BYRNS LARDNER
LANDSCAPE
ARCHITECTURE
& ENVIRONMENTAL

Property Vegetation Management Plan

Proposed Development – Material Change of Use
98 Guanaba Road, Tamborine Mountain
Lot 3 RP181081

Client: Mt Tamborine Camping and Activities Pty Ltd
Issue Date: May 2014

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1.0 Introduction

Byrns Lardner Environmental has been appointed by Mt Tamborine Camping and Activities Pty Ltd to prepare a *Property Vegetation Management Plan* (PVMP) in relation to a proposed development on land situated at Guanaba Road, Tamborine Mountain.

1.1 Development Planning Context

This PVMP has been prepared with regard to a proposed Development Application for 'Material Change of Use (MCU – Mountainbike/Zipline Facility with associated Outdoor Activities Infrastructure)' on the subject property (refer **ATTACHMENTS 1 – 8**).

This document has therefore been prepared in accordance with relevant provisions of the following legislation/policies:

- Queensland *Sustainable Planning Act 2009* ('SP Act').
- Queensland *Vegetation Management Act 1999* ('VM Act').
- Queensland *Nature Conservation Act 1992* ('NC Act').

1.2 Department of Natural Resources and Mines Context

The development proposal will result in selective clearing impacts within mapped native vegetation regulated/administered by the VM Act. The subject application is therefore triggered by the *Integrated Development Assessment System* (IDAS) for referral to Department of Natural Resources and Mines (DNRM) for Concurrence Agency assessment under provisions of the SP Act.

2.0 Site Details & Description

The subject site is situated at 98 Guanaba Road, Tamborine Mountain, and comprises the following registered allotment:

- **Lot 3 RP181081**

This site is zoned within the 'Escarpment Protection Precinct' of the *Tamborine Mountain Zone* under provisions of Scenic Rim Regional Council's *Beaudesert Shire Planning Scheme 2007* document (refer **FIGURE 1**).

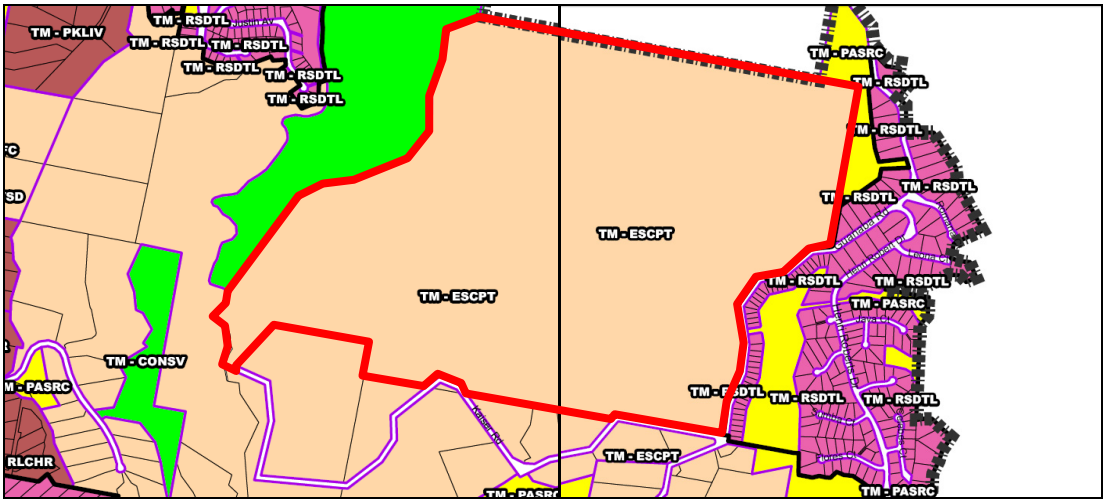

FIGURE 1: Zoning Map Excerpt (Source: BSPS)

The site is also designated within the 'Regional Landscape & Rural Production Area' of the *SEQ Regional Plan 2009 – 2031* (refer **FIGURE 2**).

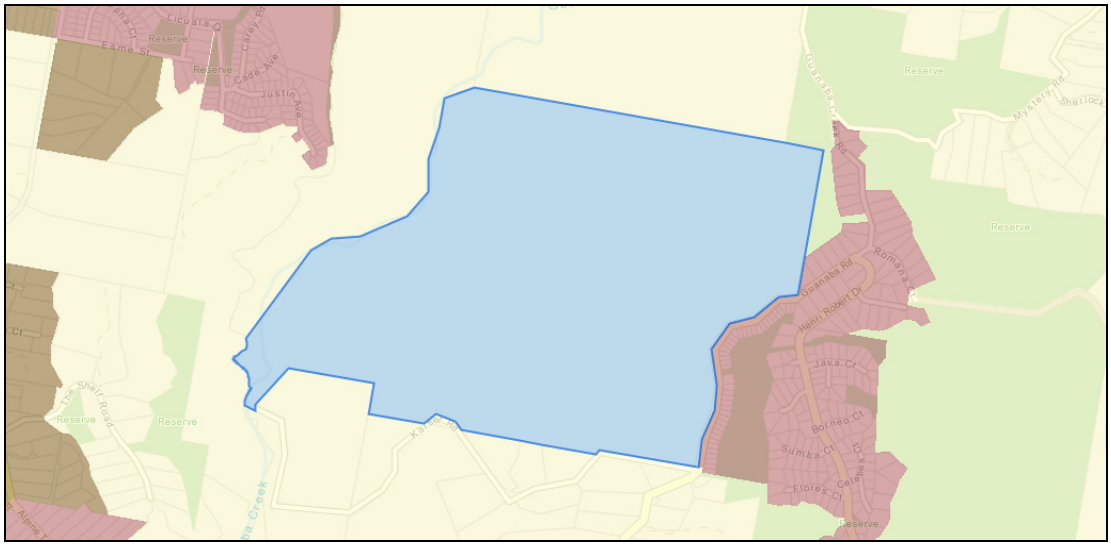

FIGURE 2: Land Use Map Excerpt (Source: SEQ Regional Plan)

The site has an area of ~203.023ha with landform/topography consisting of steep spurs and gullies on the eastern flanks of the Tamborine plateau which feed in a northerly direction to Guanaba Gorge/Creek. The site is unembellished with the exception of a network of unsealed/maintained vehicle tracks and overgrown trails associated with previous landuses (i.e banana farming and timber harvesting). The site is predominantly covered by vegetation comprising a number of community types, however some evidence of historical clearing was also noted in the southeastern/southwestern property extents (refer **ATTACHMENT 9**).

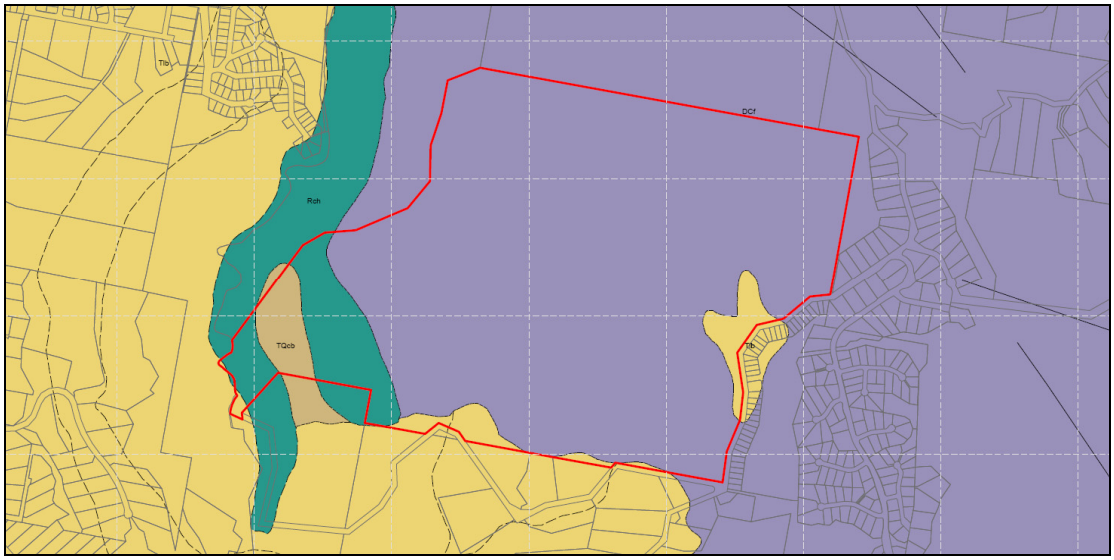

FIGURE 3: Geology Map Excerpt (Source: GSQ)

Geology across the site (refer **FIGURE 3** above) is dominated by Devonian-Carboniferous sedimentary rock (DCf – mudstone, shale, arenite, chert, jasper, basic metavolcanics, pillow lava, conglomerate) associated with the Neranleigh-Fernvale beds formation. A small area of Tertiary Basalt (Tlb – olivine basalt) associated with the Beechmont Basalt rock unit is situated proximate to the central eastern boundary, while the southwestern property extent comprises both Late Tertiary-Quaternary colluvium (TQcb – colluvium basalt: soil, clay, cobbles and boulders) and Triassic felsics (Rch – rhyolite, tuff, shale) associated with the Chillingham Volcanics formation.

3.0 Vegetation Assessment/Management

3.1 Desktop Review

Under provisions of the VM Act, the site is broadly designated on DNRMs *Regulated Vegetation Management Map* and associated *Vegetation Management Supporting Map* as being dominated by a 'Category B area' comprising a 'Category A or B area containing of concern regional ecosystems' and a 'Category A or B area that is a least concern regional ecosystem' (refer **FIGURES 4 & 5** and **ATTACHMENT 10**) respectively.

