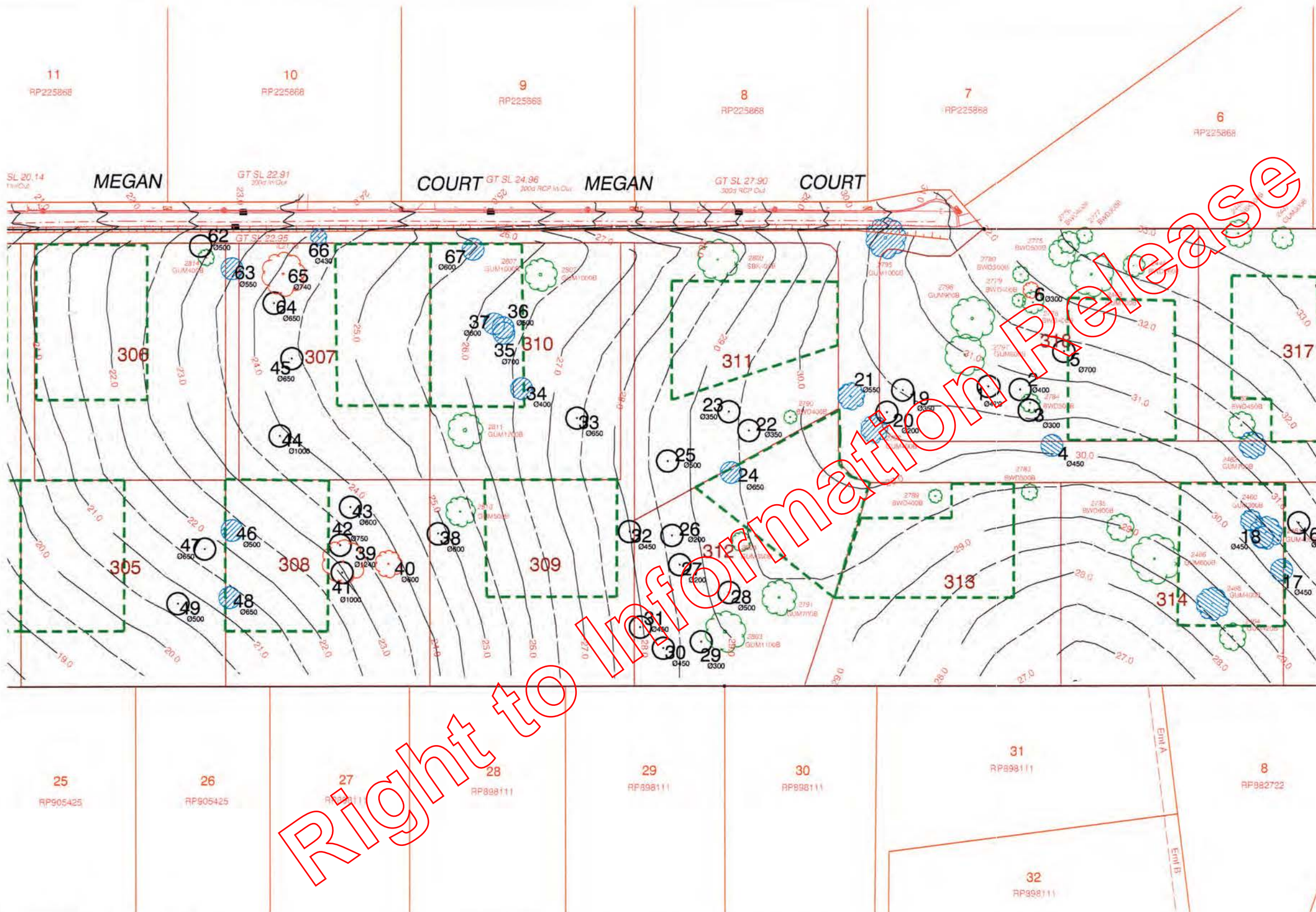
LEGEND

- | | | |
|---|---|------------------------------|
| Trees located and tagged by Philip Vassallo Pty Ltd, are shown thus:
 | Additional trees and stags located by Cardno (Gld) Pty Ltd, are shown thus:
 | Trees requiring removal:
 |
| Where the number shown corresponds to a tag attached to the tree, and the code indicates species and trunk size 1 metre above ground level. Trees located within the proposed park area have not been surveyed. Additional details concerning each of the identified trees are provided in the table attached to this Figure. | | |
| Indicative Building Location Envelope (BLE) - 2,000 sqm | | |



Scale 1:1500 (A3)
FIGURE 4A
TREE SURVEY PLAN

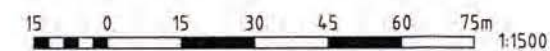
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Site Plan sourced from: Philip Vassallo Pty Ltd

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- Where the number shown corresponds to a tag attached to the tree, and the code indicates species and trunk size 1 metre above ground level. Trees located within the proposed park area have not been surveyed. Additional details concerning each of the identified trees are provided in the table attached to this Figure.



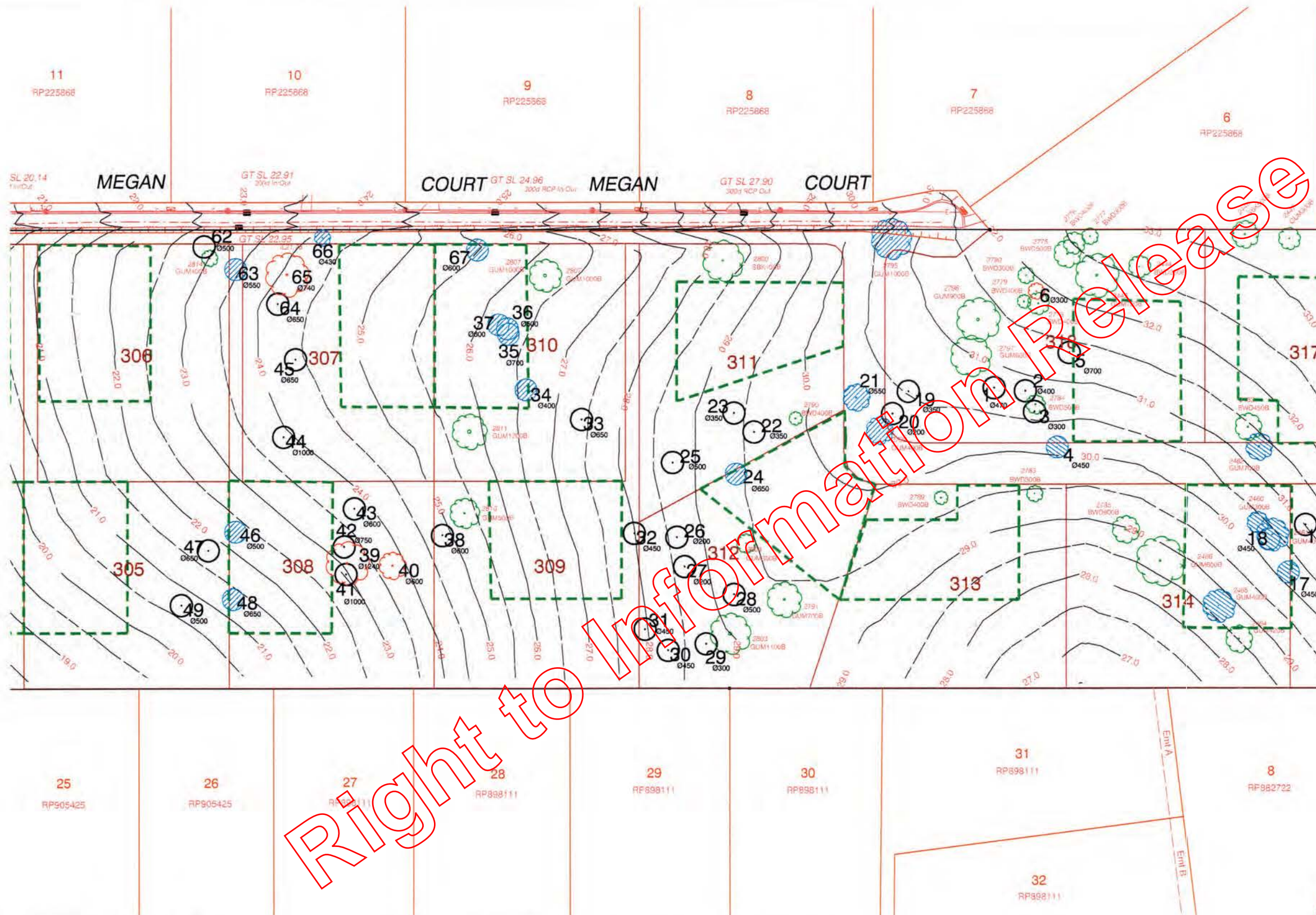
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FIGURE 4B
TREE SURVEY PLAN

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CAD FILE: I_1394-10_Acad_Greenspace Assessment_Figure 4B - Tree Survey Plan.dwg
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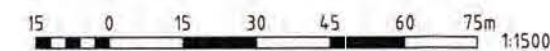


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 - Additional trees and stags located by Cardno (Old) Pty Ltd, are shown thus:
 - Trees requiring removal:
 - Indicative Building Location Envelope (BLE) - 2,000 sqm
- Where the number shown corresponds to a tag attached to the tree, and the code indicates species and trunk size 1 metre above ground level. Trees located within the proposed park area have not been surveyed. Additional details concerning each of the identified trees are provided in the table attached to this Figure.



Scale 1:1500 (A3)
FIGURE 4B
TREE SURVEY PLAN

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Tree No.	Species Name	Common Name	Visible Hollows	Retention Status	Tree No.	Species Name	Common Name	Visible Hollows	Retention Status	Tree No.	Species Name	Common Name	Visible Hollows	Retention Status
2796	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	2544	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	22	Stag			Y
2797	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	2493	<i>Eucalyptus racemosa</i>	Scribbly gum		N	23	Stag			Y
2784	<i>Corymbia trachyphloia</i>	Brown bloodwood		Y	2495	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	24	Stag			N
2779	<i>Angophora woodsiana</i>	Smudgee		Y	2460	<i>Eucalyptus racemosa</i>	Scribbly gum		N	25	Stag		✓	Y
2778	<i>Corymbia trachyphloia</i>	Brown bloodwood		Y	2461	<i>Eucalyptus racemosa</i>	Scribbly gum		N	26	Stag			Y
2780	<i>Angophora woodsiana</i>	Smudgee		Y	2462	<i>Eucalyptus racemosa</i>	Scribbly gum	✓	N	27	Stag			Y
2775	<i>Angophora woodsiana</i>	Smudgee		Y	2463	<i>Angophora woodsiana</i>	Smudgee		Y	28	Stag		✓	Y
2776	<i>Angophora woodsiana</i>	Smudgee		Y	2465	<i>Eucalyptus racemosa</i>	Scribbly gum		N	29	Stag			Y
2777	<i>Corymbia intermedia</i>	Pink bloodwood		Y	2464	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	30	Stag			Y
2443	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	2466	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	31	Stag		✓	Y
2444	<i>Angophora woodsiana</i>	Smudgee		Y	2785	<i>Angophora woodsiana</i>	Smudgee		Y	32	Stag			Y
2446	<i>Eucalyptus resinifera</i>	Red stringybark		Y	2783	<i>Corymbia trachyphloia</i>	Brown bloodwood		Y	33	Stag		✓	Y
2447	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	2795	<i>Eucalyptus racemosa</i>	Scribbly gum		N	34	Stag			N
2471	<i>Eucalyptus resinifera</i>	Red stringybark		Y	2792	<i>Eucalyptus racemosa</i>	Scribbly gum		N	35	Stag		✓	N
2470	<i>Corymbia trachyphloia</i>	Brown bloodwood		Y	2789	<i>Angophora woodsiana</i>	Smudgee		Y	36	Stag		✓	N
2469	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	2790	<i>Corymbia trachyphloia</i>	Brown bloodwood		Y	37	Stag		✓	N
2478	<i>Angophora woodsiana</i>	Smudgee		Y	2811	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	38	Stag		✓	Y
2479	<i>Corymbia trachyphloia</i>	Brown bloodwood		Y	2810	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	39	<i>Eucalyptus racemosa</i>	Scribbly gum		Y
2520	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	2832	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	40	<i>Eucalyptus racemosa</i>	Scribbly gum		Y
2521	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	2833	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	41	Stag		✓	Y
2550	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	2834	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	42	Stag		✓	Y
2552	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	2835	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	43	Stag			Y
2556	<i>Angophora woodsiana</i>	Smudgee		Y	2838	<i>Eucalyptus sp.</i>			Y	44	Stag		✓	Y
2553	<i>Angophora woodsiana</i>	Smudgee		Y	2839	<i>Corymbia intermedia</i>	Pink bloodwood		Y	45	Stag		✓	Y
2554	<i>Angophora woodsiana</i>	Smudgee		Y	2840	<i>Eucalyptus racemosa</i>	Scribbly gum		N	46	Stag			N
2551	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	2842	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	47	Stag		✓	Y
2555	<i>Angophora woodsiana</i>	Smudgee		Y	2841	<i>Eucalyptus major</i>	Queensland grey gum		N	48	Stag		✓	N
2721	<i>Eucalyptus major</i>	Queensland grey gum		Y	2831	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	49	Stag			Y
2722	<i>Eucalyptus major</i>	Queensland grey gum		Y	2830	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	50	Stag		✓	Y
2724	<i>Eucalyptus major</i>	Queensland grey gum		Y	2829	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	51	<i>Eucalyptus racemosa</i>	Scribbly gum		Y
2725	<i>Eucalyptus major</i>	Queensland grey gum		Y	2828	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	52	<i>Eucalyptus racemosa</i>	Scribbly gum		Y
2733	<i>Broad-leaved paperbark</i>	Melaleuca quinquenervia		Y	2827	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	53	<i>Eucalyptus racemosa</i>	Scribbly gum	✓	Y
2726	<i>Broad-leaved paperbark</i>	Melaleuca quinquenervia		Y	2814	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	54	Stag			Y
2734	<i>Eucalyptus major</i>	Queensland grey gum		Y	2807	<i>Eucalyptus racemosa</i>	Scribbly gum	✓	Y	55	Stag			Y
2723	<i>Broad-leaved paperbark</i>	Melaleuca quinquenervia		Y	2811	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	56	<i>Eucalyptus racemosa</i>	Scribbly gum		Y
2727	<i>Corymbia intermedia</i>	Pink bloodwood		Y	2803	<i>Eucalyptus racemosa</i>	Scribbly gum	✓	Y	57	<i>Eucalyptus racemosa</i>	Scribbly gum		Y
2729	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	2804	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	58	<i>Eucalyptus racemosa</i>	Scribbly gum		Y
2730	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	2791	<i>Eucalyptus racemosa</i>	Scribbly gum	✓	Y	59	<i>Eucalyptus racemosa</i>	Scribbly gum		Y
2728	<i>Eucalyptus major</i>	Queensland grey gum		Y	2800	<i>Eucalyptus resinifera</i>	Red stringybark		Y	60	Stag			N
2731	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	1	Stag			Y	61	<i>Eucalyptus racemosa</i>	Scribbly gum	✓	Y
2732	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	2	Stag			Y	62	Stag			Y
2586	<i>Corymbia trachyphloia</i>	Brown bloodwood		N	3	Stag			Y	63	Stag		✓	N
2585	<i>Eucalyptus racemosa</i>	Scribbly gum		N	4	Stag			N	64	Stag		✓	Y
2588	<i>Corymbia trachyphloia</i>	Brown bloodwood		Y	5	Stag			Y	65	<i>Eucalyptus racemosa</i>	Scribbly gum		Y
2587	<i>Corymbia trachyphloia</i>	Brown bloodwood		Y	6	<i>Angophora woodsiana</i>	Smudgee		Y	66	<i>Eucalyptus racemosa</i>	Scribbly gum		N
2589	<i>Corymbia trachyphloia</i>	Brown bloodwood		Y	7	Stag		✓	Y	67	Stag		✓	N
2584	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	8	Stag		✓	Y					
2526	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	14	Stag			Y					
2515	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	15	Stag		✓	Y					
2541	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	16	Stag			Y					
2546	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	17	Stag			N					
2545	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	18	Stag			N					
2543	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	19	Stag			Y					
2547	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	20	Stag		✓	Y					
2542	<i>Eucalyptus racemosa</i>	Scribbly gum		Y	21	<i>Eucalyptus racemosa</i>	Scribbly gum	✓	N					