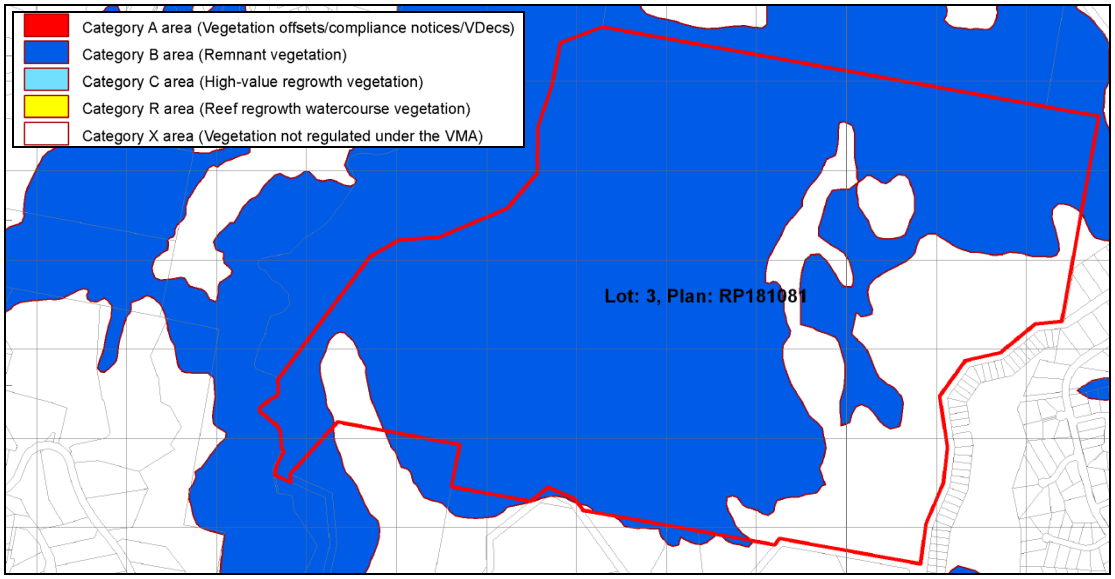

FIGURE 4: Regulated Vegetation Management Map (Source: DNRM)

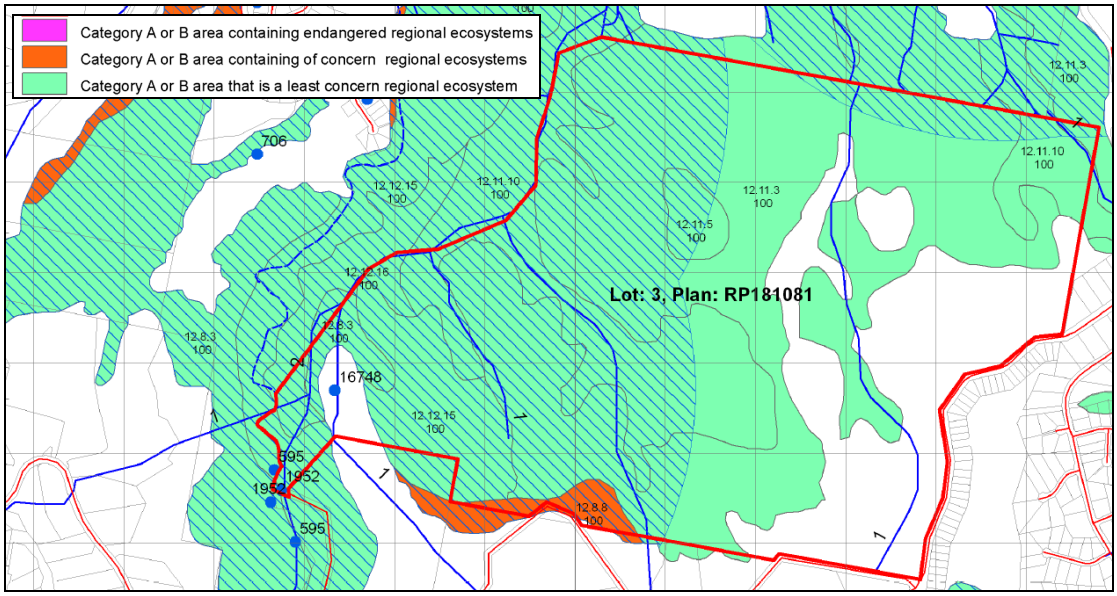

FIGURE 5: Vegetation Management Supporting Map (Source: DNRM)

A number of polygons are designated on the *Vegetation Management Supporting Map* consisting of seven (7) remnant/regional ecosystem types as follows:

- **RE12.8.3** – Least Concern
- **RE12.8.8** – Of Concern
- **RE12.11.3** – Least Concern
- **RE12.11.5** – Least Concern
- **RE12.11.10** – Least Concern
- **12.12.15** – Least Concern
- **12.12.16** – Least Concern

The '**RE12.8.3**' remnant type is described (in part) under provisions of the Queensland Herbarium's *Regional Ecosystem Description Database* as the following:

Regional Ecosystem:	12.8.3
Vegetation Management Act Class:	Least concern
Biodiversity Status:	No concern at present
Subregion:	1, 3, (4), (2)
Estimated Extent:	In September 2011, remnant extent was > 10,000 ha and >30% of the pre-clearing area remained.
Extent in Reserves:	High

Short Description:
Complex notophyll vine forest on Cainozoic igneous rocks. Altitude <600m.

Description:
Complex notophyll vine forest. Characteristic species include Argyrodendron trifoliolatum, Argyrodendron sp. (Kin Kin W.D.Francis AQ81198), Olea paniculata, Castanospermum australe, Cryptocarya obovata, Ficus macrophylla forma macrophylla, Syzygium francisii, Diploglottis australis, Pseudoweinmannia lachnocarpa, Podocarpus elatus, Beilschmiedia obtusifolia, Neolitsea dealbata and Archontophoenix cunninghamiana. Occurs on Cainozoic igneous rocks, especially basalt <600m altitude. (BVG1M: 2a)

The '**RE12.8.8**' remnant type is described (in part) under provisions of the Queensland Herbarium's *Regional Ecosystem Description Database* as the following:

Regional Ecosystem:	12.8.8
Vegetation Management Act Class:	Of concern
Biodiversity Status:	Of concern
Subregion:	1, 3, 6, (2), (4), (9)
Estimated Extent:	In September 2011, remnant extent was < 10,000 ha and >30% of the pre-clearing area remained.

Extent in Reserves: Medium
Short Description:
Eucalyptus saligna or E. grandis tall open forest on Cainozoic igneous rocks.

Description:
Eucalyptus saligna or E. grandis tall open forest often with vine forest understorey ('wet sclerophyll'). Other species include Eucalyptus microcorys, E. acmenoides, Lophostemon confertus, Syncarpia glomulifera subsp. glomulifera. Occurs on Cainozoic igneous rocks and areas subject to local enrichment from Cainozoic igneous rocks. (BVG1M: 8a)

Vegetation communities in this regional ecosystem include:

12.8.8a: Eucalyptus siderophloia, E. microcorys, Corymbia intermedia +/- Eucalyptus propinqua, E. carnea open forest on Cainozoic igneous rocks. Occurs on Cainozoic igneous rocks and areas subject to local enrichment from Cainozoic igneous rocks. (BVG1M: 9a)

The '**RE12.11.3**' remnant type is described (in part) under provisions of the Queensland Herbarium's *Regional Ecosystem Description Database* as the following:

Regional Ecosystem:	12.11.3
Vegetation Management Act Class:	Least concern
Biodiversity Status:	No concern at present
Subregion:	3, 7, 5, 6, (1)
Estimated Extent:	In September 2011, remnant extent was > 10,000 ha and >30% of the pre-clearing area remained.
Extent in Reserves:	High

Short Description:
Eucalyptus siderophloia, E. propinqua ± E. microcorys, Lophostemon confertus, Corymbia intermedia, E. acmenoides open forest on metamorphics ± interbedded volcanics.

Description:
Eucalyptus siderophloia and E. propinqua open forest +/- E. microcorys, Lophostemon confertus, Corymbia intermedia, E. biturbinata, E. acmenoides, E. tereticornis, E. moluccana, Angophora leiocarpa, Syncarpia verecunda with vine forest species and E. grandis or E. saligna in gullies. Eucalyptus pilularis and E. tindaliae sometimes present e.g. mid D'Aguilar Range, Conondale Range. Occurs predominantly on hills and ranges of Palaeozoic and older moderately to strongly deformed and metamorphosed sediments and interbedded volcanics. (BVG1M: 9a)

Vegetation communities in this regional ecosystem include:

12.11.3a: Lophostemon confertus +/- Eucalyptus microcorys, E. carnea, E. propinqua, E. major, E. siderophloia woodland. Occurs in gullies and exposed ridges of Palaeozoic and older moderately to strongly deformed and metamorphosed sediments and interbedded volcanics. (BVG1M: 9a)□12.11.3b:

Eucalyptus pilularis tall open forest. Other frequently occurring species include Eucalyptus microcorys, E. saligna, E. siderophloia, E. carnea, Corymbia intermedia and E. propinqua. Occurs on higher altitude (>300m) subcoastal hills and ranges of Palaeozoic and older moderately to strongly deformed and metamorphosed sediments and interbedded volcanics. (BVG1M: 8b)

The '**RE12.11.5**' remnant type is described (in part) under provisions of the Queensland Herbarium's *Regional Ecosystem Description Database* as the following:

Regional Ecosystem:	12.11.5
Vegetation Management Act Class:	Least concern
Biodiversity Status:	No concern at present
Subregion:	3, 10, 7, (1), (2), (4)
Estimated Extent:	In September 2011, remnant extent was > 10,000 ha and >30% of the pre-clearing area remained.
Extent in Reserves:	High

Short Description:
Corymbia citriodora subsp. variegata, Eucalyptus siderophloia, E. major open forest on metamorphics ± interbedded volcanics.

Description:
Open forest complex in which spotted gum is a relatively common species. Canopy trees include Corymbia citriodora subsp. variegata, Eucalyptus siderophloia or E. crebra (sub coastal ranges), E. major and/or E. longirostrata and E. acmenoides or E. portuensis and/or E. carnea and/or E. eugenioides. Other species that may be present and abundant locally include Corymbia henryi, C. intermedia, C. trachyphloia, Eucalyptus tereticornis, E. propinqua, E. biturbinata, E. moluccana, E. melliodora, E. fibrosa subsp. fibrosa and Angophora leiocarpa. Lophostemon confertus often present in gullies and as a sub canopy or understorey tree. Mixed understorey of grasses, shrubs and ferns. Occurs on hills and ranges of Palaeozoic and older moderately to strongly deformed and metamorphosed sediments and interbedded volcanics. (BVG1M: 10b)

Vegetation communities in this regional ecosystem include:

12.11.5a: Eucalyptus tindaliae, E. carnea, Corymbia intermedia woodland +/- E. crebra, Corymbia citriodora subsp. variegata, Eucalyptus major, E. helidonica, Corymbia henryi, Angophora woodsiana, C. trachyphloia (away from the coast) or E. siderophloia, E. microcorys, E. racemosa subsp. racemosa, E. propinqua (closer to the coast). Occurs on Palaeozoic and older moderately to strongly deformed and metamorphosed sediments and interbedded volcanics. (BVG1M: 9a)

12.11.5e: Corymbia citriodora subsp. variegata woodland usually including Eucalyptus siderophloia or E. crebra (sub coastal ranges), E. propinqua and E. acmenoides or E. carnea. Other species that may be present and abundant locally include Corymbia intermedia, C. trachyphloia subsp. trachyphloia, Eucalyptus tereticornis, E. microcorys, E. portuensis, E. helidonica, E. major, E. longirostrata, E. biturbinata, E. moluccana and Angophora leiocarpa. Lophostemon confertus often present in gullies and as a sub canopy or understorey tree. Mixed

understorey of grasses, shrubs and ferns. Occurs on hills and ranges of Palaeozoic and older moderately to strongly deformed and metamorphosed sediments and interbedded volcanics. (BVG1M: 10b)

12.11.5h: Woodland to open forest of Eucalyptus planchoniana, E. carnea and Angophora woodsiana +/- E. fibrosa subsp. fibrosa, E. racemosa subsp. racemosa, Corymbia intermedia, C. trachyphloia, E. tindaliae, E. helidonica and E. resinifera. Occurs on Palaeozoic and older moderately to strongly deformed and metamorphosed sediments and interbedded volcanics. (BVG1M: 9a)

12.11.5j: Eucalyptus racemosa subsp. racemosa and/or E. seeana and Corymbia intermedia woodland. Other characteristic species include E. siderophloia, Angophora leiocarpa, C. trachyphloia subsp. trachyphloia and rarely E. pilularis. Melaleuca quinquenervia may be present and at times becomes locally co-dominant. Occurs on Palaeozoic and older moderately to strongly deformed and metamorphosed sediments and interbedded volcanics. (BVG1M: 9a)

12.11.5k: Corymbia henryi woodland +/- Eucalyptus crebra, E. carnea, E. tindaliae, E. fibrosa subsp. fibrosa, E. siderophloia, C. citriodora subsp. variegata, Angophora leiocarpa, E. acmenoides, E. helidonica, E. propinqua, C. intermedia. Includes patches of E. dura. Occurs on drier ridges and slopes in near coastal areas on Palaeozoic and older moderately to strongly deformed and metamorphosed sediments and interbedded volcanics. (BVG1M: 10b)

The '**RE12.11.10**' remnant type is described (in part) under provisions of the Queensland Herbarium's *Regional Ecosystem Description Database* as the following:

Regional Ecosystem:	12.11.10
Vegetation Management Act Class:	Least concern
Biodiversity Status:	No concern at present
Subregion:	7, 3, 10, (5), (4)
Estimated Extent:	In September 2011, remnant extent was > 10,000 ha and >30% of the pre-clearing area remained.
Extent in Reserves:	High

Short Description:
Notophyll vine forest ± Araucaria cunninghamii on metamorphics ± interbedded volcanics.

Description:
Notophyll and notophyll/microphyll vine forest +/- Araucaria cunninghamii. Characteristic species include Argyrodendron trifoliolatum, Argyrodendron sp. (Kin Kin W.D.Francis AQ81198), Backhousia subargentea, Dissiliaria baloghioides, Brachychiton discolor, Beilschmiedia obtusifolia, Diospyros pentamera, Grevillea robusta, Gmelina leichhardtii and Ficus macrophylla forma macrophylla. Occurs on Palaeozoic and older moderately to strongly deformed and metamorphosed sediments and interbedded volcanics. (BVG1M: 2a)

The '**RE12.12.15**' remnant type is described (in part) under provisions of the Queensland Herbarium's *Regional Ecosystem Description Database* as the following:

Regional Ecosystem:	12.12.15
Vegetation Management Act Class:	Least concern
Biodiversity Status:	No concern at present
Subregion:	3, 5, 7, 4, (6), (1)
Estimated Extent:	In September 2011, remnant extent was > 10,000 ha and >30% of the pre-clearing area remained.
Extent in Reserves:	High

Short Description:
Corymbia intermedia ± Eucalyptus propinqua, E. siderophloia, E. microcorys, Lophostemon confertus open forest on Mesozoic to Proterozoic igneous rocks.

Description:
Corymbia intermedia +/- Eucalyptus propinqua, E. siderophloia, E. microcorys, Lophostemon confertus. Other canopy species include E. acmenoides, E. moluccana, Angophora subvelutina and occasional vine forest species. Patches of Eucalyptus pilularis sometimes present. Occurs on Mesozoic to Proterozoic igneous rocks. (BVG1M: 9a)

Vegetation communities in this regional ecosystem include:

12.12.15a: Eucalyptus grandis and/or E. saligna tall open forest +/- vine forest understorey. Other canopy species include E. microcorys, E. acmenoides, Lophostemon confertus, E. siderophloia, E. propinqua, Corymbia intermedia. Occurs in wet gullies on Mesozoic to Proterozoic igneous rocks. (BVG1M: 8a)

12.12.15b: Lophostemon confertus open forest +/- Eucalyptus microcorys, E. siderophloia, E. carnea and E. propinqua. Vine forest species are often present in understorey. Occurs in gullies and exposed ridges on Mesozoic to Proterozoic igneous rocks often amongst vine forest. (BVG1M: 8a)

The '**RE12.12.16**' remnant type is described (in part) under provisions of the Queensland Herbarium's *Regional Ecosystem Description Database* as the following:

Regional Ecosystem:	12.12.16
Vegetation Management Act Class:	Least concern
Biodiversity Status:	No concern at present
Subregion:	7, 10, 3, 8, (5), (4)
Estimated Extent:	In September 2011, remnant extent was > 10,000 ha and >30% of the pre-clearing area remained.
Extent in Reserves:	High

Short Description:
Notophyll vine forest on Mesozoic to Proterozoic igneous rocks.

Description:
Notophyll vine forest. Characteristic species include Araucaria bidwillii, A. cunninghamii, Argyrodendron trifoliolatum, Argyrodendron sp. (Kin Kin W.D. Francis AQ81198), Backhousia subargentea, Brachychiton discolor, Beilschmiedia

obtusifolia, Diospyros pentamera, Grevillea robusta, Gmelina leichhardtii, Ficus macrophylla forma macrophylla and Sloanea woollsii. Eucalyptus spp. especially E. siderophloia, E. propinqua and E. grandis may be present as emergents. Occurs on Mesozoic to Proterozoic igneous rocks. (BVG1M: 2a)

Geology across the site (refer **FIGURE 3** previously) is considered to be broadly consistent with 'landzone' requirements for these remnant types, and it was confirmed during field survey (refer **SECTION 3.2.1** below) that the ecologically dominant layer (EDL) observed within the mapped vegetation types is generally reflective of cover, height and species composition requirements of 'remnant vegetation' defined under provisions of the VM Act as follows:

'Remnant vegetation…means vegetation –

(a) that is –

(i) an endangered regional ecosystem; or
(ii) an of concern regional ecosystem; or
(iii) a least concern regional ecosystem; and

(b) forming the predominant canopy of the vegetation –

(i) covering more than 50% of the undisturbed predominant canopy; and
(ii) averaging more than 70% of the vegetation's undisturbed height; and
(iii) composed of species characteristic of the vegetation's undisturbed predominant canopy.'