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**FIGURE 4D
TREE SCHEDULE**

Project No.: 7396/10

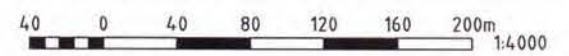
PRINT DATE: 26 July, 2006 - 9:52am



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Site plan sourced from: Philip Vassallo Pty Ltd

LEGEND

— Site boundary



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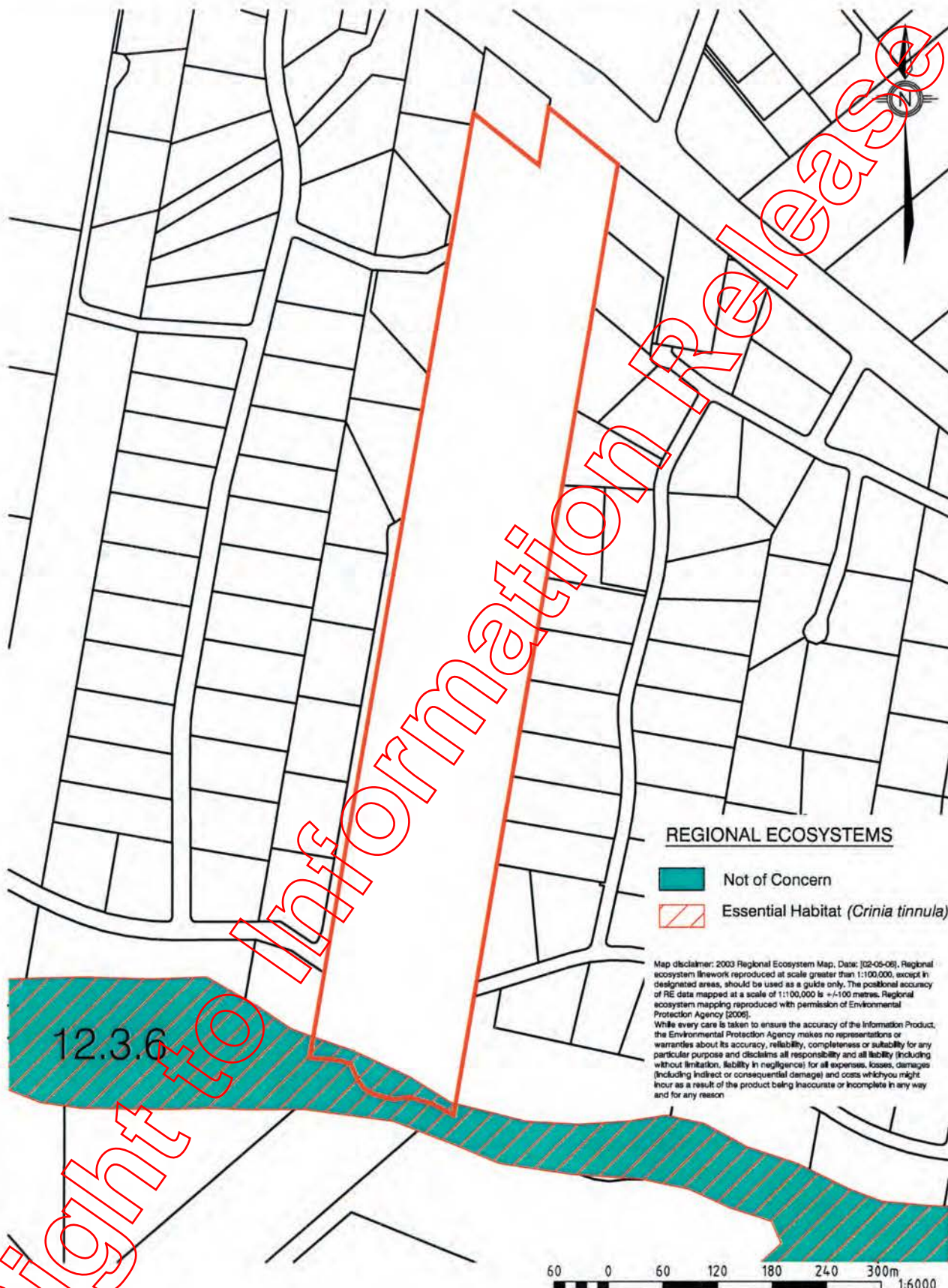
Scale 1:4000 (A3)

FIGURE 4E

AERIAL PHOTOGRAPH WITH
BUILDING LOCATION ENVELOPES

Project No.: 7396/10

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REGIONAL ECOSYSTEMS

- Not of Concern
- Essential Habitat (*Crinia tinnula*)

Map disclaimer: 2003 Regional Ecosystem Map, Date: [02-05-06]. Regional ecosystem linework reproduced at scale greater than 1:100,000, except in designated areas, should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100,000 is +/-100 metres. Regional ecosystem mapping reproduced with permission of Environmental Protection Agency [2006].

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12.3.6

60 0 60 120 180 240 300m
1:6000

Scale 1:6000 (A4)

**FIGURE 5
REGIONAL ECOSYSTEM MAPPING**

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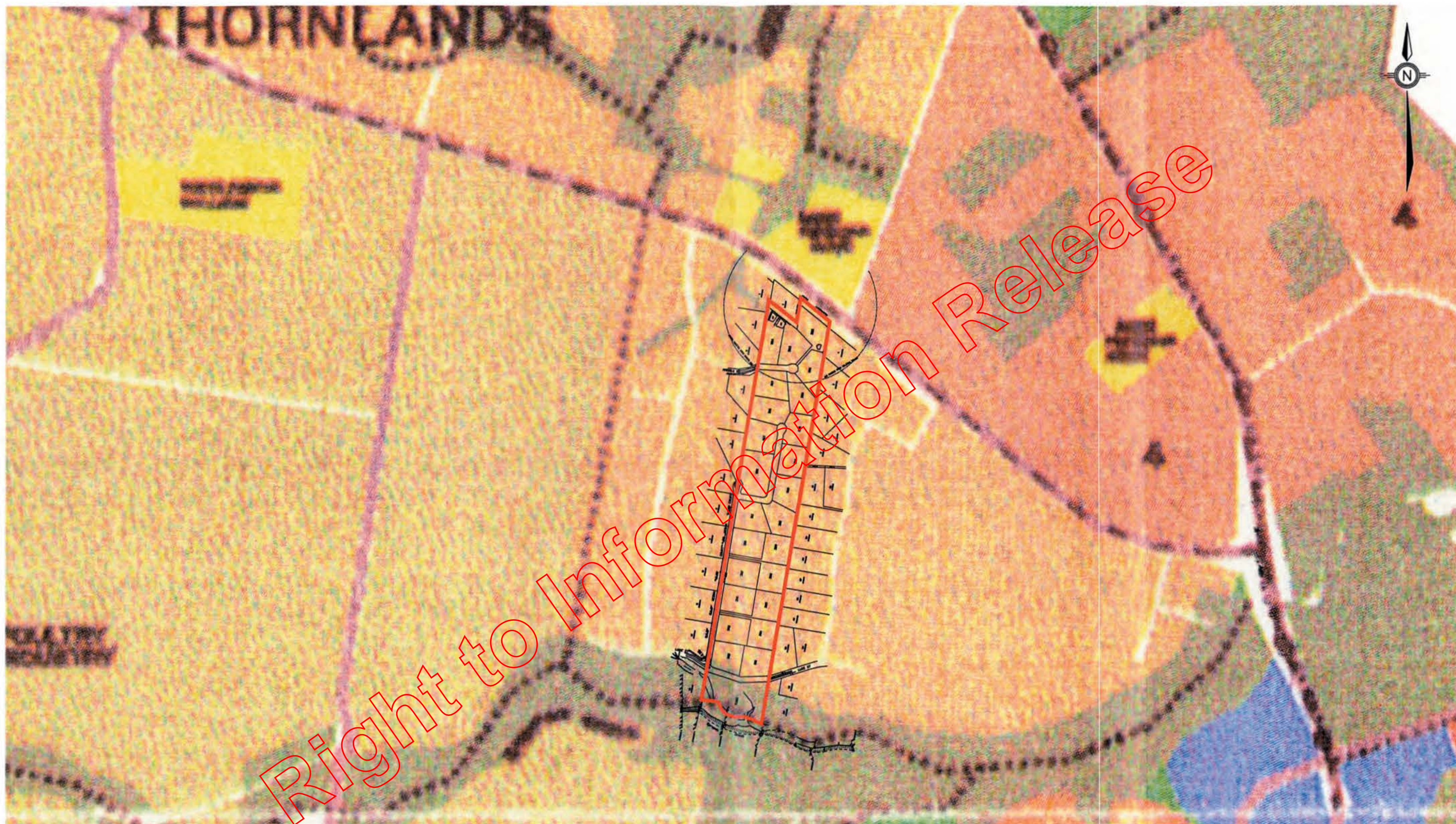
Rev: Orig. Date: 24 July 2006

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LAD FILE: L_7396-10_Acad_Greenspace Assessment_Figure 5 - Regional Ecosystem Mapping.dwg
XREFs: redata

Project No.: 7396/10

PRINT DATE: 26 July, 2006 - 9:54am



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LEGEND












- | | |
|--|---|
|  Urban |  Special Protection Area |
|  Residential Low Density |  Rural Non Urban |
|  Park Residential |  Major Roads |
|  District Centres |  Major Pedestrian and Cycle Ways |
|  Special Facilities/Public Purposes |  Site Boundary |
|  Public Open Space | |

Image sourced from: Redland Shire Council
Site Plan sourced from: Philip Vassallo Pty Ltd

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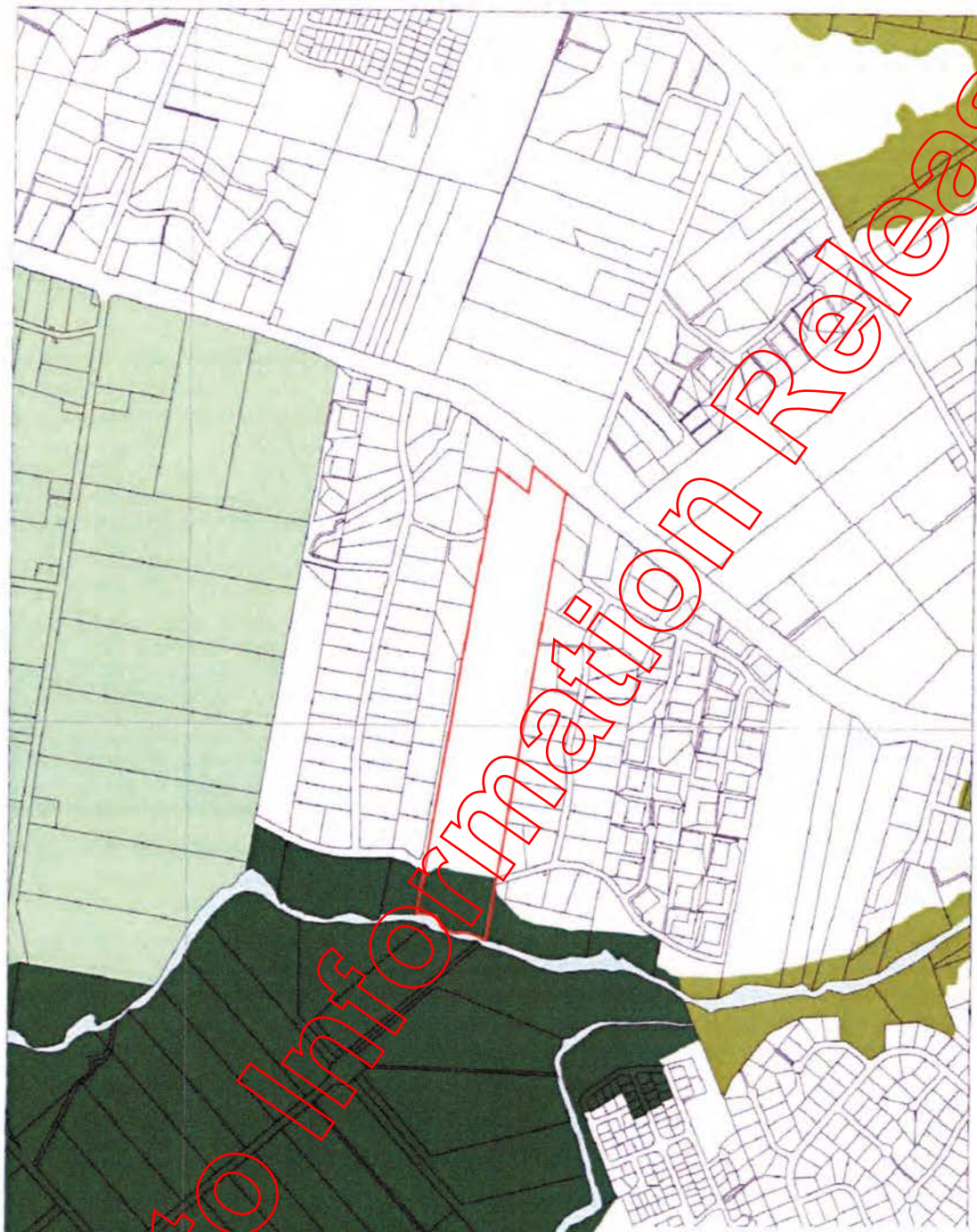
Rev: Orig. Date: 24 July 2006

Sutgold Pty Ltd
CAD FILE: I:\7396-10_Acad_Greenspace Assessment_Figure 5 - Excerpt of Strategic Plan Preferred Dominant Land Use Map.dwg
XREF: s

N.T.S
FIGURE 6
EXCERPT OF STRATEGIC PLAN:
PREFERRED DOMINANT LAND USE MAP

Project No.: 7396/10

PRINT DATE: 26 July, 2006 - 9:58am



LEGEND

- Area of interest - Road/Lot & Plan
- KCA: Koala Conservation Area
- KSA: Koala Sustainability Area
- UKA: Urban Koala Area

Image sourced from:
Queensland Government
Environmental Protection Agency
Queensland Parks and Wildlife Service

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Sutgold Pty Ltd
CAD FILE: h_7396-10_Acad_Greenspace Assessment_Figure 7 - Koala Habitat Area Map.dwg
XREF: s

N.T.S

**FIGURE 7
KOALA HABITAT AREA MAP**

Project No.: 7396/10

PRINT DATE: 26 July, 2006 - 10:06am

Pages 47 through 172 redacted for the following reasons:

Irrelevant Information

Right to Information Release

31 January 2006

Candy Daunt
Environmental Planning Officer
Redland Shire Council
PO Box 21
Cleveland, QLD 4163

Dear Candy

Re: Visual Inspection of 325-331 Boundary Road, Thornlands

I have provided a brief outlines of my views after our visit together with Sam Brew and Peter Maslen to 325-331 Boundary Road, Thornlands this morning.

The subject land is lot 15 on SP118723 Parish of Cleveland, County of Stanley and has a total area of 17.635 hectares. It is currently vacant with no obvious land uses and contains no infrastructure. I understand that the Preferred Dominant Land Use is Park Residential, and that the land is currently designated Rural Non Urban.

The southern portion of the land falls towards the adjacent Eprapah Creek, a drainage line flows through the centre of the land towards the east, while the northern quarter of the land falls towards Boundary Road before another overland flow path flows towards the west.

The southern three-quarters of the land is predominantly covered in regrowth bushland several decades old (it is recommended this is investigated in more detail using aerial photographs) interspersed with larger older trees in good condition and a number of older dead trees. The northern quarter of the land contains extensive pine tree growth as well as patches of bushland regrowth.

My observations during the site visit indicated that the bushland regrowth is well established and biodiversity within the site is high, increasing and sustainable. There was clear evidence of macropods and koalas within the site, and the location of many of the observed scats and claw marks indicates it is highly likely that the site is well connected to adjacent lands in terms of fauna movement. Trees and undergrowth within the site contain suitable habitat for a wide range of fauna including reptiles, birds and mammals. I am informed by Council officers that there have been recent reported sighting of glossy black cockatoos using the land for feeding and possibly nesting.

The land is an important habitat node adjacent to Eprapah Creek, has value as a corridor enhancing fauna movement from Eprapah Creek to several regional corridors to the north of Boundary Road, and provides both local connectivity and refuge in respect to adjacent developed residential properties.