It is additionally noted that the site and immediate surrounds are broadly designated on DNRMs *Vegetation Management Supporting Map* (refer **FIGURE 6** and **ATTACHMENT 10**) as partially comprising 'essential habitat' potential/records under provisions of both the VM Act and NC Act:

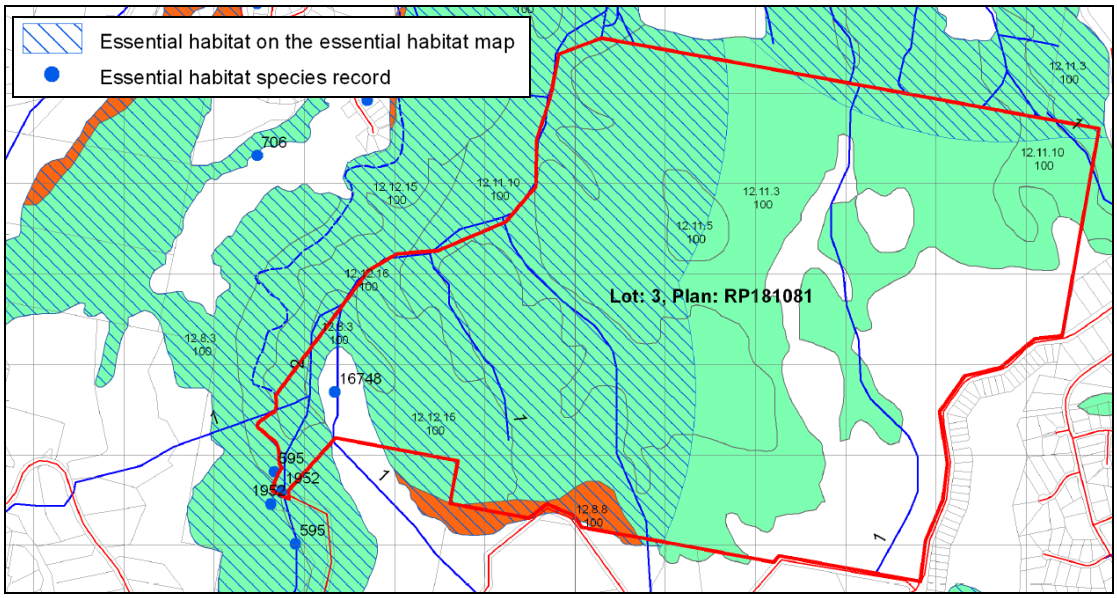

FIGURE 6: Vegetation Management Supporting Map (Source: DNRM)

Seven (7) species of threatened fauna and flora are designated on the *Vegetation Management Supporting Map* as follows:

- **595**: Cascade Treefrog (*Litoria pearsoniana*) – Vulnerable
- **706**: Tusked Frog (*Adelotus brevis*) – Vulnerable
- **803**: Spotted-tailed Quoll (*Dasyurus maculatus maculatus* southern subspecies) – Vulnerable
- **1952**: Marbled Frogmouth (Plumed *Podargus ocellatus plumiferus*) – Vulnerable
- **2014**: Richmond Birdwing Butterfly (*Ornithoptera richmondia*) – Vulnerable
- **16748**: Macadamia Nut (*Macadamia tetraphylla*) – Vulnerable
- **29186**: Koala (*Phascolarctos cinereus* SEQ bioregion) – Vulnerable

In summary, Concurrence Agency assessment by DNRM is required due to selective clearing impacts within mapped native vegetation necessary to implement the proposed MCU.

3.2 Field Survey

Field surveys were undertaken between August 2013 – January 2014 to determine the predominant vegetation and fauna values across the site.

3.2.1 Vegetation

A total of 44 assessment sites (including 6 secondary, 18 tertiary and 20 quaternary sites in accordance with Neldner *et al*, 2012) were undertaken to determine the predominant structure, type and condition of vegetation communities across the subject property and presence of any significant species scheduled under provisions of the NC Act.

The site is predominantly covered by relatively intact open forest to tall open forest on metamorphosed sedimentary rocks across the higher slopes/spurs and mid-upper fringes of deeply folded gullies, with diverse structure and composition due to slope, aspect, soil depth, fire regime and land management history.

The variable composition of the canopy layer is generally dominated by Tallowwood (*Eucalyptus microcorys*), Brush Box (*Lophostemon confertus*), Small-fruited Grey Gum (*Eucalyptus propinqua*), Northern Grey Ironbark (*Eucalyptus siderophloia*) and/or Flooded Gum (*Eucalyptus grandis*). Less commonly recorded species include Broad-leaved White Mahogany (*Eucalyptus carnea*), Pink Bloodwood (*Corymbia intermedia*) and White Mahogany (*Eucalyptus acmenoides*). The canopy has a median height of 25m, a cover intercept ranging from 30 to 60% (average 50%) and is broadly analogous with the RE12.11.3 vegetation type (refer **PLATES 1 & 2** following).

The sub-canopy is dominated by Brush Box and/or other canopy species with Forest She-oak (*Allocasuarina torulosa*), Blackwood (*Acacia melanoxylon*), Hickory Wattle (*Acacia disparrima ssp. disparrima*), Bangalow Palm (*Archontophoenix cunninghamiana*) and various vine forest generalists occurring occasionally throughout. The sub-canopy has a median height of 14m and cover intercept ranging from 5 to 25%.

PLATE 1: RE12.11.3

The tall shrub layer (which occasionally extends into a low tree layer) is dominated by Forest She-Oak, Hickory Wattle, Brush Box, Blackwood, Tree Daviesia (*Daviesia arborea*) and/or Native Hibiscus (*Hibiscus heterophyllus*). Other species including Bangalow Palm, Straw Treefern (*Cyathea cooperi*), Wild Quince (*Guioa semiglauca*), Red Kamala (*Mallotus philippensis*), Maiden's Wattle (*Acacia maidenii*), Murrogun (*Cryptocarya microneura*), Ribbonwood (*Euroschinus falcatus var. falcatus*), Native Olive (*Olea paniculata*), Grey Myrtle (*Backhousia myrtifolia*), Tree Heath (*Trochocarpa laurina*) and/or Foambark (*Jagera pseudorhus var. pseudorhus*) also dominate the mid-stratum in some locations. These vine forest generalists were more commonly associated with higher drainage lines and protected gullies. The tall shrub layer has a median height of 5m and cover intercept ranging from 10 to 20%.

The composition of the low shrub layer is also highly variable. Commonly recorded species include Common Lantana (*Lantana camara*), juvenile upper strata species, Shining Burrawang (*Lepidozamia peroffskyana*), *Astrotricha latifolia*, Coughbush (*Cassinia subtropica*), Water Vines (*Cissus spp.*), Burny Vine (*Trophis scandens*

subsp. scandens) and Forest Hop-bush (*Dodonaea triquetra*). The low shrub layer has a median height of 2.5m and cover intercept ranging from 5 to 80%.

The groundcover composition is also variable due to light penetration, mulch thickness and suppression by Common Lantana, as well as aspect, slope and soil moisture. Commonly encountered species include Molasses Grass (*Melinis minutiflora*), Blady Grass (*Imperata cylindrica*), Soft Bracken (*Calochlaena dubia*), Kangaroo Grass (*Themeda triandra*), Wiry Panic (*Entolasia stricta*), Crofton Weed (*Ageratina adenophora*), *Hibbertia dentata,* Hairy Panic (*Panicum effusum*) and Graceful Grass (*Ottochloa gracillima*). Other species including Gristle Fern (*Blechnum cartilagineum*), Rasp Ferns (*Doodia spp.*), Maidenhair Ferns (*Adiantum spp.*), and/or Beard Grasses (*Oplismenus spp.*) were more common within higher gullies.

PLATE 2: RE12.11.3

Surrounded entirely by RE12.11.3, a restricted distribution of relatively intact woodland to open forest on metamorphosed sedimentary rocks was also observed on the steep upper slopes and crest of a gently undulated low hill/knoll at the end of a broad ridge in the northwest property extent.

The canopy layer in this area is dominated by Broad-leaved White Mahogany. Other species include Spotted Gum (*Corymbia citriodora ssp. variegata*), Northern Grey Ironbark and less commonly Small-fruited Grey Gum and Brush Box. The canopy has a median height of 20m, a cover intercept ranging from 40 to 60% (average 50%) and is broadly analogous with the RE12.11.5a vegetation type (refer **PLATE 3**).

The sub-canopy is dominated by Broad-leaved White Mahogany with associated Spotted Gum, Northern Grey Ironbark and Forest She-Oak. The sub-canopy has a median height of 12m and cover intercept ranging from 5 to 10%.

The tall shrub layer is dominated by Forest She-Oak and Brush Box. Other species include juvenile canopy specimens, Hickory Wattle and Red Ash (*Alphitonia excelsa*). The tall shrub layer has a median height of 5m and cover intercept ranging from 10 to 20%.

The low shrub layer is dominated by *Astrotricha latifolia,* Red Ash and associated Coughbush, Brush Box, Forest She-Oak, Hickory Wattle, Holly-leaved Pea (*Podolobium ilicifolium*), *Glycine tabacina* and Prickly Heath (*Leucopogon juniperinus*). The low shrub layer has a median height of 2m and cover intercept ranging from 5 to 20%.

The groundcover is dominated by Kangaroo Grass with associated Wiry Panic and Blady Grass. Molasses Grass was mostly suppressed.

PLATE 3: RE12.11.5a

Higher slopes fringing the central southern boundary also comprise a relatively intact tall open forest on olivine basalt dominated by Flooded Gum (*Eucalyptus grandis*). Less commonly recorded canopy species include Brush Box, Tallowwood and White Mahogany. The canopy has a median height of 30m, a cover intercept of approximately 60% and is broadly analogous with the RE12.8.8 vegetation type (refer **PLATE 4**).

The sub-canopy is dominated by Flooded Gum and Brush Box with Bangalow Palm, Blackwood and various vine forest generalists occurring infrequently. The sub-canopy has a median height of 16m and a cover intercept ranging from 10 to 20%.

The tall shrub layer is dominated by Native Hibiscus and associated Bangalow Palm, Straw Treefern, Wild Quince, Red Kamala, Maiden's Wattle and/or Creek Sandpaper Fig (*Ficus coronata*). The tall shrub layer has a median height of 5m and a cover intercept ranging from 10 to 20%.

The low shrub layer is generally dominated by Common Lantana. Other species include juvenile upper strata species, Bolwarra (*Eupomatia laurina*), Shining Burrawang and Native Ginger (*Alpinia caerulea*). The low shrub layer has a median height of 2.5m and a cover intercept ranging from 10 to 35%.

The groundcover composition is also variable due to light penetration, mulch thickness and suppression by Common Lantana. Commonly encountered species include Soft Bracken, Gristle Fern, Rasp Ferns, Graceful Grass, Crofton Weed, *Hibbertia dentata* and/or Native Raspberry (*Rubus rosifolius*).

PLATE 4: RE12.8.8

Conversely, the mid-lower slopes and deeply-incised gullies draining into and including/along the majority of the Guanaba Creek fringe are dominated by relatively intact complex notophyll vine forest on metamorphosed sedimentary rocks and inter-bedded volcanics.

The canopy layer is dominated by Murrarie (*Pseudoweinmannia lachnocarpa*), Hoop Pine (*Araucaria cunninghamii*) and/or Hauer (*Dissiliaria baloghioides)*. Other commonly recorded species include Premna (*Vitex lignum-vitae*), Native Olive, Tulipwood (*Harpullia pendula*), Figs (*Ficus spp.*), White Booyong (*Argyrodendron trifoliatum*), Water Vines (*Tetrastigma nitens*, *Cissus spp*.) and Zig-Zag Vine (*Melodorum leichhardtii*). The canopy has a median height of 28m, a cover intercept ranging from 20 to 60% (average 40%) and is broadly analogous with the RE12.11.10 vegetation type (refer **PLATES 5 & 6**).

The sub-canopy is dominated by juvenile canopy species, Scrub Bloodwood (*Baloghia inophylla*), Bosistoa (*Bosistoa pentacocca*), Yellow Tulip (*Drypetes deplanchei*), Union Nut (*Bouchardatia neurococca*), Red Kamala, Myrtle Ebony (*Diospyros pentamera*), Yellow Pear Fruit (*Mischocarpus pyriformis*) and White Booyong. The sub-canopy has a median height of 15m and cover intercept ranging from 20 to 60%.

PLATE 5: RE12.11.10

The tall shrub layer (which occasionally extends into a low tree layer) is dominated by juvenile upper strata species, particularly Union Nut, and associated Coogera (*Arytera divaricata, A. distylis*), Cleistanthus (*Cleistanthus cunninghamii*), Thick-leaved Croton (*Croton acronychioides*), Lawyer Cane (*Calamus muelleri*), Hairy Alectryon (*Alectryon tomentosus*), Hodgkinsonia (*Hodgkinsonia ovatiflora*), Yellow Laurel (*Cryptocarya bidwillii*) and Canary Beech (*Polyalthia nitidissima*). The tall shrub layer has a median height of 6m and cover intercept ranging from 10 to 40%.

The low shrub layer is dominated by Cleistanthus and/or Fissistigma (*Meiogyne stenopetala*). Other common species include Hedraianthera (*Hedraianthera porphyropetala*), Glossy Laurel (*Cryptocarya laevigata*), Yellow Laurel, Narrow-leaved Gardenia (*Atractocarpus chartaceus*) and juvenile upper strata species. The low shrub layer has a median height of 2m and cover intercept ranging from <5 to 30%.

The groundcover composition is also variable due to light penetration, slope and soil depth. Common species include Rasp Ferns, Maidenhair Ferns, Sickle Ferns (*Pellaea spp.*), Shield Ferns (*Lastreopsis spp.*), *Asplenium attenuatum,* various vines, juvenile shrub species, Beard Grasses, *Carex brunnea* and *Exocarya scleroides*.

PLATE 6: RE12.11.10

A relatively intact complex notophyll vine forest was also observed higher up Guanaba Creek towards Guanaba Gorge due to a change in geology to colluvial basalt. The canopy layer in this area is dominated by Murrarie and Native Olive. Other commonly recorded species include Hoop Pine, Moreton Bay Fig (*Ficus macrophylla*), White Booyong, Water Vines, Zig Zag Vine, Premna, Ribbonwood and Blue Quandong (*Elaeocarpus grandis*). The canopy has a median height of 26m, a cover intercept ranging from 40 to 50% and is broadly analogous with the RE12.8.3 vegetation type (refer **PLATE 7**).

The sub-canopy is dominated by Myrtle Ebony and associated Rough-leaved Elm (*Aphananthe philippinensis*), Scrub Bloodwood, juvenile canopy species, Green Tamarind (*Elattostachys nervosa*), Red Kamala and Bangalow Palm. The sub-canopy has a median height of 14m and cover intercept ranging from 20 to 40%.

The tall shrub layer is dominated by juvenile upper strata species and associated Coogera, Blunt-leaved Steelwood (*Toechima tenax*), Wild Quince, Penta's Ash (*Pentaceras australe*), Hairy Alectryon and Corduroy Tamarind (*Sarcopteryx stipata*). The tall shrub layer has a median height of 6m and cover intercept ranging from 10 to 15%.

The low shrub layer is dominated by Cleistanthus and Fissistigma. Other commonly encountered species included Hedraianthera, Actephila (*Actephila lindleyi*), Lawyer Cane, Narrow-leaved Gardenia, Klunkerberry (*Carissa ovata*), Orange Thorn (*Pittosporum multiflorum*), Yellow Laurel and Large-leaved Palm Lily (*Cordyline petiolaris*). The low shrub layer has a median height of 2.5m and cover intercept ranging from 10 to 35%.

The groundcover composition is also variable due to light penetration and competition from upper strata species. Commonly recorded species include Rasp Ferns, Rainforest Mat-rush (*Lomandra spicata*), juvenile upper strata species particularly vines, Shield Ferns and Ground Ferns (*Hypolepis spp.*).

PLATE 7: RE12.8.3

Higher up Guanaba Creek again, a relatively intact complex notophyll vine forest on rhyolite is situated directly at the base of Guanaba Gorge. This community is primarily associated with the channel and immediate terraces of Guanaba Creek below the main waterfall and slopes of Guanaba Gorge.

The canopy layer is dominated by Murrarie. Other commonly recorded species include Hoop Pine, Moreton Bay Fig, White Booyong, Churnwood (*Citronella moorei*) and Yellow Carabeen (*Sloanea woollsii*). The canopy has a median height of 26m, a cover intercept ranging from 15 to 30% and is broadly analogous with the RE12.12.16 vegetation type (refer **PLATE 8**).

The sub-canopy is dominated by Bangalow Palm and associated Water Vines, juvenile canopy species, Scrub Bloodwood, Tulipwood, Zig-zag Vine, Native Olive, Rough-leaved Elm, Premna, Brush Cherry (*Syzygium australe*), Burny Vine and Queensland Greenheart (*Endiandra compressa*). The sub-canopy has a median height of 16m and cover intercept ranging from 50 to 60%.

The tall shrub layer is dominated by juvenile upper strata species and associated Coogera, Yellow Tulip and Union Nut. The tall shrub layer has a median height of 7m and cover intercept ranging from 10 to 20%.

The low shrub layer is dominated by Cleistanthus. Other common species include Hedraianthera, Fissistigma, Yellow Laurel, Snowwood (*Pararchidendron pruinosum*), Actephila and Buff Hazelwood (*Symplocos thwaitesii*). The low shrub layer has a median height of 3m and cover intercept ranging from <5 to 15%.

The groundcover composition is also variable due to light penetration, slope, soil depth and exposure to high velocity flows. Commonly encountered species include Rasp Ferns, Maidenhair Ferns, Sickle Ferns (*Pellaea spp.*), Shield Ferns, Native Spinach (*Elatostema spp.*), Binung (*Christella dentata*) and *Asplenium attenuatum*.

PLATE 8: RE12.12.16

Further, a restricted but relatively intact (albeit stunted) woodland on rhyolite was also observed on the cliff faces flanking the western side of Guanaba Gorge waterfall in the southwestern property extent. Due to access limitations this community was surveyed from the gorge floor using binoculars.

The canopy layer is dominated by White Mahogany with associated Pink Bloodwood and Broad-leaved White Mahogany. The canopy has a median height of 12m, a cover intercept of 25% and is broadly analogous with the RE12.12.15 vegetation type (refer **PLATE 9**).

The shrub layer is dominated by juvenile canopy species with associated Maiden's Wattle, Forest She-Oak, Pointed-leaved Hovea (*Hovea acutifolia*) and Brush Box. Other species include juvenile canopy species, Hickory Wattle and Red Ash. The shrub layer has a median height of 5m and cover intercept ranging from 5 to 15%.

The groundcover is dominated by Mat-rushes (*Lomandra spp.*), Wiry Panic, Kangaroo Grass, Crofton Weed, Mistflower (*Ageratina riparia*) and Basket Fern (*Drynaria rigidula*).

PLATE 9: RE12.12.15

Balance areas containing disturbed/non-remnant vegetation are predominantly situated within the higher south-eastern and lower south-western property extents of the site due to historical clearing associated with previous landuses/management (refer **PLATE 10**).