I understand that an application for development of the land has been received by Council, which aims to be consistent with the Preferred Dominant Land Use of Park Residential. I understand from the Redland Shire Strategic Plan that this designation is intended to accommodate the establishment of larger residential allotments of around 6,000m² and above. Within this designation the full range of urban infrastructure services is required with the exception of reticulated sewerage, and in areas without reticulated sewerage such as this land, on-site treatment and disposal will be in accordance with performance standards and design

requirements for the protection of the water quality of the surface and groundwaters and downstream ecological values.

Controls on building location and tree clearing may be applied by Council to new development within this designation as a means of retaining vegetation which contributes to the environmental values and intended character of these areas. This would usually involve the identification of a building site of generally no greater than 2,000 m² in size positioned so as to minimise the amount of tree clearing and site earthworks modification required. Limitations on tree clearing, building and other permanent works can be applied over the balance of the allotment.

The Council may require allotments in this designation to be greater than 6,000m² where necessary due to physical or environmental features of the land concerned, such as flood plains, wetlands, water ways or habitat for fauna and flora.

Given the Preferred Dominant Land Use of Park Residential I consider it essential that any development should only be approved provided that:

1. Environmental values on the site are protected to the greatest extent possible.
2. There are no impacts on adjacent waterways especially Eprapah Creek, nor on any groundwaters beneath the site. This will include both the protection of water quality and preserving any overland or subsurface flows into any riparian zone as defined in Local Planning Policy Waterways, Wetlands and Coastal Zone.
3. Fauna habitat and corridors are preserved and where possible enhanced. It is highly desirable that a continuous patch of vegetation is maintained along the north-south axis of the site with the greatest width possible. Given the current adjacent residential development it is suggested that when edge effects are taken into account this may be best achieved by placing the proposed building sites on the east and west boundaries of the land with a preserved and enhanced continuous patch of vegetation through the middle of the site. It is also desirable that where possible patches of this vegetation extend continuously to the east and west boundaries to preserve the existing linkages.

It is understood that there may need to be internal roads and driveways crossing this central strip of vegetation. It is desirable that these are designed and maintained to ensure the lowest level of impact on fauna and flora. This may require exemption from design standards requiring standard curb and channel and relaxation of hard surface roadway widths. They should be designed to keep to lighting through the central patch to a minimum, and vehicle speeds low.

4. Clearing or the degradation of the existing native vegetation should be kept to a minimum, and it is recommended that non-native vegetation is removed and replaced with native vegetation that enhances the sites environmental values.
5. Lot sizes should be kept as large as possible. 10,000 m² is suggested as a minimum target size unless the applicant can demonstrate that all environmental issues have been fully addressed and environmental benefits will be achieved to off-set the higher lot yield.
6. Land to be cleared for building sites on any lots should be less than 2,000 m² in size positioned so as to minimise the amount of tree clearing and site earthworks modification required and required for on-site sewerage treatment and disposal areas. Development within these building sites should aim to minimise environmental impacts.
7. On-site sewerage treatment and disposal areas should be designed to avoid any off-site impacts (including via groundwater) and any adverse on-site impacts on vegetation.

8. Internal roads and driveways should be designed to avoid concentrated flows and to maximise infiltration close to where rainfall lands. This may require exemption from design standards requiring standard curb and channel and relaxation of hard surface roadway widths.

It is recommended that all stormwater flows should be disposed of through recycling and infiltration within the site and not piped or diverted by channel to Erapah Creek or other waterways crossing the site.

These issues will need to be dealt with initially through information supplied by the applicant. I suggest that that information will need to include (but not be limited to) the following:

1. Information on the environmental values of the site including flora and fauna assessments. Vegetation communities should be mapped including the location of all larger habitat trees (dead or alive), overland flow paths and associated any wetland areas. Fauna surveys should be undertaken with special attention to reptiles, birds and mammals. Flora and fauna searches of the relevant databases should be supplied and assessed.
2. Current surface and groundwater regimes should be investigated including the relationship to adjacent areas, especially Erapah Creek. These studies should provide an adequate understanding of conditions relative to the proposed development impacts.
3. Proposed lot sizes should be identified together with proposed approaches to protect and enhance environmental values on the land. Proposals to reduce lot sizes below 10,000 m² should clearly demonstrate the environmental benefits that will be achieved to off-set the higher lot yield.
4. Building sites and associated infrastructure including roads should be identified, and an assessment undertaken of the relationship with the proposed habitat corridor undertaken. Proposed measures to reduce environmental impacts within these building sites should be identified including but not limited to proposed vegetation strategies, approaches to pets, fencing and fire control.
5. The proposed approach to road and driveway design should be stated, together with a proposed mechanism for the development of those concepts with Council.
6. The proposed approach for stormwater and sewerage disposal should be documented, including relevant soil surveys and groundwater assessments. Soil; surveys should include an assessment of potential soil erosion and dispersion relevant to the proposed methods.

It is recommended that the applicant is encouraged to have ongoing contact with Council to clarify any aspects of this information request.

Please contact me if you require any further information.

Yours faithfully,

Simon McNeillage
McNeillage & Associates Pty Ltd

SUMMARY SHEET

Material Change of Use and Reconfiguration Of Lots 325-331 Boundary Road Thornlands QLD 4164 (MC9439 SB5105)

Application Type Proposed Use Property Description Location Land Area	Material Change of Use and Reconfiguration Of Lots (24 Park Residential Lots) Park Residential Lot 15 SP 118723 325-331 Boundary Road Thornlands QLD 4164 17.6437 ha
Superseded Strategic Plan Designation Superseded Greenspace Map Superseded Development Control Plan Superseded Zoning Zone No. of Public Submissions Applicant Land Owner Date of Receipt Start Decision Stage Statutory Decision Date Application Coordinator Manager	Park Residential Greenspace, Dominant Landscape and visual Values N/A Rural Non Urban Park Residential and Open Space 22 (Twenty Two) G W Clegg & Company Mr D R Walsh, Mrs S E Walsh 21 December 2005 3 November 2006 2 March 2007 Andrew Veres Allen Edwards

2002 Delegations

This category 2 application is referred to the Land Development Services Manager for decision in accordance with delegations dated 15 May 2002

Executive Summary

The Material Change of Use and Reconfiguration of a Lot application has been received and has been assessed against the requirements of the Transitional Planning Scheme and the Strategic Plan and it is recommended that the application be approved.

It is recommended that the proposal be given a Preliminary Approval to be negotiated by the Manager, Assessment Services in accordance with the issues raised in this report.

Right to Information Release

REPORT TO COUNCIL
Material Change of Use and Reconfiguration Of Lots
325-331 Boundary Road Thornlands QLD 4164
(MC9439 SB5105)

History/Background and Town Planning Issues

The application was lodged under what is now the superseded Planning Scheme. The Strategic Plan designation of the superseded Planning Scheme and zoning designation of the current Planning Scheme are very similar, as they both indicate Park Residential and Special Protection Area and/or Open Space accordingly.

Overlays

The following overlays affect the site under the current Town Plan, and have been taken into consideration. It should be pointed out, that these issues would have arisen in any case in the assessment of the application under the superseded Town Plan.

Acid Sulphate Soils
Flood Prone Storm Tide & Drainage
Bushland Habitat
State Koala Policy
Road and Rail Noise
Waterways and Wetlands
Bushfire Hazard

Existing Telecommunication Tower

The key issue in the assessment of this application are the environmental issues which affect the subject parcel, and it's importance with regards to habitat values and it's significance in maintaining a linkage between environmental areas. This is discussed in detail under **Environmental Issues** below.

Environmental Issues

The Greenspace Assessment provided by Cardno recognised the site has values in respect to matters of national environmental significance under the EPBC Act as following:

1. The site is situated within the catchment of a Ramsar wetland, namely Moreton Bay; and
2. The site provides habitat resources for the Grey-headed Flying-fox which is a listed threatened fauna species.

Although the report states the development would not:

- Lead to a long-term decrease in the size of population of a species, or
- Reduce the area of occupancy of population, or
- Fragment an existing population into two or more populations, or
- Disrupt the breeding cycle of population

The report did not provide any proof to support these findings.

The Greenspace Assessment also recognised the site possesses values recognised by the Nature Conservation Act 1992 and Regulation. The following wildlife species were recognised by Cardno as having high to moderate probability of occurring on the site:

Vulnerable

Koala (*Phascolarctos cinereus*)
Wallum froglet (*Crinia tinnula*)
Glossy black cockatoo (*Calyptorhynchus lathami*)

Rare

Grey goshawk (*Accipiter cirrhocephalus*)
Lewin's rail (*Rallus pectoralis*)

Council's records indicate the Glossy Black Cockatoo (Black Cockatoo photos available), and Koala regularly feed, water and inhabit this particular property along with many other wildlife species. Residents of the area also state that the Grey-headed flying-fox & Grey Goshawk are known to inhabit the general area.

The report listed two significant weed species present on the site as follows: Lantana (*Lantana camara*), Asparagus fern (*Asparagus aethiopicus*) along with a number of other weed species. Council officers inspected the site observing over 20 species of Declared and Environmental weeds on site.

Cardno's report advised when dealing with land use planning issues, governments should have regard to the occurrence of significant species and the management requirements needed to conserve existing populations. The report indicated the area of greatest environmental value within the site is the proposed parkland area. Although this area has high environmental significance there are also other areas within the site that could be used as a functional ecological corridor and therefore, should be rehabilitated and conserved.

Cardno's report recommended fauna friendly fencing is used throughout the site and dogs are restricted to the Building Envelopes within a fauna-proof fence to protect koalas from entering and dogs from escaping into the covenant areas. Council supports this recommendation and has conditioned this requirement as part of the decision notice.

The site has a total area of approximately 176347 square meters running from Boundary Road in the North down to Erapah Creek in the South. The highest point on the property is approximately 300m from Boundary Road. The Northern quarter of the property falls towards Boundary Road, with the next quarter falling towards Thornton Road and the Southern half of the property falling towards Erapah Creek. A large portion of the parkland is below the Q100.

The property contains the following vegetation communities, Scribbly gum (*Eucalyptus racemosa*) open woodland with an understorey of Black She-oak (*Allocasuarina littoralis*) and Banksia (*Banksia integrifolia*) which is across the majority of the site, a degraded area dominated by Slash pine (*Pinus elliottii*) in the Northern area of the site which also encompasses a small area of Broad-leaved paperbark (*Melaleuca quinquenervia*) woodland, and an environmentally significant area of riparian

vegetation dominated by Broad-leaved paperbark (*Melaleuca quinquenervia*) along the creek line to the South of the property.

The majority of the site is heavily wooded and is known to contain a number of significant flora and fauna species and likely to contain others, some of which are listed as vulnerable species under the EPBC Act 1999 (grey-headed flying-fox) and others listed as vulnerable or rare species under the Nature Conservation Act 1992 (koala, lewin's rail, glossy black cockatoo, grey goshawk, wallum froglet). The removal of vegetation on this property could potentially reduce the habitat area for some of these important populations.

The site has more than 20 species of declared and environmental weeds. These weed infested areas will require sensitive weed removal and rehabilitation with native species selected from the vegetation association for the area (Scribbly Gum – Open Forest). The main infestation is a large area of exotic pines located at the Northern (Boundary Road) end of the property. The area takes in approx 700 square metres. All exotic pines will be required to be removed from the site and these areas significantly rehabilitated with native species.

The dam wall between the two dams on Lot 324 at the North West corner of the larger property has broken away and has significant scouring. The dam wall requires rehabilitation and replanting to stabilise the dam wall. An alternative overflow path/bywash is to be constructed to allow water to overflow into the lower dam without causing any further impacts between the dam walls. Because of the low permeability of the soil and the need to stabilise the dam wall it would be recommended that a bywash be constructed at the Southern end of the dams incorporating rock pitching at the outfall from any pipework. There is also an amount of waste (concrete, rubble, etc) that has been dumped around both dams on proposed Lot 324. This waste is to be sensitively removed from the site and the dam rehabilitated, including revegetation where necessary to bring the dams to a more natural state.

The proposed extension of Luke St has been proposed partially within the Koala Conservation Area listed by the State Government under the SEQ Regional Plan, Interim Guideline: Koalas and Development. The position of the road will need to be relocated outside this area and calming devices installed to slow traffic coming from either side of Luke St.

The applicant's Initial Site and Soil Evaluation & Nutrient Impact Assessment for On-Site Sewerage Facilities recommended a secondary effluent treatment system be installed on all proposed allotments because of the low permeability of the soil on site. Council supports this recommendation and will condition this requirement within the decision notice.

The proposed layout with its road and building envelopes arrangement fragments the site significantly introducing edge effects from roads, building envelope and access for driveways and services. The road layout in the central sector of the site degrades the environmental values by splitting the habitat areas and potential environmental corridor. The building envelopes indicated on the proposed plan do not allow for through corridors running from the North at Boundary Road to the parkland in the South and severely fragment the habitat values of the site. There is currently a fauna underpass being constructed approximately 160m from this property it is recommended that the best possible corridor be created on this site to allow wildlife movement from the fauna underpass through to Erapah Creek. The width of the corridor could be increased by amending the location of some of the building envelopes in the southern section of the site whilst taking into account any significant vegetation on site. Similarly the layout of lots and building envelopes in the central and northern section of the site would need to be revised to optimise the habitat and corridor values.

The applicant's report prepared by Civil Quality Assurance (Qld) Pty Ltd, (Erosion Hazard Assessment & ESC Program For Boundary Rd, Thornlands) indicated the pH of on-site topsoil is strongly acidic and recommended that initial sections of re-vegetative cover be continually monitored in order to identify potential growth deficiencies.

Open Space Issues



- The proposed area of land dedicated for park will be primarily serving a conservation function, with the potential for some passive recreation. The applicant will be required to conduct removal of weed species as well as restoration and revegetation of areas affected by road construction, stormwater treatment and other construction activities associated with the development. Drainage paths, steep banks and grades will also require revegetation.

Engineering Issues

Consultation

Twenty Two (22) submissions were made in relation to the proposal, all received in letter format. Accompanying one of the submissions is a petition opposing the proposed development. The main issues outlined in the submissions are summarised below.

The grounds of objection can be summarised under the following headings:-

1. Environmental Issues

1. Objectors had concerns in relation to the loss of wildlife habitat and the reduction of wildlife population numbers as a result of the proposed development. There are large populations of significant wildlife known to inhabit this property. The following species are well known to this area:

Numerous Bird species including but not limited to:

Glossy Black Cockatoos, *Calyptorhynchus lathami*

Southern Boobook Owls, *Ninox novaeseelandiae*

Grey Goshawk, *Accipiter novaehollandiae*

Bush Stone Curlew, *Burhinus grallarius*

Kookaburras, *Dacelo novaeguineae*

Spangled Drongos, *Dicrurus bracteatus*

Red Backed Fairy-Wren, *Malurus melanocephalus*

Common Koel, *Eudynamys scolopacea*

Numerous others listed under the Environmental Inventory CMA - GP6331;

Koalas, *Phascolarctos cinereus*
Swamp Wallabies, *Wallabia bicolor*
Red Neck Wallabies, *Macropus rufogriseus*
Whiptail Wallabies, *Macropus parryi*
Gliders
Bandicoots
Possums
Dunnarts
Goannas/Lace monitors
Echidnas
Snakes
Lizards & water dragons

Butterflies
Moths
Frogs
Spiders
Bugs
Beetles
Fish and other aquatic life

Officer's response:- Council has proposed the relocation of building envelopes to allow for a adequate wildlife corridor (approximately 100m wide) that is not fragmented and allows for the movement of all animals listed above to ensure viable populations can continue to inhabit these areas. The recent installation of fauna underpasses (partially completed) on Boundary Road will also assist in the movement of wildlife from the Northern side of Boundary Road through the development to Eprapah Creek. Fauna friendly fencing has been conditioned to assist in wildlife movement.

2. Objection to the proposed extension of Luke Street which is suspected to result in an increase of traffic through the area, particularly Venn Pde which is a wider road with no traffic calming opposed to Thornton Dr which has a number of traffic calming devices throughout the area. Concerns that this extension of the road will cause a major break in the current wildlife corridor running North/South and a significant hazard to wildlife both in this area and through Venn Pde.