These areas have become heavily infested with exotic flora species, particularly Common Lantana, Crofton Weed and Broad-leaved Paspalum (*Paspalum mandiocanum*). Other commonly encountered species included Blue Billygoat Weed (*Ageratum houstonianum*), Slash Pine (*Pinus elliottii*), Cobbler's Pegs (*Bidens pilosa*) and White Glycine (*Neonotonia wightii*). Woody native vegetation was generally limited to fragmented distributions of Blackwood, Flooded Gum, Ribbonwood and/or Hickory Wattle.

PLATE 10: Disturbed/Non-remnant Vegetation

In summary, subject to some site-specific variation in spatial extent on-ground, the observed vegetation communities described above are broadly commensurate with the designated remnant types identified within **SECTION 3.1** previously. Of additional note, eight (8) species of threatened flora scheduled under provisions of the NC Act (a selection of which are also administered separately under the federal *Environment Protection and Conservation Act 1999* – 'EPBC Act') were identified/ observed on the site as follows:

Identified/Observed Significant Flora Species

Botanical Name	Common Name	NCA92	EPBCA99
Baloghia marmorata	Jointed Baloghia	Vulnerable	Vulnerable
Bosistoa transversa	Three-veined Bosistoa	Least Concern	Vulnerable
Cupaniopsis newmanii	Long-leaved Tuckeroo	Near-threatened	-
Jasminum jenniae	Jenny's Jasmine	Vulnerable	Vulnerable

Botanical Name	Common Name	NCA92	EPBCA99
Macadamia integrifolia	Queensland Nut	Vulnerable	Vulnerable
Macadamia tetraphylla	Macadamia Nut	Vulnerable	Vulnerable
Pararistolochia praevenosa	Richmond Birdwing Vine	Near-threatened	-
Pouteria eerwah	Small-leaved Coondoo	Endangered	Endangered

Macadamia Nut and Jointed Baloghia were frequently encountered within RE12.8.3 and RE12.11.10. Jenny's Jasmine was occasionally recorded in a number of rocky gullies within RE12.11.10 in the north-east and central property extents. Long-leaved Tuckeroo was frequently encountered in a number of habitats (RE12.8.3, RE12.8.8, RE12.11.3, RE12.11.10 and RE12.12.16). Queensland Nut, Richmond Birdwing Vine, Three-veined Bosistoa and Small-leaved Coondoo were infrequently recorded in RE12.8.3 and RE12.11.10 in the south-western portion of the Study Area.

Given the subregional *Wildlife Online* data (refer **ATTACHMENT 11**) and type/ condition of identified vegetation types (in particular RE12.8.3/RE12.11.10/ RE12.12.16 and steep/protected gullies of RE12.8.8/RE12.11.3), it is considered that there is also reasonable potential for additional significant flora species on the site.

Further, three (3) of the identified vegetation communities (RE12.8.3/RE12.11.10/ RE12.12.16) also satisfy the key diagnostic characteristics of *Lowland Rainforest of Subtropical Australia* (TSSC, 2011ba/2011be) which is scheduled as a 'Critically Endangered' threatened ecological community administered separately under provisions of the EPBC Act.

3.2.2 Fauna Habitat

A broad survey of available fauna habitat components identified the following values across the site:

- **Permanent/Ephemeral Water** – provide both a refuge and forage base primarily for waterfowl and amphibians. Woody riparian vegetation provides insect-producing habitat/forage base for insectivorous birds and flying mammals. Vegetated waterways also function as fauna dispersal conduits. Guanaba Creek comprises flowing water which is also fed by ephemeral gullies on the site.

- **Hollow-bearing Trees** – provide refuge primarily for arboreal mammals and birds; usually within post-mature canopy trees. A number of stags and hollows with refuge-potential were noted across the site.

- **Flowering Trees** – provide a forage base primarily for nectivorous birds and arboreal/flying mammals; usually associated with sclerophyllous/heathland vegetation. Native flora species observed generally across mid-upper portions of the site provide a source of seasonal nectar.

- **Fruiting Trees** – provide a forage base for frugivorous birds and arboreal/ flying mammals; usually associated with rainforest/riparian environs. Native flora species observed generally across mid-lower portions of the site provide a source of seasonal fruit.

- **Stick Nests** – refuge/nesting habitat generally associated with avifauna; usually within canopy trees. A number of prominent stick nests were observed across the site.

- **Termite Mounds** – provide refuge for a variety of either terrestrial or arboreal species; usually within sclerophyllous environs. A number of arboreal termite mounds (with openings) were noted across the site.

- **Dense Understorey/Ground Layers** – provide cover for dispersal/refuge of smaller terrestrial mammals; usually associated with intact sclerophyllous/ riparian vegetation. The understorey/ground layer values are reasonably intact across majority of the site (albeit subject to some variable weed disturbance).

- **Outcrops/Cliffs/Caves** – provide refuge for a variety of species; usually associated with steep topography and variation in geological formations. Outcrops/cliffs are present on the site but no significant caves were noted.

- **Rocky Substrate/Debris** – provide thermal environs for reptiles; usually associated with bedrock, bush rock/river rock deposits and fallen timber/litter. Exposed and/or loose rocky substrates were observed particularly proximate to waterways while variable debris types were common across the site.

- **Contiguous Vegetation** – established native bushland provides dispersal conduits for fauna between core habitats across the broader landscape. The identified native vegetation types are contiguous with adjacent/broader bushland remnants predominantly to the north and southwest.

Based on the available components and connectivity with adjacent bushland remnants it is considered that fauna habitat value across the majority of the site is **Moderate-High** overall.

In this regard the site would likely support a moderate variety and abundance of ground-dwelling/arboreal/flying mammals common to the sub-coastal hills. Further, *Wildlife Online* data (refer **ATTACHMENT 11**) also indicates that four (4) species of threatened mammal have been previously recorded within the subregion (5-kilometre radius of the site). These species, their conservation status and habitat requirements (van Dyck & Strahan, 2008) are as follows:

- **Spotted-tailed Quoll** (southern subspecies *Dasyurus maculatus maculatus*) – scheduled as Vulnerable under NCA92 and Endangered under EPBCA99. Prefers a variety of vegetated habitats for refuge including wet/dry sclerophyll, woodlands, rainforest and vine thickets. Forages primarily on medium-sized mammals but also on reptiles, birds, carrion and arthropods.

- **Koala** (SEQ bioregion *Phascolarctos cinereus*) – scheduled as Vulnerable under both NCA92 and EPBCA99. Prefers sclerophyllous vegetation of varied composition and structure comprising, among other Myrtaceous species, Forest Red Gum (*Eucalyptus tereticornis*), Tallowwood (*E. microcorys*), Grey Gum (*E. propinqua*), Swamp Mahogany (*E. robusta*) and Scribbly Gum (*E. racemosa*) for foraging/refuge.

- **Long-nosed Potoroo** (*Potorous tridactylus tridactylus*) – scheduled as Vulnerable under both NCA92 and EPBCA99. Prefers heathland/sclerophyllous vegetation where groundcover is dense and soils are light/sandy. Forages on insects, fungi and fruits/seeds. Seldom traverses open areas.

- **Grey-headed Flying-fox** (*Pteropus poliocephalus*) – scheduled as Vulnerable under EPBCA99. Prefers dense riparian vegetation for roosting and forages on nectar, fruits and leaves.

Given the available habitat components, connectivity with adjacent bushland and previous recordings within the subregion, it was determined that the site could potentially provide habitat value for the Spotted-tailed Quoll, Koala and Grey-headed Flying-fox. The Koala was observed on the site via infra-red motion-sensing camera in the northwestern property extent, however a targeted search (i.e. direct observation, amplified call-playback/recognition, carrion, fresh guano/roosts) revealed no presence of the Spotted-tailed Quoll or Grey-headed Flying-fox at time of survey.

The site would also likely support a moderate-high variety and abundance of birds (principally nectivores, insectivores, frugivores, raptors and edge-specialist species but sporadic waders/waterfowl) common to the sub-coastal hills. Further, a review of *Wildlife Online* data (refer **ATTACHMENT 11**) indicates that ten (10) threatened species of bird have been previously recorded within the subregion (5-kilometre radius of the site). These species, their conservation status and habitat requirements (Pizzey & Knight, 2007) are as follows:

- **Grey Goshawk** (*Accipiter novaehollandiae*) – scheduled as Near-Threatened under NCA92. Prefers rainforest/sclerophyll forests, vegetated gullies, woodlands and timbered watercourses.

- **Glossy Black-cockatoo** (*Calyptorhynchus lathami*) – scheduled as Vulnerable under NCA92. Prefers sclerophyllous/woodland vegetation and timbered waterways where hollow-bearing trees and Sheoaks (particularly *Allocasuarina* spp.) are abundant.

- **Black-necked Stork** (*Ephippiorhynchus asiaticus*) – scheduled as Near-Threatened under NCA92. Prefers wetlands in coastal areas i.e. mangroves, tidal swamps/mudflats and floodplains.

- **Red-browed Tree Creeper** (*Climacteris erythrops*) – scheduled as Near-Threatened under NCA92. Prefers tall eucalypt forests where hilly terrain merges with rainforested gullies down to sea level.

- **Albert's Lyrebird** (*Menura alberti*) – scheduled as Near-threatened under NCA92. Prefers dense subtropical rainforest/scrub.

- **Plumed Frogmouth** (*Podargus ocellatus plumiferus*) – scheduled as Vulnerable under NCA92. Prefers closed subtropical rainforest below ~700m.

- **Lewin's Rail** (*Lewinia pectoralis*) – scheduled as Near-Threatened under NCA92. Prefers woodland swamps/waterways containing rushes, reeds and grasses. Less commonly wet heathland and saltmarsh.

- **Powerful Owl** (*Ninox strenua*) – scheduled as Vulnerable under NCA92. Prefers coastal forests/woodlands and mountain forests/gullies where significant tree-hollows provide nesting sites and mammalian prey is abundant.

- **Black-breasted Button-quail** (*Turnix melanogaster*) – scheduled as Vulnerable under both NCA92 and EPBCA99. Prefers leaf litter within dry rainforest/vine thickets. Also Eucalypt woodland containing sheoaks/brushbox/wattle and rainforest fringes.

- **Sooty Owl** (*Tyto tenebricosa tenebricosa*) – scheduled as Near-Threatened under NCA92. Prefers tall/wetter forest types in sheltered mountain gullies particularly where the understorey is dense.

Given the available habitat components, connectivity with adjacent bushland and previous recordings within the subregion, it was determined that the site could potentially provide habitat value for the Grey Goshawk, Glossy Black-cockatoo, Red-browed Tree Creeper, Albert's Lyrebird, Plumed Frogmouth, Powerful Owl, Black-breasted Button-quail and Sooty Owl. Albert's Lyrebird was observed on the site via infra-red motion-sensing camera in the northwestern property extent, however a targeted search (i.e. direct observation, amplified call-playback/recognition, cone-chewings/carrion) revealed no presence of any other significant species at time of survey.

The site would also likely support a moderate variety and abundance of ground/tree frogs (but sporadic sedge species) common to the sub-coastal hills. Further, a review of *Wildlife Online* data (refer **ATTACHMENT 11**) indicates that three (3) threatened amphibian species have been previously recorded within the subregion (5-kilometre radius of the site). These species, their conservation status and habitat requirements (Robinson, 2007) are as follows:

- **Cascade Treefrog** (*Litoria pearsoniana*) – scheduled as Vulnerable under NCA92. Prefers rainforest gullies with flowing rocky creeks/streams.

- **Whirring Treefrog** (*Litoria revelata*) – scheduled as Near-threatened under NCA92. Prefers waterways in wet/dry sclerophyll forest and coastal swamps.

- **Tusked Frog** (*Adelotus brevis*) – scheduled as Vulnerable under NCA92. Prefers vegetated fringes of waterways within rainforest/wet sclerophyll environs.

Given the available habitat components, connectivity with adjacent waterways and previous recordings within the subregion, it was determined that the site could potentially provide habitat value for these species. The Cascade Treefrog and Tusked Frog were both observed on the site via call recognition/spotlighting in the western property extent, however a targeted search (i.e. direct observation, amplified call-playback) revealed no presence at of the Whirring Treefrog at time of survey.

The site would also likely support a moderate variety and abundance of terrestrial/ arboreal/aquatic reptiles common to the sub-coastal hills. Further, a review of *Wildlife Online* data (refer **ATTACHMENT 11**) indicates that two (2) threatened amphibian species have been previously recorded within the subregion (5-kilometre

radius of the site). These species, their conservation status and habitat requirements (Swanson, 2007) are as follows:

- **Common Death Adder** (*Acanthophis antarcticus*) – scheduled as Near-threatened under NCA92. Prefers leaf-litter in rainforest, wet/dry sclerophyll, humid/dry woodland or dry shrubland/grassland environs.

- **Three-toed Snake-tooth Skink** (*Coeranoscincus reticulatus*) – scheduled as Near-threatened under NCA92 and Vulnerable under EPBCA99. Prefers wet sclerophyll/rainforest environs, nocturnally active particularly after rain.

Given the available habitat components, connectivity with adjacent bushland and previous recordings within the subregion, it was determined that the site could potentially provide habitat value for these species however a targeted search (i.e. direct observation, rock/debris-exposure) revealed no presence at time of survey.

Whilst invertebrates are arguably beyond the scope of this investigation, it is nonetheless considered that the Richmond Birdwing Butterfly (*Ornithoptera richmondia* – scheduled as Vulnerable under NCA92) is also a potential occurrence on the site given the presence of *Pararistolochia praevenosa* within identified RE12.8.3 and RE12.11.10, however no confirmed observations were made at time of survey.

3.3 Statutory Compliance

3.3.1 Relevant Purpose

The relevant purpose under s22A(2) of the VM Act to which selective clearing of native vegetation the subject of the current development proposal relates is as follows:

(d) for relevant infrastructure activities and the clearing can not reasonably be avoided or minimised.

In determining the extent of disturbance to native vegetation required for implementation of the proposal, development impacts have been overlayed across the mapped remnant boundaries on a *Property Vegetation Management Plan* (refer **ATTACHMENT 12**). For reference purposes, seven (7) points visible on the image base that correspond with identifiable fixed features are as follows:

GPS Point Summary

Position Format: UTM/UPS, Map Datum: WGS84 (GDA94), Zone: 56J		
Plan Reference	**Coordinates**	**Description**
1	520204, 6908360	Change in Boundary Alignment
2	521702, 6908150	Change in Boundary Alignment
3	521599, 6907580	Change in Boundary Alignment
4	521206, 6906900	Change in Boundary Alignment
5	519903, 6907110	Change in Boundary Alignment
6	519372, 6907320	Change in Boundary Alignment
7	519756, 6907810	Change in Boundary Alignment

3.3.2 State Development Assessment Provisions (v1.2)

Based on particulars of the site/development proposal, it has been determined that clearing as a result of the Material Change of Use must be assessed against performance requirements of 'Table 8.1.3: General' of *Module 8: Native Vegetation Clearing (Queensland Vegetation Management State Code)* under the State Development Assessment Provisions as follows:

TABLE 8.1.3: General

Performance Outcomes	Solution/Compliance Response
PO1 Clearing only occurs where the applicant has demonstrated that the development has first avoided, and then minimised the impacts of development.	Complies. Development design has sited the majority of proposed impacts within existing areas of mapped non-remnant vegetation. Relevant impacts within mapped remnant vegetation have been reasonably minimised and will be appropriately implemented in accordance with consultant's documentation/plans (inclusive of architectural design, trail/ zipline/bridge layout, civil earthworks/ stormwater treatment, wastewater disposal and bushfire management). Mapped remnant vegetation will be predominantly retained *in situ*.
PO2 Clearing in an area that is subject to any of the following: (1) a restoration notice, or (2) a compliance notice containing conditions about the restoration of vegetation, or (3) a Land Act notice, or (4) a trespass notice if the trespass related act under the *Land Act 1994* for the notice is the clearing of vegetation on the relevant land, or (5) an enforcement notice under the *Sustainable Planning Act 2009* issued for a vegetation clearing offence, or (6) exchange area, or (7) an environmental offset must not be inconsistent with the notice, or impact on the exchange area unless a better environmental outcome can be achieved, or inconsistent with the environmental offset or another agreement related to the environmental offset.	Complies. The designated title constraints are not known to apply to the subject property.

PO3 Clearing as a result of the material change of use or reconfiguration of a lot will not occur.	N/A. Clearing as a result of the proposed MCU is for a relevant purpose consistent with s22A(2)(d) of the VM Act.
PO4 All clearing is limited to clearing that could be done under an exemption for the purpose of the development (as prescribed under Schedule 24, Parts 1 and 2 of the Sustainable Planning Regulation 2009) prior to the material change of use application being approved.	N/A. Clearing as a result of the proposed MCU is for a relevant purpose consistent with s22A(2)(d) of the VM Act.

Further, based on particulars of the site/development proposal, it has also been determined that clearing as a result of the Material Change of Use must be assessed against performance requirements of 'Table 8.1.4: Public Safety, Relevant Infrastructure and Coordinated Projects' of *Module 8: Native Vegetation Clearing (Queensland Vegetation Management State Code)* under the State Development Assessment Provisions as follows:

TABLE 8.1.4: Public Safety, Relevant Infrastructure and Coordinated Projects

Performance Outcomes	Solution/Compliance Response
PO1 Clearing is limited to the extent that is necessary: (1) for establishing a necessary fence, firebreak, road or vehicular track, or for constructing necessary built infrastructure, if there is no suitable alternative site for the fence, firebreak, road, track or infrastructure (relevant infrastructure), or (2) as a natural and ordinary consequence of other assessable development for which a development approval as defined under the repealed *Integrated Planning Act 1997* was given, or a development application as defined under that Act was made, before 16 May 2003, or (3) to ensure public safety, or (4) for a coordinated project and any associated ancillary works—other than a coordinated project that involves high value agriculture clearing, or irrigated high value agriculture clearing.	Complies. Development design has sited the majority of proposed impacts within existing areas of mapped non-remnant vegetation. Relevant impacts within mapped remnant vegetation have been reasonably minimised and will be appropriately implemented in accordance with consultant's documentation/plans (inclusive of architectural design, trail/ zipline/bridge layout, civil earthworks/ stormwater treatment, wastewater disposal and bushfire management). Mapped remnant vegetation will be predominantly retained *in situ*.