Officer's response:- Luke St is required to be incorporated into the development as an emergency access. Council will be conditioning a significant speed control device within the extension of Luke St which will in turn create a safer fauna crossing area. The applicant has been requested to investigate the possibility of traffic calming devices to be located in Venn Pde.

3. Objection to the proposed extension of Luke St being located within the Koala Conservation Area listed by the State Government under the SEQ Regional Plan, Interim Guideline: Koalas and Development.

Officer's response:- Council has proposed the road be relocated Northwards outside the Koala Conservation Area to preserve as much koala habitat as possible. Proposed building envelope locations have taken into consideration the retention of koala habitat trees and further planting of these species will be conditioned in an approval.

4. Objection that the strategic value of the land as a wildlife corridor has not been properly addressed. The land is designated as a Major Link in the Redland Shire Council Environmental inventory.

Officer's response:- The proposed development will reduce wildlife linkages due to the potential loss of habitat. However, some effort has been made to reduce these impacts and some areas will be conditioned to be replanted towards the North of the property to increase possible linkages in this area. It would be impossible to achieve both development of the site as proposed and keep the current linkages, due to the installation of the proposed roads, building envelopes, and number of lots proposed. One option to reduce the impacts would be to increase the size of the lots lessening the

building envelope areas, driveways, edge effects, number of lots, etc. Another option that has been discussed with the applicant was an alternative layout with building envelopes located towards the front of Megan Place, Megan Place extended to meet up with Anisila St which could effectively create a 100m wildlife corridor adjacent to the properties at the east of the site. Ideally, wildlife corridors are required to be at least 100m wide to create a viable link.

5. The subject land contains mapped non-remnant vegetation.

Officer's response:- The non-remnant vegetation which is located along the creek line to the South of the property will be protected as parkland and all areas outside the building envelopes will be protected by a covenant on title.

6. The proposal conflicts with the Planning Scheme Policy 4 – Ecological Impacts

Officer's response:- While the new planning Scheme carries some weight in relation to the proposed development. This application is being assessed under the Transitional Planning Scheme. Therefore, this application has not been specifically assessed against Planning Scheme Policy 4 – Ecological Impacts.

7. Objection to the removal of Koala Habitat.

Officer's response:- There will be minimal Koala Habitat removed as a result of the development. All vegetation outside the building envelopes will be protected by a covenant on title and revegetated areas will involve compensatory planting in the form of Koala Habitat.

8. Objection to the fact that the Greenspace Report does not mention the significant koala food trees *Eucalyptus seeana* which are known to be common on the site, nor does it confirm the fact that glossy black cockatoos regularly feed and water at the site, refer to BAAM – Glossy Black Conservancy report. No spotter catcher mentioned to be present on site for the proposed removal of trees, other than for the removal of koala trees.

Officer's response:- The Greenspace Report did not mention the presence of *Eucalyptus seeana* on the site. An inspection of the site identified numerous koala habitat trees be present on the site. The Greenspace Report identified the site represents potential nesting and foraging resources for the Glossy black cockatoo, (*Calyptorhynchus lathamii*). The assessor was made aware the site was regularly inhabited by this species, he was referred to photos identifying the existence of the species on site. Internal Council reports also verify the existence of these species on sit. A spotter catcher has been conditioned to be present during the removal of any vegetation on the site.

9. A one day fauna survey cannot give an accurate account of the actual fauna inhabiting the site.

Officer's response:- Council is aware the survey was conducted over one day with further information being collected via desktop and other sources. Council has conducted on site inspections and gathered further information including photographic evidence of black cockatoos and other important fauna species inhabiting the site. Consideration has also been given to the comments listed within the objections.

10. Stormwater is likely to cause further degradation to the creek.

Officer's response:- Stormwater management has been dealt with via the introduction of swales, bio-retention swales and natural filtration processes. Council has conditioned rehabilitation of drainage areas within the parkland to reduce degradation to the creek.

11. It is an over development of the site.

Officer's response:- The Strategic Plan 1998 indicates Park Residential Zoning allows for allotments of around 6000 square meters and above with a 2000 square meter building envelope. However, the Plan indicates Council may require allotments in this designation to be greater than 6000 square meters where necessary due to physical or environmental features of the land concerned such as habitat for fauna & flora. The maximum size for this zoning is 10,000 square meters. This property has significant environmental values. Environmental impacts could be reduced by incorporating allotments that are of a greater size or consideration given to an alternative allotment layout which has been discussed with the applicants.

12. Traffic Issues:-





Conclusion

The Applicant is seeking to establish a Park Residential use on part of the subject land. This site contains superseded Strategic Plan designations which indicate a Park Residential use and a Special Protection Area corridor between the extension of Luke St and Erapah Creek.

This coincides with the current Planning Scheme which contains zoning designations for Park Residential use and an Open Space corridor between the extension of Luke St and Erapah Creek.

The environmental values of this property are significant from shire and local perspectives. The proposed allotment layout currently does not meet adequately the requirements of the town planning schemes. Many environmental issues are required to be resolved before a development permit can be issued. In proposing a Preliminary Approval, Council wishes to negotiate with the applicant to resolve the issues raised within the report and to ensure an environmentally sensitive development occurs on this site.

The Applicant has not fully addressed issues identified in the superseded and current Town Planning Schemes and it is considered appropriate to issue a Preliminary Approval.

Officers' Recommendation

That a Preliminary Approval be granted for the proposed Material Change of Use for a Residential use and Reconfiguration of Lots, on the land described as Lot 15 on SP118723, 325-331 Boundary Road Thornlands. The applicant shall be required to provide and/or address the following in order to obtain a Development Permit:

- A revised layout complying with:-

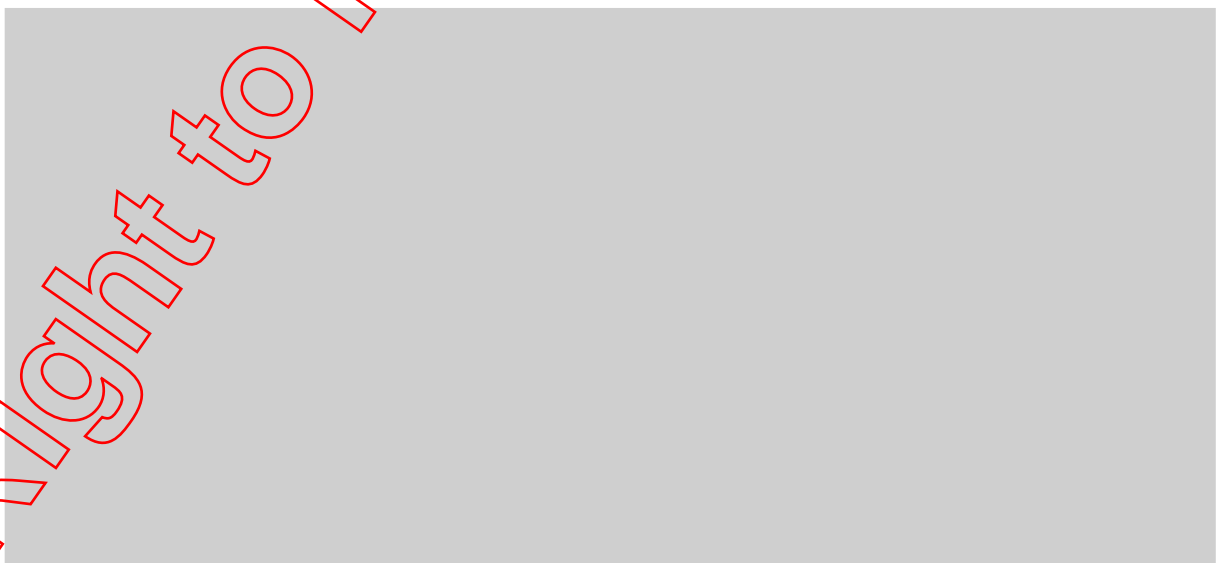


- The proposed area of land dedicated for park will be primarily serving a conservation function, with the potential for some passive recreation. The applicant will be required to conduct removal of weed species as well as restoration and revegetation of areas affected by this process and the following: road construction, stormwater treatment and other construction activities associated with the development. Drainage paths, steep banks and grades will also require revegetation.

- Given that the function of the proposed park will be for conservation purposes and given that there is a shortfall in the land dedicated for parks purposes, the applicant is required to provide a park for public recreation activities to meet the balance. The nearest local park is located more than 800 metres walking distance from the central point of the proposed development.

The optimal location for such a park would be at the northern end of the development site, which would serve also to enhance the habitat corridor and linkage to the nearby fauna underpass under construction beneath Boundary Rd.

- Luke Street alignment to be relocated in respect to the State Koala Conservation Area.
- Increase the allotment sizes or amend the allotment layout to reduce environmental impacts on the site i.e. loss of vegetation, habitat destruction, fragmentation of the habitat values and reduced fauna corridor width.
- The relocation of building envelopes to allow for an increased uninterrupted corridor width taking into consideration the vegetation on site and the recent installation of fauna underpasses (partially completed and located approximately 160m from the site) on Boundary Rd assisting in the movement of wildlife from the Northern side of Boundary Rd through the development to Eprapah Creek.





Conditions

The following conditions are recommended to be included in the approval.

1.0 DESIGN OF LAYOUT



- 1.5 A minimum two (2) metre strip of land of such dedication in the form of an allotment shall be created along the entire frontage of Boundary Road, for screen planting purposes and shall be transferred free of cost to the State. Buffer treatment shall be in accordance with Council's Transitional Planning Scheme policy 'Impacts of Transportation Systems on Urban Amenity'.
- 1.6 The layout shall be amended to provide 1m wide by 5m deep tapers in the property boundaries at the access locations to all internal allotments.
- 1.7 All building envelopes must be located further than 200m from the telecommunications tower on Boundary Road.

2.0 GENERAL



3.0 ENVIRONMENTAL REQUIREMENTS

3.1 General Environmental Management Requirements

Plans submitted to Council for the operational works and on-maintenance phases must demonstrate that all environmental management issues have been addressed and designs completed to incorporate the conditions of this approval.

3.1.1. Environmental Management Plan

Before Council is required to issue a development permit for operational works, the applicant must submit and receive approval for an Environmental Management Plan (EMP). The EMP must contain the following elements:

1. General Introduction
 - 1.1. Structure and Process
 - 1.1.1. Management structure and responsibility
 - 1.1.2. Construction phase
 - 1.1.3. Operational phase
 - 1.1.4. Non-conformance procedure
 - 1.1.5. External complaint management
 - 1.1.6. Personnel training
 - 1.2. Monitoring and Reporting (construction, on-maintenance, operational phase)
 - 1.3. Review and Upgrade (construction, on-maintenance, operational phase)
 - 1.4. Site description and operation
2. Vegetation Management Plan (construction, post-construction phase)
3. Fauna Management Plan (prior to commencement of works, construction phase)
4. Water Quality Management Plan
 - 4.1. Stormwater Quality Management Plan (post-construction phase)
 - 4.2. Erosion and Sediment Control Plan (construction phase)
5. Air Quality Management Plan (construction phase)
6. Noise Management Plan (construction phase)
7. Waste Management Plan (construction phase)
8. Storage and Containment of Hazardous Materials (construction phase)
9. Contaminated Land Management (construction phase)

Section 1 must form the core of the EMP, with emphasis on specifying roles and responsibilities, and compliance, monitoring and reporting procedures. The remaining sections may be addressed by new or existing stand-alone documents, brief descriptions of intended actions, and by operational works drawings, provided these are referenced in the basic EMP. The EMP is not intended to be a complex document. The EMP should make clear which entities have ultimate responsibility for specific tasks, and who is responsible for remedying errors, accidents and unforeseen problems.

3.1.2 Vegetation Management Plan (VMP)

Vegetation Management Plan (VMP), including both graphical and textual information, shall be prepared by a suitable qualified person in consultation with Council's Environmental Assessment Team. The covenant area will become primarily a conservation area allowing for the movement of native fauna with incorporation of passive recreation facilities. Each lot must be rehabilitated so that all areas outside the designated building area form natural bushland vegetation. This should be reflected in the VMP and all detailed landscape designs. The VMP must address the on going management of the covenant areas.

The VMP shall be forwarded and approved in writing prior to Council being required to determine an application for operational works.

The VMP must address the retention of vegetation in building allotments and road reserves. The retention of vegetation must be maximised in all areas.

The VMP must address the covenant areas on all proposed lots. The regeneration of the covenant areas of Park Residential allotments must ensure that the covenant areas of each allotment has natural bushland similar to the area's vegetation association described in Redland Shire Council's Vegetation Enhancement Strategy, locally endemic wetland species, observations on site or as otherwise approved.

This work is to be carried out in accordance with details indicated on the approved VMP prior to site construction works being accepted "On-maintenance".

The following details are to be submitted within the VMP:

- A statement of objectives, a description of management strategies, potential impacts, actions/controls, maintenance, monitoring, performance indicators, corrective actions and reporting
- A survey accurate plot of all trees within a distance of one and a half tree height from any proposed construction work.
- Plant densities must reflect the requirement of the application to ensure site stability and maximum regeneration rates. A density of 1 plant per square metre for natural area rehabilitation and 5 plants per square metre for water courses and constructed stormwater treatment facilities being a minimum guide.
- Planting schedules and timing, including any staging program
- Details of fertiliser and chemical use
- Weed management is to be addressed in terms of declared plants and environmental weeds as defined in the *RSC Pest Management Plan* and *Vegetation Enhancement Strategy*. The VMP is to outline the extent, location and methods of eradication.
- The VMP must be authorised by the applicant's hydraulic consultant to ensure stormwater overland flow paths and areas required for the treatment of stormwater are not affected in an inappropriate manner.
- The VMP must specifically address the minimisation of impacts of the proposed stormwater treatment facilities. Impacts caused by design and construction of these facilities on existing natural vegetation must be addressed and rehabilitation of the areas detailed.
- Details of vegetation management to achieve the fire management strategy
- A maintenance program for the on-maintenance period including Civil Quality Assurance (Qld) Pty Ltd's recommendation that initial sections of re-vegetative cover be continually monitored in order to identify potential growth deficiencies due to the Ph of the topsoil.

Dam treatment

The VMP shall provide details of the role and treatment of the dams to be retained on the land to be used for conservation purposes.

If any construction in the vicinity of the dams is required, a degree of dewatering may be required prior to the commencement of works. Prior to dewatering of any dam by greater than

50%, Council's fauna officers shall be contacted and advised of the day the dam is to be dewatered. The dam shall then be reinstated in accordance with the provisions set out in the VMP and approved Operational Works instructions.

3.1.3 Fauna Management

At the operational works stage, and at least 14 days before commencement of any vegetation removal, dewatering or earthworks (including filling of a dam) the developer must appoint an accredited wildlife spotter/s to examine the site for wildlife habitat, and to supervise clearing operations.

Wildlife habitat includes trees whether living or dead, other living vegetation, piles of discarded vegetation, boulders, disturbed ground surfaces and aquatic feature such as dams and water courses.

Prior to the pre-start meeting, the spotter/s should provide Council with a plan indicating the broad range of fauna expected on the site, the proposed method of operation, and any expected constraints.

During clearing operations, the clearing contractor must:

- liaise with the on-site spotter/s; and
- ensure that each tree or other feature identified by the spotter/s as being a risk to wildlife if felled, disturbed or dewatered, is not damaged or disturbed until the spotter/s advises that it is appropriate to do so.

Before commencement of and during clearing operations, it is the responsibility of the spotter/s to:

- be present at the site of clearing, dewatering, and other operations;
- identify any tree or feature with wildlife present as well as any tree that has a crown which is intermeshed or overlapping with such a tree;
- advise the contractor of the precise location of each such tree or other feature.

Accredited spotters are persons or a company holding a current Rehabilitation Permit issued by the Environmental Protection Agency under Section 275(d) of the *Nature Conservation Regulation 1994*.

Before seeking a pre-start meeting at the operational works stage, the applicant must provide a complete copy of the accredited spotter's Rehabilitation Permit. Operational works will not be permitted to commence until Council has sighted this permit. The spotter should attend the pre-start meeting, if available.

If the applicant cannot locate persons or companies holding Rehabilitation Permits, advice should be sought from Queensland Parks and Wildlife Service at Daisy Hill (ph: 3299 1032).

Should any orphaned or injured native fauna be discovered at a later stage during operational works, the matter shall be immediately reported to the Central Moreton District Officer of the Queensland Parks and Wildlife Service on 3202 0200.

3.1.4 Water Quality Management Plan



Right to Information Release



3.2 Development Areas and Covenant Areas

3.2.1 Designation of Development Areas and Covenant Areas

- a) Development is permitted within a maximum 2000 square metre development area on each of proposed Lots 301 to 324.
- b) Development exclusion areas (to be termed "covenant areas") are to be designated for proposed allotments 301 to 324. After site inspection and approval of the designated covenant areas by Environmental Assessment, the areas are to be surveyed and pegged on-site, prior to plan sealing.
- c) Before Council is required to accept the development as On-Maintenance, the applicant shall complete all vegetation enhancement and regeneration requirements of this Decision Notice.
- d) The applicant shall register a covenant with the Department of Natural Resources and Mines for each of the proposed lots affected. The covenant shall relate to the equitable maintenance of the driveway and landscaping within the proposed easement. The covenant is to regulate the conservation of the physical and natural features of the area within the designated covenant area of proposed Lots 301 to 324. The covenant is binding on the covenantor and the covenantor's successors in title. The covenant shall indicate all conditions contained in Section 3.2 of this approval and shall be approved by Council before Council is required to sign a Plan of Survey. The covenant is to be registered with the Plan of Survey which must define the location of the development area on the plan.
- e) Copies of the approved covenant and plan of survey are to be lodged with Council for retention on the Reconfiguration of Allotment file and the Property file for each new allotment.
- f) All buildings and other improvements (including child/animal-proof fences, sheds, tennis courts, pools, outdoor entertainment features such as barbecues and gazebos, effluent disposal areas, domestic gardens, planting and maintenance of lawns (defined as non-native grasses), cut and fill batters, retaining walls), shall be located entirely within the approved development envelope and not within the designated covenant area. One access driveway only and services (water, electricity and telecommunications lines) may be located within the covenant area, and should be co-located where possible.
- g) Use of the land within the designated covenant area is to be of a passive recreational nature (for example, walking, bird watching) and is to have minimal impact on vegetation and the natural environment. Passive recreational use does not include access by domestic animals or livestock, exercising of domestic animals, the use of wheeled or tracked vehicles including bicycles and motorcycles, constructed walking or cycling tracks, construction and use of barbecues, fireplaces and other recreational structures, construction and use of tennis courts, play equipment, pools, and similar facilities.
- h) All native vegetation within the covenant areas is protected. The definition of native vegetation includes native vegetation whether living, dead or fallen in-situ. To remove any doubt, Council will not favourably consider removal of vegetation within the covenant areas

even if a dwelling or other structure is subsequently erected within the usual 10 metre / 3 metre exemption distance provided for under Local Law 6 (Protection of Vegetation). Vegetation within the covenant area must be maintained as specified in the approved Vegetation Management Plan.

- i) The natural land surface, fauna habitat, vegetation, and any watercourses within the covenant areas are protected. Council will not favourably consider removal or alteration to these for aesthetic or perceived safety reasons.

3.2.2 Covenant Area Amendments

- a) Any proposal to amend the location, orientation or shape of a designated covenant area shall require separate application and approval. Any application to amend must demonstrate that increases in the area of the approved development envelope, further loss of fauna habitat or native vegetation, or interference with natural drainage paths or stormwater quality will not occur. Landowners shall be responsible for showing any proposed amendments on a plan of survey, for re-pegging the amended location on site, and for legal preparation and registration of an amended covenant document with the Department of Natural Resources and Mines.
- b) No amendment shall be allowed that reconfigures the approved development envelope into smaller groups, or alters the shape from a regular, contiguous shape.
- c) No amendment shall be permitted after clearing of an approved development envelope has occurred.
- d) Any application for amendment shall be submitted to Council a minimum of ten (10) working days prior to intended commencement of vegetation clearing or earthworks for construction purposes.

The applicant shall ensure that a copy of Sections 3.2.1, 3.2.2, 3.4, 3.5, 3.6, 3.7, 3.10 and 3.11 of this Decision Notice is given to any subsequent purchaser of Lots 301 to 324, and to any agent engaged to sell Lots 301 to 324 on the applicant's behalf.

3.3 Vegetation Clearing

All Hollow bearing stags located on site are to be protected and not disturbed during development. Any vegetation removal from the site shall be permitted only within the designated development area and where necessitated by the construction of road works, services and one only access to the designated building envelope. Prior to any such clearing occurring, those trees to be removed are to be tagged and approved by the Manager, Assessment Services to ensure minimal disturbance to the existing native vegetation.

3.4 Fauna Management

3.4.1 Fauna Friendly Fencing

Any existing or proposed fencing erected along allotment boundaries shall not impede fauna movement and is to be in compliance with the appropriate design options contained in Council's Fauna Friendly Fencing brochure. In this instance, if a fence is required, due to the types of fauna inhabiting the area, design option 1. is to be utilised.

3.4.2 Fauna Proof Fencing

All designated development areas will be required to provide fauna proof fencing if the property houses domestic animals that could prove a hazard to wildlife, including but not limited to dogs and cats. All domestic animals are to be retained within the perimeters of the development area and restrained during night time hours (dusk to dawn).

3.5 Sewage Disposal





3.6 Driveway Access

Roadworks, services and driveways are to be co-located where practicable to minimise loss or disturbance to native vegetation. The design of the access should incorporate minimal disturbance to any large and/or significant vegetation.

3.7 Vegetation Protection

All vegetation outside of the proposed building envelopes is 'protected vegetation' for the purposes of *Division 4, Section 25* of Council's *Local Law No. 6 – Protection of Vegetation*.

The site's significant vegetation is defined in the *Local Law No. 6 - Protection of Vegetation, Part 1, Section 3, as – [h, i, l, m, p and r]*. This vegetation is to be protected, maintained and enhanced as per the approved Vegetation Management Plan and the approved vegetation clearing provisions.

3.8 Tree Protection Zones

All vegetation outside the designated development area and in the adjacent road reserves is to be clearly tagged and is to be retained. Fenced Tree Protection Zones (TPZ) are to be established prior to operational works approval for the commencement of any clearing of vegetation and construction activities. Those trees to be retained and their TPZ including suitable fencing and signage is to be approved by the Manager, Assessment Services to ensure that long term protection is provided.

3.9 Revegetation

Replanting in cleared areas is to be determined in association with the submission of the Vegetation Management Plan (Refer to Condition 3.1.2). Revegetation outside the proposed designated development area shall include native species representative of the vegetation associations for the area, which in this case is Scribbly Gum – Open Forest. All areas outside the designated development area are to be vegetated to achieve a bushland setting. Plants are to include canopy, mid-storey, understorey and groundcover plants.

3.10 Fire Management



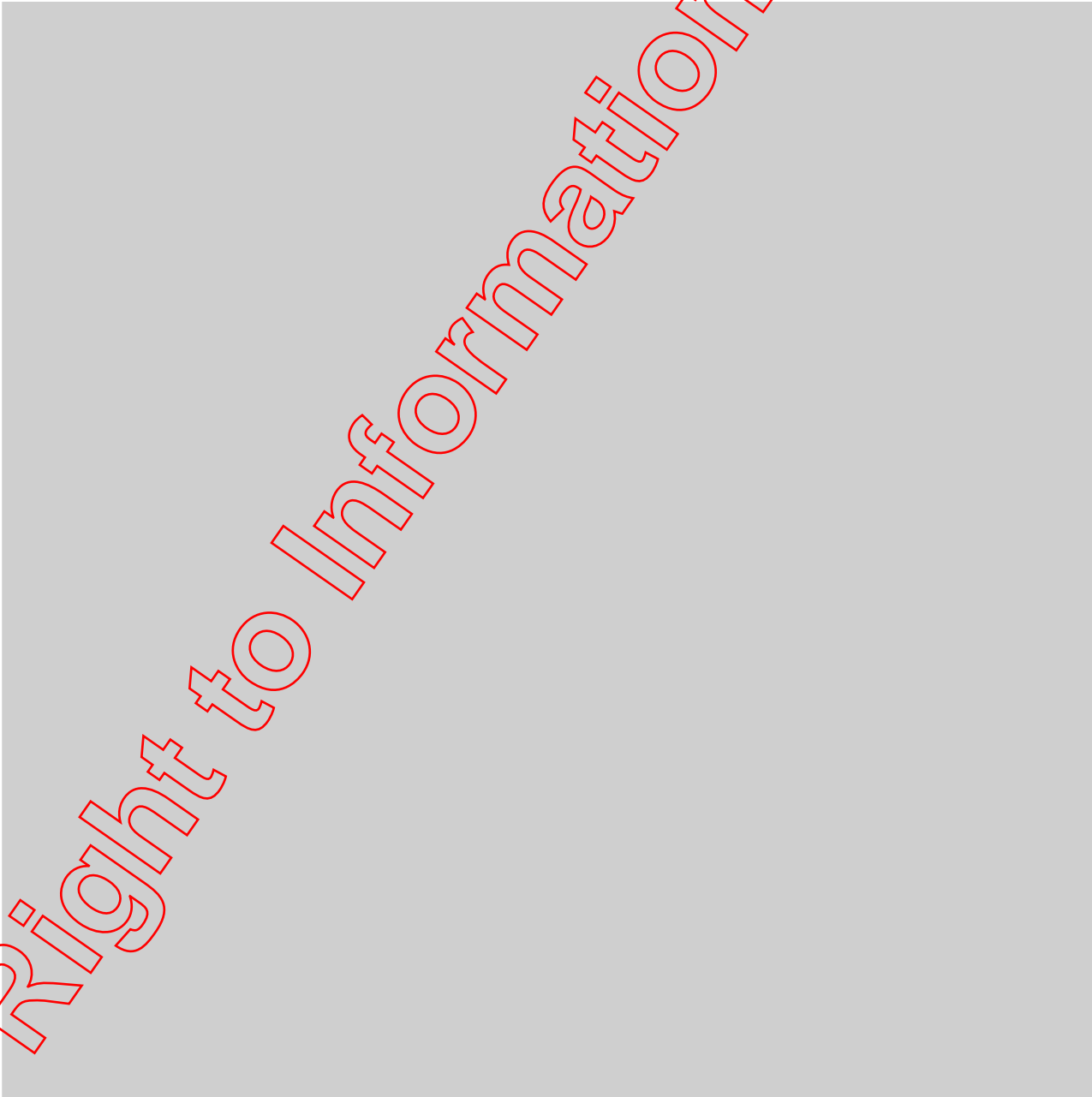
5.0 **PARKS and RECREATION REQUIREMENTS**

The applicant will have a landscape plan prepared by a Landscape Architect, who is a member of AILA, or suitably qualified person to the satisfaction of the Manager Assessment Services and will carry out the works in accordance with details indicated on the approved landscape plan and associated conditions. The landscape plan will reflect the requirements of the VMP as specified in Clause 3.1.2. and will be authorised by the applicants' hydraulic consultant to ensure stormwater overland flow paths are not affected. There will be no amendments to the approval without the written consent of Manager, Assessment Services. The landscape plan will be submitted to Council as part of the Operational Works application and will also include the following information:

- a) Details of proposed road treatment works in the form of cross sections for the road construction works adjacent to the park areas;
- b) Details of proposed landscape planting / revegetation works for the park area using locally native species as identified in Council's Vegetation Enhancement Strategy;
- c) Details of all areas to be graded, levelled and grass seeded or turfed. If area is turfed then this must come from a fireweed (*Senecio madagascariensis*) free area;
- d) Full details of all monitoring and maintenance works to be carried out for the twelve month maintenance period including, but not limited to: weed management, pest management, mowing, rubbish removal, mulch replenishment as required, restaking and retying as required, pruning works and replacement planting of all dead plant material;
- e) Details of log bollard fencing to be installed to that part of the park where abutting road reserves. Removable/lockable bollards must also be provided at all suitable access points. All bollard installation will be in accordance with Council's standard installation details.
- f) Provision of kerb crossover adjacent to the location of lockable bollards;

- g) Details of all proposed treatments (including planting) to the buffer / drainage corridor;
- h) Details of location and construction details of all proposed retaining walls, fences, entry statement walls and all other hard landscape features;
- i) Provision of a concrete shared pedestrian/bike path to a width as required by Redland Shire Council pedestrian / cyclist strategy;
- j) Details and provision of an extruded concrete hard edge to all planted/revegetated areas which adjoin turfed / grass seeded areas;
- k) Provision of a 3m turfed fire break to all residential properties abutting land dedicated for 'parkland';
- l) All declared, noxious and environmental weeds such as, but not limited to Groundsel, Lantana, Green Cestrum, Ochna, Easter Cassia, Pepper Tree and Camphor Laurel shall be removed as directed on site.

6.0 **ENGINEERING REQUIREMENTS**





Access

6.14 The applicant shall construct a concrete driveway min. 2.5 metres wide along the full length of the rear allotment access strip to serve proposed Lots Lots 304/305, 308/309 and 322/Existing Lot 1 on RP149109 including a minimum 2.5 metre wide concrete vehicular footway crossover (including appropriate swale crossings as required), in accordance with Council's Standards.

Additionally, suitable length and width vehicle passing bays are to be provided at appropriate locations along the access strips.

The proposed works are to include provision of all service conduits and mains along the access strips as required for connection of a future dwelling on the rear lots.

All works are to be detailed in an Operational Works application and lodged with Council for approval

- 6.15 Provide easements over proposed Lots 304/305 and 308/309 and 322 for the purposes of reciprocal access and services.

Water Supply



7.0 **CONTRIBUTIONS**

7.1 Water Supply Headworks

7.5 Public Open Space Contribution

In substitution of the full land dedication as per Council's policy "Parks and Recreation Contributions" not being met, the applicant will provide the balance as park elsewhere in the development site or as a pro-rata contribution based upon an agreed land value for fair, average, serviced residential land within the subdivision. This shall be provided prior to plan sealing.

Street Tree Contribution

Where the developer contributes to Street Tree planting

- a) The developer will prepare a landscape / street tree planting plan in accordance with the Street Tree Masterplan, Council's street tree planting guidelines and the Vegetation Enhancement Strategy for Council to approve at the operational works stage of development;
- b) The developer shall contribute towards street tree planting in accordance with Council's Street Tree Planting Policy at the rate applicable at the time of payment for each tree approved for planting. Contributions will be made prior to Council being required to sign a plan of survey. (Current rate 2006/2007: \$125 per tree up to 25lt bag size and \$350 per tree 45lt – 100lt);
- c) Contributions will be used to implement the Street Tree Planting Program within the development unless constrained by the site in which case planting will occur in the nearest suitable location;

Where the developer undertakes to plant Street Trees

- a) The developer will have a landscape / street tree planting plan prepared in accordance with the Street Tree Masterplan, Council's street tree planting guidelines and Vegetation Enhancement Strategy. This plan shall be submitted with the engineering operational works application;
- b) Council may specify the stock size for certain species to maximise establishment rates eg 200mm for Eucalyptus species;

- c) Street tree planting will be completed prior to acceptance of subdivision works 'on maintenance' in accordance with the approved street tree planting plan;
- d) Prior to Council being required to sign a plan of survey the developer shall pay a security bond for the street tree maintenance period of 12 months in accordance with section 4.1 of Council's Security Bonding Policy. This bond is refundable at the end of the maintenance period if the trees meet Council specifications set out in the Street Tree Masterplan;
- e) The bond is 20% of the cost to source, plant and maintain the whole approved street tree planting. The cost to source, plant and maintain different size street trees will be at the council rate at the time of payment (current rate 2006/2007: \$125 per tree up to 25lt and \$350 per tree for 45 lt to 100lt container size);

N.B Semi advanced and advanced tree stock is to be well structured with single and strong central trunks and a dominant apical growth. Tree stock that is root bound or has poor root structure will not be used in any street tree plantings.

8.0 REQUIREMENTS OF STATE AGENCIES

8.1 Department of Main Roads (Concurrence)

The development must be carried out in accordance with the Department of Main Roads Conditions of Development for the subject Application:

See attached letter from Department of Main Roads, dated **26/10/2006**.

9.0 OTHER REQUIREMENTS

- 9.1 Application for operational works associated with this development is required. Those operational works, in the first instance in the form of engineering designs, open space treatment and landscaping designs, will be reviewed in accordance with relevant codes including Council's Design Standards for Developments.

10.0 ADVISORY

10.1 Period of Approval

This Preliminary Approval for a Material Change of Use and Standard Format Reconfiguration shall remain current in accordance with sections 3.5.21 of the Integrated Planning Act 1997.

10.2 Services Installation

Where installation of services will impact on the location of existing vegetation identified for retention, an arborist that is a member of the Australian Arborist Association shall be commissioned on site to supervise these works.

10.3 Cultural Heritage

Should any aboriginal, archaeological or historic sites, items or places be identified, located or exposed during the course or construction or operation of the development, all activities shall cease. For indigenous cultural heritage contact the Department of Natural Resources, Mines and Energy (Telephone 07 3406 2309). For other heritage issues contact the Senior Cultural Heritage Officer (pH. 07 3225 1074) of the Environmental Protection Agency. The above information and contact numbers are to be noted on the engineering drawings as part of the requirements of an Environmental Management Plan.

10.4 Fire Ants

Areas within Redland Shire have been identified as having an infestation of the Red Imported Fire Ant (RIFA). The movement of extracted or waste soil, retaining soil, turf, pot plants, plant

material, baled hay/straw, mulch or green waste/fuel into, within and/or out of the Shire from a property inside a restricted area, is to be with the advice of the Department of Primary Industries RIFA Movement Controls. Further information can be obtained from the DPI Call Centre 13 2523 or on their web site www.dpi.qld.gov.au/fireants.

C FURTHER RECOMMENDATIONS

1. That Council's property records be noted in regard to:-
 - Noise
 - Building Envelopes

Right to Information Release

Dated 2 March 2007 and signed by
Land Development Team

.....
Senior Planner, Land Development Team

.....
Engineer, Land Development Team

.....
Environmental Health Officer,
Pollution Prevention Unit

.....
Parks & Recreation, Environmental
Assessment Team

.....
Environmental Assessment Team

Approved:

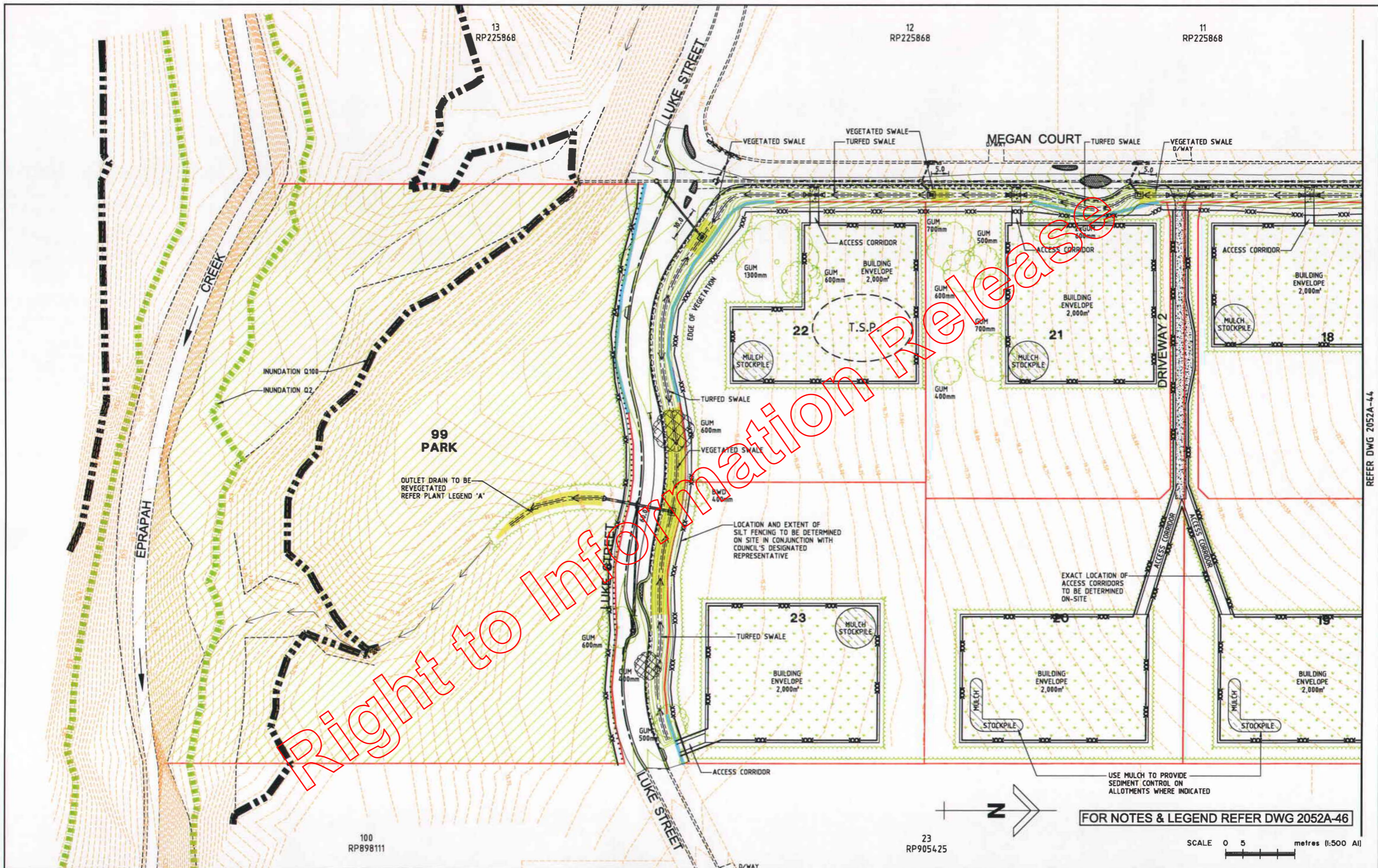
Approved:

.....
Tim Donovan
Manager Assessment Services

.....
Michael Goode
General Manager Customer Services

Right to Information Release

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Right to Information Release

AMENDMENTS		ESTATE NAME	DATUM	DRAWN	DRAWN CHECKED
No.	DATE	DESCRIPTION	LEVEL DATUM A.H.D. (DERIVED)	<i>JW</i>	<i>IF</i>
A	25/02/08	AMENDED AS PER INFORMATION REQUEST 04/02/08	P.M.99960 - R.L.14.334	DESIGNED	DESIGNED CHECKED
				<i>40C</i>	<i>IF</i>

ESTATE NAME
PROPOSED SUBDIVISION @ MEGAN COURT, THORNLANDS

REAL PROPERTY DESCRIPTION
LOT 15 on S.P.118723
Parish of CLEVELAND County of STANLEY

ASSOCIATED CONSULTANTS
PHILIP VASSALLO PTY LTD
PO BOX 94, CAPALABA, QLD 4157
Ph: (07) 3390 1831
Fax: (07) 3390 1325

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COUNCIL DEVELOPMENT APPLICATION
EC005105.1/
No. EC005105.2

ROSS CAMPBELL & ASSOC. (QLD) PTY. LTD.
A.S.N. 90 900 024 000
CONSULTING CIVIL & STRUCTURAL ENGINEERS
133 Queen Street, Cleveland, QLD 4163.
Phone: (07) 3286 4987 Fax: (07) 3821 1643
E-mail: mail@rosscampbell.net.au

APPROVED *[Signature]* Rep. No. 1365
8 Dec (Cont) 2018 Ant

DATE
19/10/07

SUTGOLD PTY LTD
PROPOSED SUBDIVISION
MEGAN COURT
THORNLANDS

DRAWING No.
2052A-43

ADMT.
A

VEGETATION MANAGEMENT PLAN - SHEET 1

FOR NOTES & LEGEND REFER DWG 2052A-46

SCALE 0 5 metres (1:500 All)

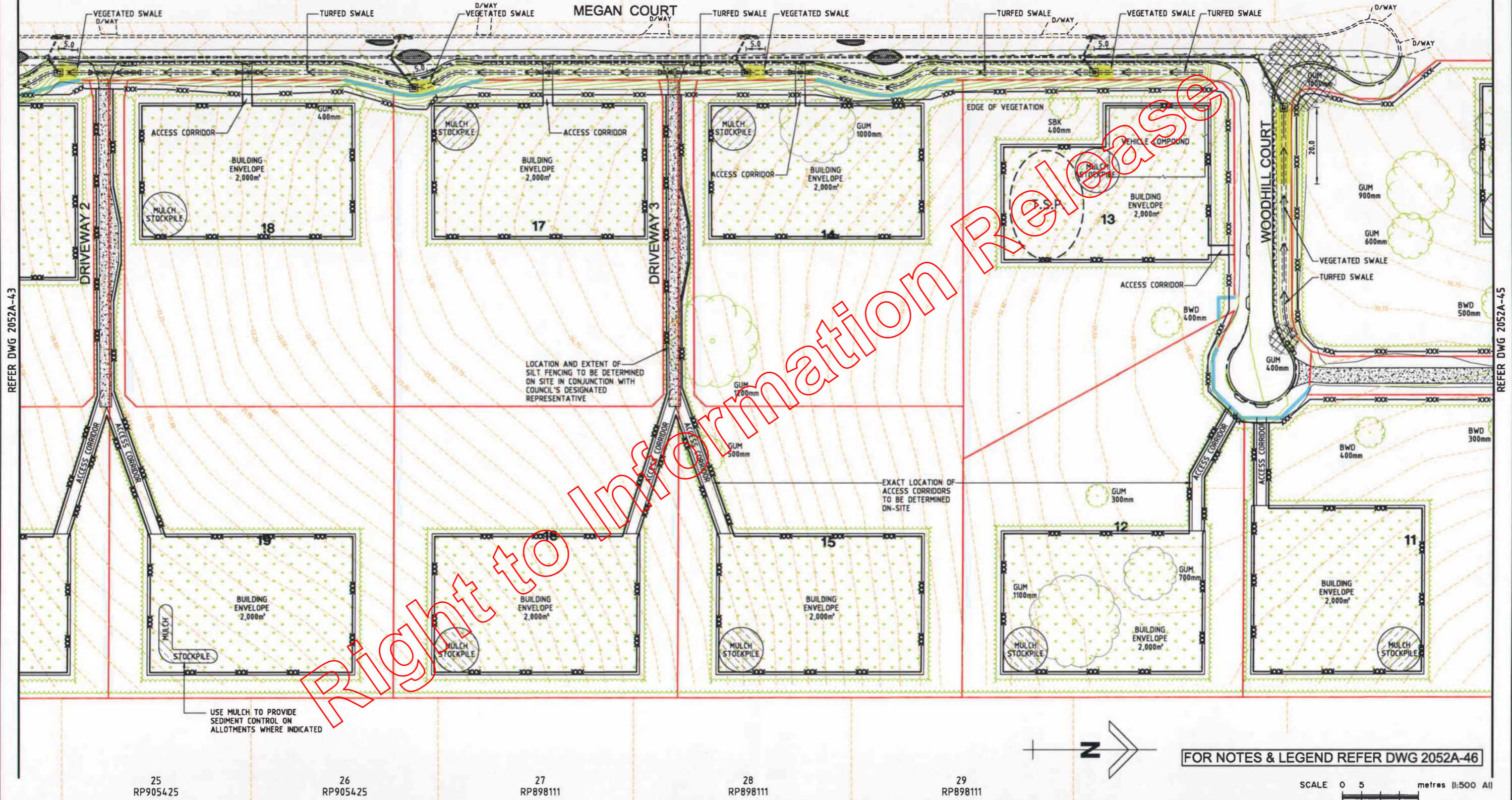
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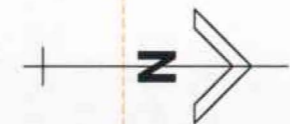
REFER DWG 2052A-43

REFER DWG 2052A-45

USE MULCH TO PROVIDE
SEDIMENT CONTROL ON
ALLOTMENTS WHERE INDICATED

LOCATION AND EXTENT OF
SILT FENCING TO BE DETERMINED
ON SITE IN CONJUNCTION WITH
COUNCIL'S DESIGNATED
REPRESENTATIVE

EXACT LOCATION OF
ACCESS CORRIDORS
TO BE DETERMINED
ON-SITE



FOR NOTES & LEGEND REFER DWG 2052A-46

SCALE 0 5 metres (1:500 All)

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RP905425

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RP898111

AMENDMENTS		ESTATE NAME	DATUM	DRAWN	DRAWN CHECKED
No.	DATE	DESCRIPTION			
A	25/02/08	AMENDED AS PER INFORMATION REQUEST 04/02/08	LEVEL DATUM A.H.D. (DERIVED) P.M.99960 - R.L.14.334	JW	IF

PROPOSED SUBDIVISION @ MEGAN COURT, THORNLANDS

REAL PROPERTY DESCRIPTION LOT 15 on S.P.118723 Parish of CLEVELAND County of STANLEY

ASSOCIATED CONSULTANTS
PHILIP VASSALLO PTY LTD
PO BOX 94, CAPALABA, QLD 4157
Ph: (07) 3390 1831
Fax: (07) 3390 1325

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DESIGNED 40C
DESIGNED CHECKED IF

COUNCIL DEVELOPMENT APPLICATION No. EC005105.1/ No. EC005105.2

ROSS CAMPBELL & ASSOC. (QLD) PTY. LTD.
A.B.N. 90 908 624 965
CONSULTING CIVIL & STRUCTURAL ENGINEERS
133 Queen Street, Cleveland, QLD 4163
Phone: (07) 3286 4987 Fax: (07) 3821 1643
E-mail: mail@rosscampbell.net.au

APPROVED [Signature] Reg. No. 1565
8 Year (Comp) M18 Ans

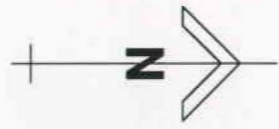
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SUTGOLD PTY LTD
PROPOSED SUBDIVISION
MEGAN COURT
THORNLANDS

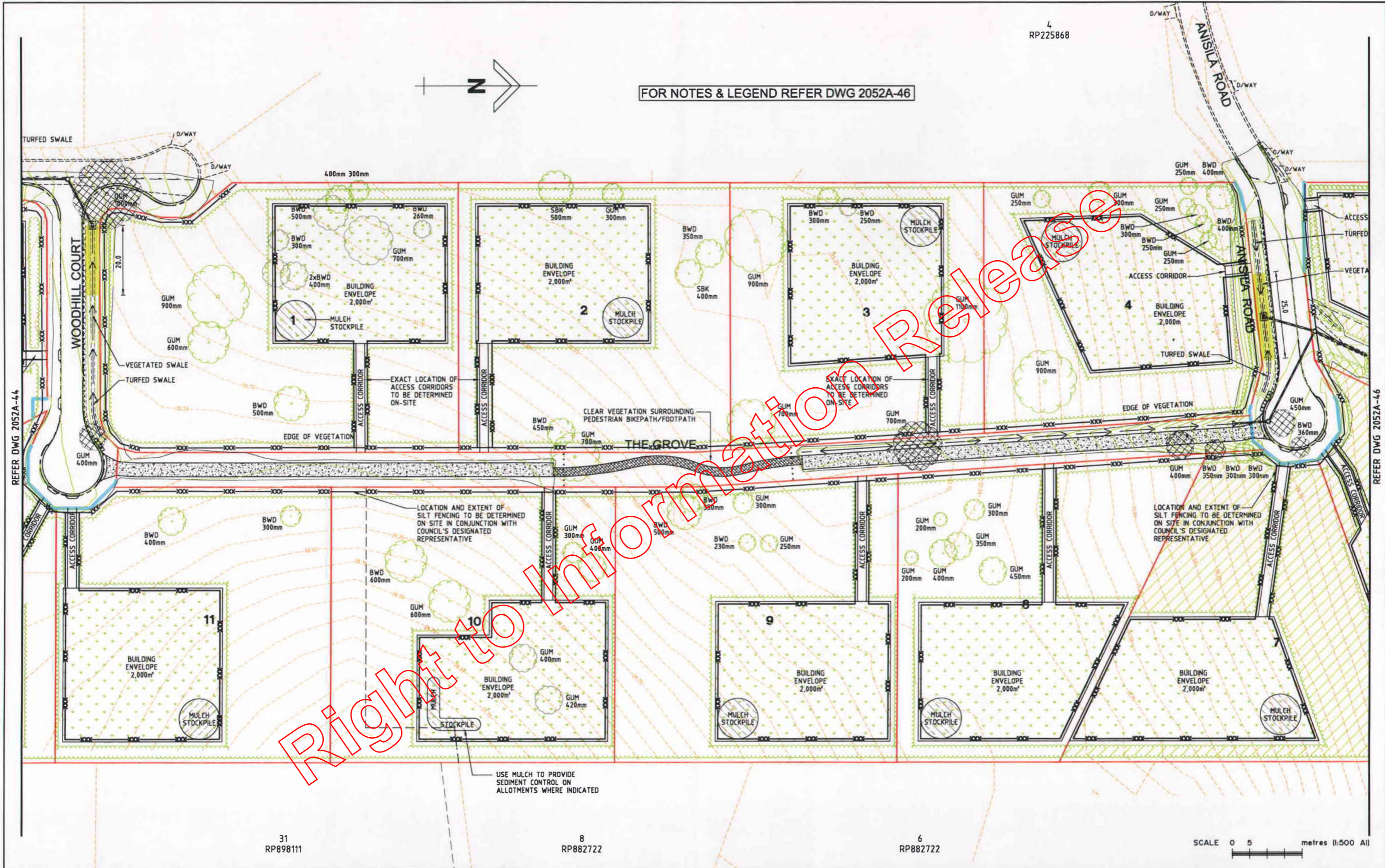
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VEGETATION MANAGEMENT PLAN - SHEET 2

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FOR NOTES & LEGEND REFER DWG 2052A-46



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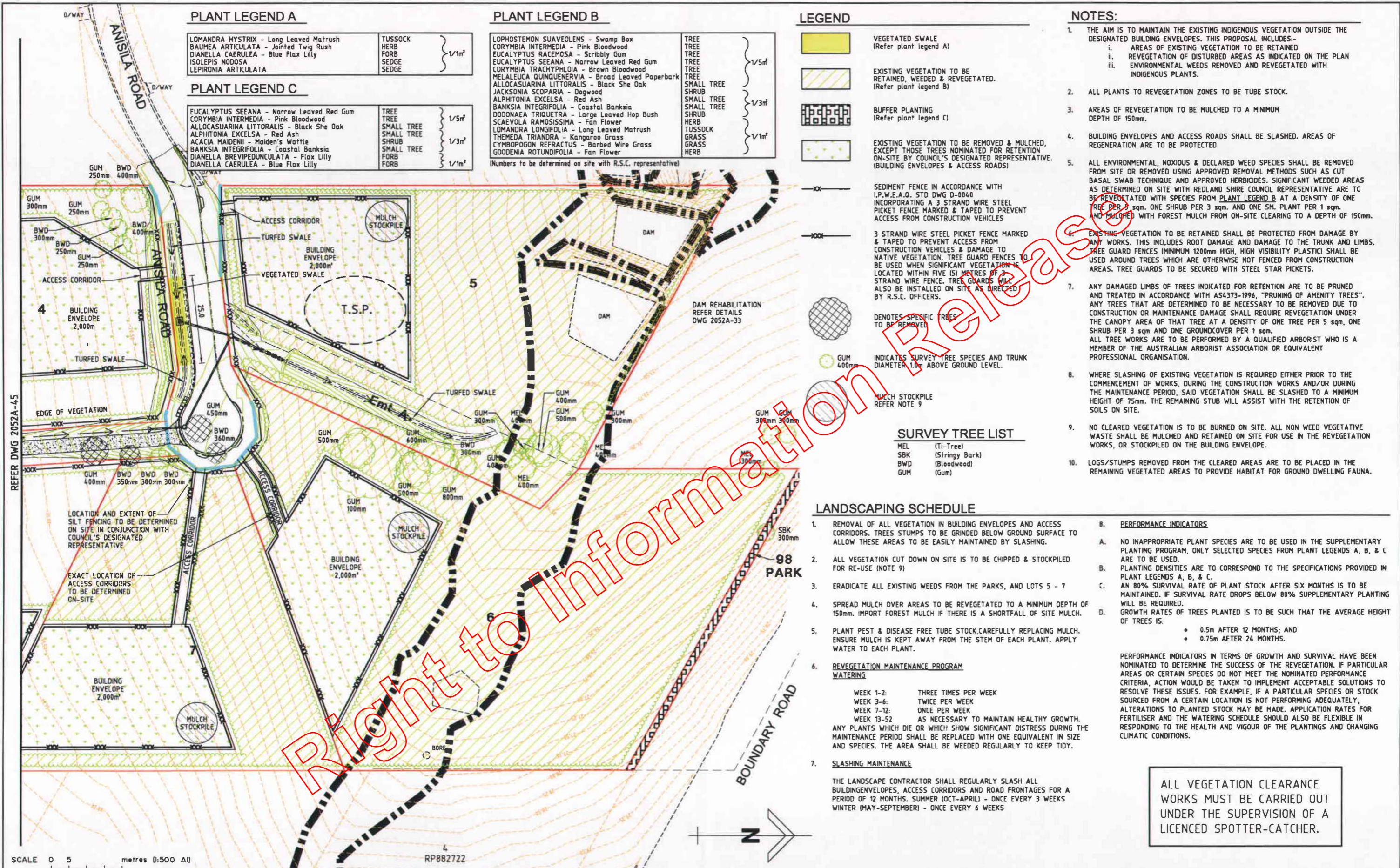
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RP882722

SCALE 0 5 metres (1:500 All)

AMENDMENTS		ESTATE NAME PROPOSED SUBDIVISION @ MEGAN COURT, THORNLANDS	DATUM LEVEL DATUM A.H.D. (DERIVED) P.M.99960 - R.L.14.334	DRAWN JW	DRAWN CHECKED 16	ROSS CAMPBELL & ASSOC. (QLD) PTY. LTD. A.B.N. 90 908 824 098 CONSULTING CIVIL & STRUCTURAL ENGINEERS 133 Queen Street, Cleveland, QLD 4163 Phone: (07) 3286 4987 Fax: (07) 3821 1643 E-mail: mail@rosscampbell.net.au	SUTGOLD PTY LTD PROPOSED SUBDIVISION MEGAN COURT THORNLANDS	DRAWING No. 2052A-45
No.	DATE							
A	25/02/08	AMENDED AS PER INFORMATION REQUEST 04/02/08		A.S.	I.G.			
		REAL PROPERTY DESCRIPTION LOT 15 on S.P.118723 Parish of CLEVELAND County of STANLEY	COPYRIGHT THIS DOCUMENT IS AND SHALL REMAIN THE PROPERTY OF ROSS CAMPBELL & ASSOC. (QLD) PTY. LTD. THE DOCUMENT MAY ONLY BE USED FOR THE PURPOSE IN WHICH IT WAS COMMISSIONED AND IN ACCORDANCE WITH THE TERMS OF ENGAGEMENT FOR THE COMMISSION. UNAUTHORIZED USE OF THIS DOCUMENT IN ANY FORM WHATSOEVER IS PROHIBITED. © ROSS CAMPBELL & ASSOC. (QLD) PTY. LTD 2007 A.B.N. 90 908 824 098		DESIGNED 40C	DESIGNED CHECKED 16		
		ASSOCIATED CONSULTANTS PHILIP VASSALLO PTY LTD PO BOX 94, CAPALABA, QLD 4157 Ph: (07) 3390 1831 Fax: (07) 3390 1325	COUNCIL DEVELOPMENT APPLICATION EC005105.1/ No. EC005105.2		APPROVED [Signature] 8 Tech (Civil) M16 Aust	DATE 19/10/07		
							VEGETATION MANAGEMENT PLAN - SHEET 3	ADMT. A

P:\2052A\2052A-43.dwg, 31/03/2008 3:41:58 PM, Scott Dewar



PLANT LEGEND A

LOMANDRA HYSTRIX - Long Leaved Matrush	TUSSOCK	} 1/1m²
BAUHEA ARTICULATA - Jointed Twig Rush	HERB	
DIANELLA CAERULEA - Blue Flax Lilly	FORB	} 1/1m²
ISOLEPIS NODOSA	SEDE	
LEPIRONIA ARTICULATA	SEDE	

PLANT LEGEND C

EUCALYPTUS SEEANA - Narrow Leaved Red Gum	TREE	} 1/5m²
CORYMBIA INTERMEDIA - Pink Bloodwood	SMALL TREE	
ALLOCASUARINA LITTORALIS - Black She Oak	SMALL TREE	} 1/3m²
ALPHITONIA EXCELSA - Red Ash	SHRUB	
ACACIA MAIDENII - Maiden's Wattle	SMALL TREE	} 1/1m²
BANKSIA INTEGRIFOLIA - Coastal Banksia	FORB	
DIANELLA BREVIPEDUNCULATA - Flax Lilly	FORB	
DIANELLA CAERULEA - Blue Flax Lilly	FORB	

PLANT LEGEND B

LOPHOSTEMON SUAVEOLENS - Swamp Box	TREE	} 1/5m²
CORYMBIA INTERMEDIA - Pink Bloodwood	TREE	
EUCALYPTUS RACEMOSA - Scribbly Gum	TREE	} 1/3m²
EUCALYPTUS SEEANA - Narrow Leaved Red Gum	TREE	
CORYMBIA TRACHYPHLOIA - Brown Bloodwood	SMALL TREE	} 1/1m²
MELALEUCA QUINQUENERVIA - Broad Leaved Paperbark	SHRUB	
ALLOCASUARINA LITTORALIS - Black She Oak	SMALL TREE	} 1/1m²
JACKSONIA SCOPARIA - Dogwood	SHRUB	
ALPHITONIA EXCELSA - Red Ash	SHRUB	
BANKSIA INTEGRIFOLIA - Coastal Banksia	SHRUB	
DODONAEA TRIQUETRA - Large Leaved Hop Bush	SHRUB	
SCAEVOLA RAMOSISSIMA - Fan Flower	HERB	
LOMANDRA LONGIFOLIA - Long Leaved Matrush	TUSSOCK	
THEMEDA TRIANDRA - Kangaroo Grass	GRASS	
CYMBOPOGON REFRACTUS - Barbed Wire Grass	GRASS	
GOODENIA ROTUNDFOLIA - Fan Flower	HERB	

(Numbers to be determined on site with R.S.C. representative)

LEGEND

[Yellow box]	VEGETATED SWALE (Refer plant legend A)
[Diagonal lines box]	EXISTING VEGETATION TO BE RETAINED, WEEDED & REVEGETATED. (Refer plant legend B)
[Grid box]	BUFFER PLANTING (Refer plant legend C)
[Dotted box]	EXISTING VEGETATION TO BE REMOVED & MULCHED, EXCEPT THOSE TREES NOMINATED FOR RETENTION ON-SITE BY COUNCIL'S DESIGNATED REPRESENTATIVE. (BUILDING ENVELOPES & ACCESS ROADS)
[Dashed line]	SEDIMENT FENCE IN ACCORDANCE WITH I.P.W.E.A.Q. STD DWG D-0040 INCORPORATING A 3 STRAND WIRE STEEL PICKET FENCE MARKED & TAPED TO PREVENT ACCESS FROM CONSTRUCTION VEHICLES
[Dashed line]	3 STRAND WIRE STEEL PICKET FENCE MARKED & TAPED TO PREVENT ACCESS FROM CONSTRUCTION VEHICLES & DAMAGE TO NATIVE VEGETATION. TREE GUARD FENCES TO BE USED WHEN SIGNIFICANT VEGETATION IS LOCATED WITHIN FIVE (5) METRES OF 3 STRAND WIRE FENCE. TREE GUARDS WILL ALSO BE INSTALLED ON SITE AS DIRECTED BY R.S.C. OFFICERS.
[Cross-hatch circle]	DENOTES SPECIFIC TREES TO BE REMOVED
[Green circle]	INDICATES SURVEY TREE SPECIES AND TRUNK DIAMETER 1.0m ABOVE GROUND LEVEL.
[Hatched circle]	MULCH STOCKPILE REFER NOTE 9

- NOTES:**
- THE AIM IS TO MAINTAIN THE EXISTING INDIGENOUS VEGETATION OUTSIDE THE DESIGNATED BUILDING ENVELOPES. THIS PROPOSAL INCLUDES:
 - AREAS OF EXISTING VEGETATION TO BE RETAINED
 - REVEGETATION OF DISTURBED AREAS AS INDICATED ON THE PLAN
 - ENVIRONMENTAL WEEDS REMOVED AND REVEGETATED WITH INDIGENOUS PLANTS.
 - ALL PLANTS TO REVEGETATION ZONES TO BE TUBE STOCK.
 - AREAS OF REVEGETATION TO BE MULCHED TO A MINIMUM DEPTH OF 150mm.
 - BUILDING ENVELOPES AND ACCESS ROADS SHALL BE SLASHED. AREAS OF REGENERATION ARE TO BE PROTECTED
 - ALL ENVIRONMENTAL, NOXIOUS & DECLARED WEED SPECIES SHALL BE REMOVED FROM SITE OR REMOVED USING APPROVED REMOVAL METHODS SUCH AS CUT BASAL SWAB TECHNIQUE AND APPROVED HERBICIDES. SIGNIFICANT WEEDED AREAS AS DETERMINED ON SITE WITH REDLAND SHIRE COUNCIL REPRESENTATIVE ARE TO BE REVEGETATED WITH SPECIES FROM PLANT LEGEND B AT A DENSITY OF ONE TREE PER 3 sqm, ONE SHRUB PER 3 sqm, AND ONE SM. PLANT PER 1 sqm, AND MULCHED WITH FOREST MULCH FROM ON-SITE CLEARING TO A DEPTH OF 150mm.
 - EXISTING VEGETATION TO BE RETAINED SHALL BE PROTECTED FROM DAMAGE BY ANY WORKS. THIS INCLUDES ROOT DAMAGE AND DAMAGE TO THE TRUNK AND LIMBS. TREE GUARD FENCES (MINIMUM 1200mm HIGH, HIGH VISIBILITY PLASTIC) SHALL BE USED AROUND TREES WHICH ARE OTHERWISE NOT FENCED FROM CONSTRUCTION AREAS. TREE GUARDS TO BE SECURED WITH STEEL STAR PICKETS.
 - ANY DAMAGED LIMBS OF TREES INDICATED FOR RETENTION ARE TO BE PRUNED AND TREATED IN ACCORDANCE WITH AS4373-1996, "PRUNING OF AMENITY TREES". ANY TREES THAT ARE DETERMINED TO BE NECESSARY TO BE REMOVED DUE TO CONSTRUCTION OR MAINTENANCE DAMAGE SHALL REQUIRE REVEGETATION UNDER THE CANOPY AREA OF THAT TREE AT A DENSITY OF ONE TREE PER 5 sqm, ONE SHRUB PER 3 sqm AND ONE GROUNDCOVER PER 1 sqm. ALL TREE WORKS ARE TO BE PERFORMED BY A QUALIFIED ARBORIST WHO IS A MEMBER OF THE AUSTRALIAN ARBORIST ASSOCIATION OR EQUIVALENT PROFESSIONAL ORGANISATION.
 - WHERE SLASHING OF EXISTING VEGETATION IS REQUIRED EITHER PRIOR TO THE COMMENCEMENT OF WORKS, DURING THE CONSTRUCTION WORKS AND/OR DURING THE MAINTENANCE PERIOD, SAID VEGETATION SHALL BE SLASHED TO A MINIMUM HEIGHT OF 75mm. THE REMAINING STUB WILL ASSIST WITH THE RETENTION OF SOILS ON SITE.
 - NO CLEARED VEGETATION IS TO BE BURNED ON SITE. ALL NON WEED VEGETATIVE WASTE SHALL BE MULCHED AND RETAINED ON SITE FOR USE IN THE REVEGETATION WORKS, OR STOCKPILED ON THE BUILDING ENVELOPE.
 - LOGS/STUMPS REMOVED FROM THE CLEARED AREAS ARE TO BE PLACED IN THE REMAINING VEGETATED AREAS TO PROVIDE HABITAT FOR GROUND DWELLING FAUNA.

SURVEY TREE LIST

MEL	(Ti-Tree)
SBK	(Stringy Bark)
BWD	(Bloodwood)
GUM	(Gum)

- LANDSCAPING SCHEDULE**
- REMOVAL OF ALL VEGETATION IN BUILDING ENVELOPES AND ACCESS CORRIDORS. TREES STUMPS TO BE GRINDED BELOW GROUND SURFACE TO ALLOW THESE AREAS TO BE EASILY MAINTAINED BY SLASHING.
 - ALL VEGETATION CUT DOWN ON SITE IS TO BE CHIPPED & STOCKPILED FOR RE-USE (NOTE 9)
 - ERADICATE ALL EXISTING WEEDS FROM THE PARKS, AND LOTS 5 - 7
 - SPREAD MULCH OVER AREAS TO BE REVEGETATED TO A MINIMUM DEPTH OF 150mm. IMPORT FOREST MULCH IF THERE IS A SHORTFALL OF SITE MULCH.
 - PLANT PEST & DISEASE FREE TUBE STOCK, CAREFULLY REPLACING MULCH. ENSURE MULCH IS KEPT AWAY FROM THE STEM OF EACH PLANT. APPLY WATER TO EACH PLANT.
 - REVEGETATION MAINTENANCE PROGRAM WATERING**

WEEK 1-2:	THREE TIMES PER WEEK
WEEK 3-6:	TWICE PER WEEK
WEEK 7-12:	ONCE PER WEEK
WEEK 13-52	AS NECESSARY TO MAINTAIN HEALTHY GROWTH.

ANY PLANTS WHICH DIE OR WHICH SHOW SIGNIFICANT DISTRESS DURING THE MAINTENANCE PERIOD SHALL BE REPLACED WITH ONE EQUIVALENT IN SIZE AND SPECIES. THE AREA SHALL BE WEEDED REGULARLY TO KEEP TIDY.
 - SLASHING MAINTENANCE**

THE LANDSCAPE CONTRACTOR SHALL REGULARLY SLASH ALL BUILDING ENVELOPES, ACCESS CORRIDORS AND ROAD FRONTS FOR A PERIOD OF 12 MONTHS. SUMMER (OCT-APRIL) - ONCE EVERY 3 WEEKS
WINTER (MAY-SEPTEMBER) - ONCE EVERY 6 WEEKS

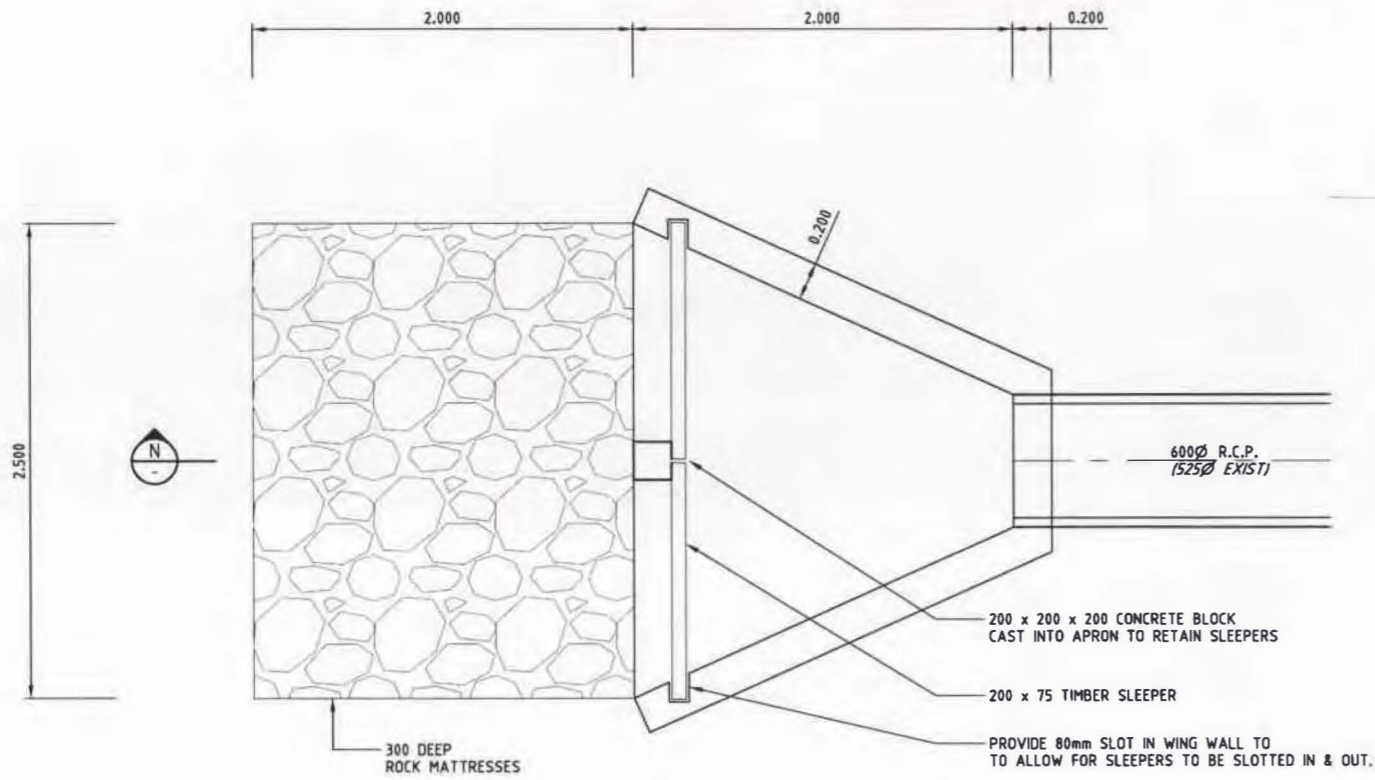
- PERFORMANCE INDICATORS**
- NO INAPPROPRIATE PLANT SPECIES ARE TO BE USED IN THE SUPPLEMENTARY PLANTING PROGRAM, ONLY SELECTED SPECIES FROM PLANT LEGENDS A, B, & C ARE TO BE USED.
 - PLANTING DENSITIES ARE TO CORRESPOND TO THE SPECIFICATIONS PROVIDED IN PLANT LEGENDS A, B, & C.
 - AN 80% SURVIVAL RATE OF PLANT STOCK AFTER SIX MONTHS IS TO BE MAINTAINED. IF SURVIVAL RATE DROPS BELOW 80% SUPPLEMENTARY PLANTING WILL BE REQUIRED.
 - GROWTH RATES OF TREES PLANTED IS TO BE SUCH THAT THE AVERAGE HEIGHT OF TREES IS:
 - 0.5m AFTER 12 MONTHS; AND
 - 0.75m AFTER 24 MONTHS.

PERFORMANCE INDICATORS IN TERMS OF GROWTH AND SURVIVAL HAVE BEEN NOMINATED TO DETERMINE THE SUCCESS OF THE REVEGETATION. IF PARTICULAR AREAS OR CERTAIN SPECIES DO NOT MEET THE NOMINATED PERFORMANCE CRITERIA, ACTION WOULD BE TAKEN TO IMPLEMENT ACCEPTABLE SOLUTIONS TO RESOLVE THESE ISSUES. FOR EXAMPLE, IF A PARTICULAR SPECIES OR STOCK SOURCED FROM A CERTAIN LOCATION IS NOT PERFORMING ADEQUATELY, ALTERATIONS TO PLANTED STOCK MAY BE MADE. APPLICATION RATES FOR FERTILISER AND THE WATERING SCHEDULE SHOULD ALSO BE FLEXIBLE IN RESPONDING TO THE HEALTH AND VIGOUR OF THE PLANTINGS AND CHANGING CLIMATIC CONDITIONS.

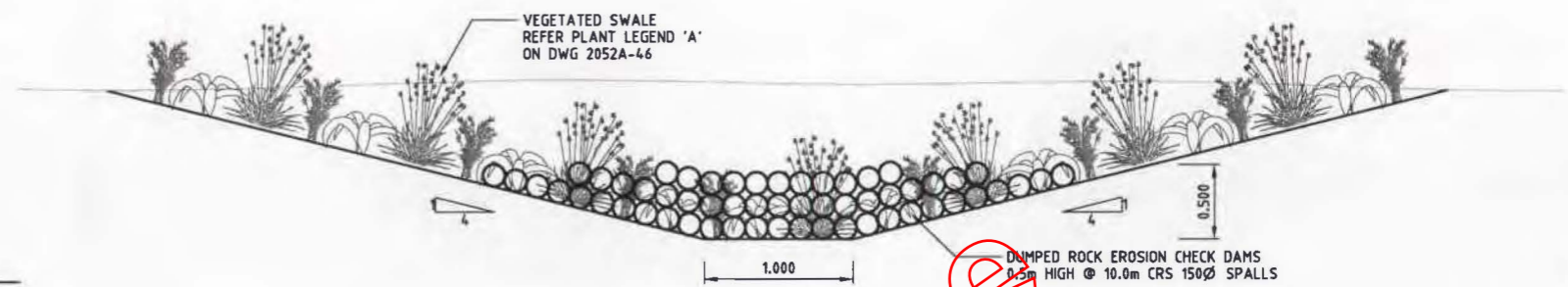
ALL VEGETATION CLEARANCE WORKS MUST BE CARRIED OUT UNDER THE SUPERVISION OF A LICENCED SPOTTER-CATCHER.

SCALE 0 5 metres (1:500 AI)

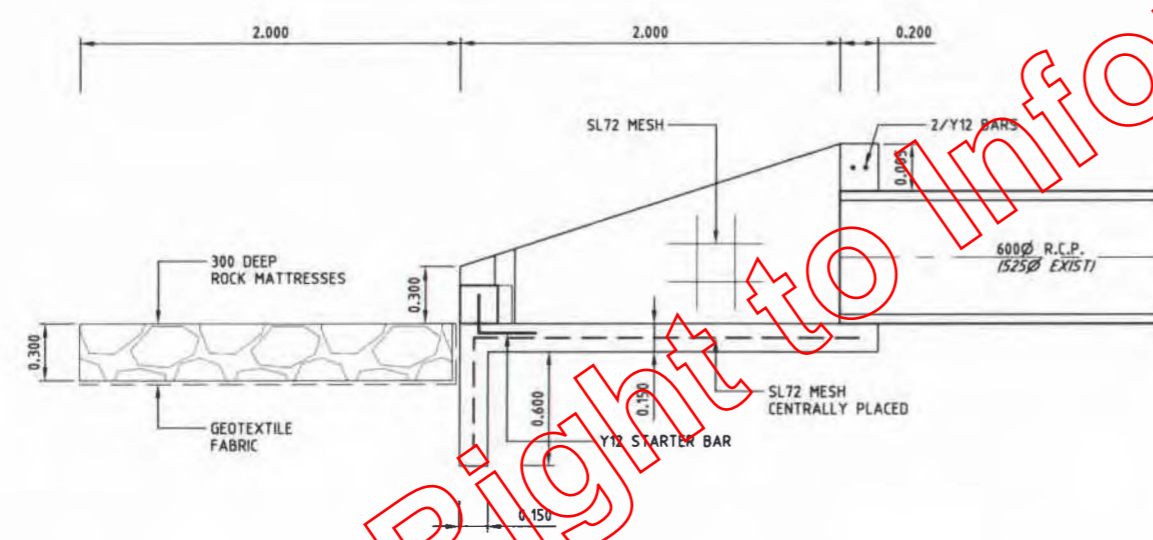
<p>AMENDMENTS</p> <table border="1"> <tr> <th>No.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>DRAWN</th> <th>CHECKED</th> </tr> <tr> <td>A</td> <td>25/02/08</td> <td>AMENDED AS PER INFORMATION REQUEST 04/02/08</td> <td>A.S.</td> <td>I.G.</td> </tr> </table>		No.	DATE	DESCRIPTION	DRAWN	CHECKED	A	25/02/08	AMENDED AS PER INFORMATION REQUEST 04/02/08	A.S.	I.G.	<p>ESTATE NAME PROPOSED SUBDIVISION @ MEGAN COURT, THORNLANDS</p> <p>REAL PROPERTY DESCRIPTION LOT 15 on S.P.118723 Parish of CLEVELAND County of STANLEY</p> <p>ASSOCIATED CONSULTANTS PHILIP VASSALLO PTY LTD PO BOX 94, CAPALABA, QLD 4157 Ph: (07) 3390 1831 Fax: (07) 3390 1325</p>	<p>DATUM LEVEL DATUM A.H.D. (IDERIVED) P.M.99960 - R.L.14.334</p> <p>COPYRIGHT THIS DOCUMENT IS AND SHALL REMAIN THE PROPERTY OF ROSS CAMPBELL & ASSOC. (QLD) PTY. LTD. THE DOCUMENT MAY ONLY BE USED FOR THE PURPOSE IN WHICH IT WAS COMMISSIONED AND IN ACCORDANCE WITH THE TERMS OF ENGAGEMENT FOR THE COMMISSION. UNAUTHORISED USE OF THIS DOCUMENT IN ANY FORM WHATSOEVER IS PROHIBITED. © ROSS CAMPBELL & ASSOC. (QLD) PTY. LTD. 2007 A.B.N. 98 988 824 981</p>	<p>DRAWN JW</p> <p>DESIGNED 40C</p> <p>COUNCIL DEVELOPMENT APPLICATION EC005105.1/ No. EC005105.2</p>	<p>DRAWN CHECKED 16</p> <p>DESIGNED CHECKED 16</p> <p>APPROVED [Signature] 8 Dec (Civ) M.S. Ant</p> <p>DATE 19/10/07</p>	<p>ROSS CAMPBELL & ASSOC. (QLD) PTY. LTD. A.B.N. 98 988 824 985 CONSULTING CIVIL & STRUCTURAL ENGINEERS 133 Queen Street, Cleveland, QLD 4163. Phone: (07) 3286 4987 Fax: (07) 3821 1643 E-mail: mail@rosscampbell.net.au</p>	<p>SUTGOLD PTY LTD PROPOSED SUBDIVISION MEGAN COURT THORNLANDS</p>	<p>DRAWING No. 2052A-46</p> <p>ADMT. A</p>
No.	DATE	DESCRIPTION	DRAWN	CHECKED														
A	25/02/08	AMENDED AS PER INFORMATION REQUEST 04/02/08	A.S.	I.G.														



DETAIL 9
 OUTLET HEADWALL 3/D
 (OUTLET HEADWALL 8/A SIMILAR)
 SCALE 1 : 20 (A1)



SECTION M
 VEGETATED SWALE
 SCALE 1 : 25 (A1)



SECTION
 OUTLET HEADWALL 3/D
 (OUTLET HEADWALL 8/A SIMILAR)
 SCALE 1 : 20 (A1)

- CONCRETE NOTES**
1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS. 3600.
 2. THE CLASS OF CONCRETE SHALL BE N32.
 3. MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 20 UNLESS SHOWN OTHERWISE.
 4. THE CONCRETE SHALL HAVE A SLUMP OF 75mm WHEN BEING PLACED.
 5. MINIMUM COVER TO REINFORCEMENT SHALL BE 65mm.
 6. THE CONCRETE SHALL BE COMPACTED USING HIGH FREQUENCY VIBRATORS.
 7. REINFORCEMENT TO COMPLY WITH A.S.4671
- N.B. ALL FABRIC TO BE D500 SL72 U.N.O.**

SCALE 0 1.0 metres (1:100 All)

Right to Information Release

AMENDMENTS		ESTATE NAME PROPOSED SUBDIVISION @ MEGAN COURT, THORNLANDS	DATUM LEVEL DATUM A.H.D. (DERIVED) P.M.99960 - R.L.14.334	DRAWN AS	DRAWN CHECKED KW	ROSS CAMPBELL & ASSOC. (QLD) PTY. LTD. A.B.N. 90 908 824 065 CONSULTING CIVIL & STRUCTURAL ENGINEERS 133 Queen Street, Cleveland, QLD 4163 Phone: (07) 3286 4987 Fax: (07) 3821 1643 E-mail: mail@rosscampbell.net.au	SUTGOLD PTY LTD PROPOSED SUBDIVISION MEGAN COURT THORNLANDS	DRAWING No. 2052A-51
No.	DATE							
		REAL PROPERTY LOT 15 on S.P.118723 Parish of CLEVELAND County of STANLEY						
		ASSOCIATED CONSULTANTS PHILIP VASSALLO PTY LTD PO BOX 94, CAPALABA, QLD 4157 Ph: (07) 3390 1831 Fax: (07) 3390 1325						
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				COUNCIL DEVELOPMENT APPLICATION No. EC005105.2	EC005105.1/	APPROVED [Signature] 8/11/08	DATE 11/09/08	
							STORMWATER DETAILS - SHEET 4	