PO2 Maintain the current extent of vegetation associated with any natural wetland to protect: (1) water quality by filtering sediments, nutrients and other pollutants (2) aquatic habitat (3) terrestrial habitat.	N/A. The subject property does not comprise any natural wetlands therefore proposed clearing will not impact any associated water quality, aquatic habitat or terrestrial habitat values.
PO3 Maintain the current extent of vegetation associated with any watercourse to protect: (1) bank stability by protecting against bank erosion (2) water quality by filtering sediments, nutrients and other pollutants (3) aquatic habitat (4) terrestrial habitat.	Complies. Clearing associated with the proposed MCU (inclusive of architectural design, trail/zipline/bridge layout, civil earthworks/stormwater treatment, wastewater disposal and bushfire management) is predominantly >10m from the defining bank of stream-order 1 or 2 watercourses via development design such that any potentially significant impacts to bank stability, water quality, aquatic habitat or terrestrial habitat will be reasonably minimised. Runoff will also be treated on site in accordance with the submitted Stormwater Management Plan/Sediment and Erosion Control Plan and sustainable track/trail design principles (including gully crossing precedents) are also proposed within the Stormwater Management Plan. Further, bridge/zipline structures will be suspended above the larger gullies.
PO4 In consideration of vegetation on the subject lot(s) and in the landscape adjacent to the subject lot(s), vegetation is retained that: (1) is of sufficient size and configured in a way that maintains ecosystem functioning (2) remains in the landscape despite threatening processes.	Complies. Clearing associated with the proposed MCU (inclusive of architectural design, trail/zipline/bridge layout, civil earthworks/stormwater treatment, wastewater disposal and bushfire management) has been reasonably minimised and sited such that mapped remnant vegetation will be predominantly retained *in situ* therefore vegetation will be retained that is of sufficient size and configured in a way that maintains ecosystem function and also remains in the landscape despite threatening processes.
PO5 In consideration of vegetation on the subject lot(s) and in the landscape adjacent to the subject lot(s), vegetation is retained that: (1) is of sufficient size and configured in	N/A. Clearing associated with the proposed MCU is not defined as a 'coordinated project'.

a way that maintains ecosystem functioning (2) remains in the landscape despite threatening processes or where this is not reasonably possible, maintain the current extent of vegetation.	
PO6 Clearing does not result in: (1) mass movement, gully erosion, rill erosion, sheet erosion, tunnel erosion, stream bank erosion, wind erosion, or scalding (2) any associated loss of chemical, physical or biological fertility—including, but not limited to water holding capacity, soil structure, organic matter, soil biology, and nutrients within or outside the lot(s) that are the subject of the application.	Complies. Runoff will be treated on site in accordance with the submitted Stormwater Management Plan/Sediment and Erosion Control Plan and sustainable track/trail design principles (including gully crossing precedents) are also proposed within the Stormwater Management Plan such that land degradation will be reasonably minimised both within and/or outside the subject allotment.
PO7 Clearing does not contribute to land degradation through: (1) waterlogging, or (2) the salinisation of groundwater, surface water or soil.	Complies. Clearing associated with the proposed MCU does not occur in or within 200 metres of a known discharge area or recharge area.
PO8 Maintain the current extent of endangered regional ecosystems and of concern regional ecosystems.	Complies. Clearing associated with the proposed MCU does not occur within any mapped 'endangered' regional ecosystem types. Further, clearing associated with the proposed MCU will not reduce the extent of the mapped 'of concern' regional ecosystem (RE12.8.8).
PO9 Maintain the current extent of essential habitat.	Complies. Clearing associated with the proposed MCU has been reasonably minimised within the mapped extent of 'essential habitat' in general accordance with widths/areas prescribed within Table 1 of SDAP Module 8.
PO10 Clearing activities do not result in disturbance of acid sulfate soils or changes to the hydrology of the location that will either: (1) aerate horizons containing iron sulfides, or (2) mobilise acid or metals.	Complies. Clearing associated with the proposed MCU does not occur within Landzones 1, 2 or 3 nor in any areas below 5 metres AHD.

4.0 Vegetation Impact Summary/Conclusion

A Development Application for 'Material Change of Use (MCU)' is proposed for creation of a Mountainbike/Zipline Facility with associated Outdoor Activities Infrastructure on land situated at 98 Guanaba Road, Tamborine Mountain (Lot 3 RP181081).

The proposed development plans (refer **ATTACHMENTS 1 – 8**) indicate that native vegetation will be selectively impacted on the site for implementation of the development proposal as depicted by the *Property Vegetation Management Plan* (refer **ATTACHMENT 12**).

Notwithstanding, it has been determined that proposed development impacts have maximised the use of existing areas of disturbance to the greatest practical extent, whilst also minimising impacts within native vegetation and maintaining connectivity/ ecosystem function across the broader landscape.

In this regard it is therefore considered that the proposal is compliant with performance outcomes stipulated under the relevant criteria tables of the *Queensland Vegetation Management State Code*.

DNRMs favourable consideration of the development proposal, subject to reasonable and relevant conditions in accordance with provisions of the *Sustainable Planning Act 2009*, is respectfully requested.

5.0 Vegetation Recommendations

To ensure sustainable development objectives under the VM Act are satisfactorily achieved, the following measures are recommended:

- No clearing of mapped remnant vegetation is permitted on the site without prior DNRM consent.
- All works associated with the proposed landuse are to be limited to the approved area(s) with the exception of final track/trail positions which can be reasonably 'meandered' from the designated locations to minimise impacts to T1/fauna habitat trees and/or avoid any other significant environmental/ geological features under supervision of an ecologist.
- Proposed bridges, ziplines and camping/picnic areas are to be managed such that potential impacts to waterways and associated vegetation/habitat are appropriately minimised and/or avoided.
- Any habitat trees to be unavoidably removed from the site are to be inspected by a QPWS-recognised spotter-catcher immediately prior to felling.
- Loss of any habitat trees from the site is to be offset via supply and installation of fauna nest boxes at a ratio of 1:1 within retained bushland on the site.
- All vegetative material resulting from clearing works is to be disposed of via mulching/stockpiling for use within any site rehabilitation works, cut/split for on-site firewood, milled for on-site fencing and/or removal of any excess material to a green-waste facility.

6.0 Attachments List

ATTACHMENT 1 – Proposed Site Plans

ATTACHMENT 2 – Proposed Architectural Plans

ATTACHMENT 3 – Proposed Mountain Bike Trails and Zipline Course Plans

ATTACHMENT 4 – Proposed Stormwater Management Plan

ATTACHMENT 5 – Proposed Surface Levels/Cross Sections Plans

ATTACHMENT 6 – Proposed Sediment and Erosion Control Plan

ATTACHMENT 7 – Proposed Wastewater Layout/Detail Plan

ATTACHMENT 8 – Proposed Bushfire Management Plans

ATTACHMENT 9 – Aerial Image

ATTACHMENT 10 – Certified Regulated Vegetation Management/Supporting Maps

ATTACHMENT 11 – Wildlife Online Extract

ATTACHMENT 12 – Property Vegetation Management Plan

7.0 Bibliography

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ATTACHMENT 1

PROPOSED SITE PLANS

(Source: Design Evolution)

symbols key

property boundary

ziplines

existing 4WD trails

detail map boundaries

de-volution.com

4

3

2

5

1

R

P

KAISER ROAD

GUANABA ROAD

0 200 400 600M

N

OVERALL SITE MAP: GUANABA EXPERIENCE

1 **camp zone 1**
10-16 2WD ACCESSIBLE CAMPSITES WITH SHOWERS, TOILETS, LAUNDRY

2 **camp zone 2**
8-12 4WD ACCESSIBLE CAMPSITES

3 **camp zone 3**
8-12 4WD ACCESSIBLE CAMPSITES

4 **presitge camping**
1 PRIVATE 4WD ACCESSIBLE CAMPSITE

5 **west waterfall picnic area**
4WD ACCESSIBLE PICNIC AREA, WATERFALL WALKING TRAIL

R **reception and visitors center**
TICKETING OFFICE, GUEST BRIEFING, FIRST AID / SAFETY, BIKE HIRE, CAFE, PRO SHOP, SHORT TERM PARKING

P **parking**
DAY PARKING, OVERNIGHT PARKING, PUMP TRACK OVERLOOK, BIKE COACHING AREA, ZIP LINE TRAINING

RECEPTION AREA

ticketing, PARKING, ORIENTATION

R **reception / short term parking**
ticketing office, guest briefing,
first aid / safety briefing

S **shop / bike rental / bike storage**
merchandise, rentals, equipment sales

C **cafe / administration offices**
cafe with deck overlooking the climbing area,
offices adjacent

M **maintenance shed**
maintanance area, equipment storage
shuttle dropoff and turnaround

P **parking**
parking for approximately 100 vehicles,

c4 **c2** **camping**
2wd and 4wd accessible campsites

from c4

to c4

c2

c2

c2

CAMP ZONE 1

M

P

S

R

C

P

P

1

2

3

4

5

6

7

8

9

MTB shuttle
turnaround

property boundary

property boundary

property boundary

KAISER ROAD

SITE ENTRANCE / EXIT

N

ammenities and activities

1 high ropes / challenge course

2 gathering area, bike cleaning stands

3 gold coast shuttle and guest dropoff

4 kids playground

5 accessible parking

6 rubbish bin enclosure

7 bike pump track

8 bike coaching

9 service vehicle bay

zip lines

bike trails

0 25 50 75M

CAMP ZONE 1

2WD AND 4WD ACCESS, 16 SITES, UP TO 50 CAMPERS

campsite number

T toilets
MENS AND WOMENS TOILETS, SHOWER AND WASHING FACILITIES

C2 2wd camping
CAMPSITES FOR 2WD AND 4WD VEHICLES.
FIRE PIT, PICNIC TABLE AND TENT PADS AT EACH SITE

C4 4wd camping
CAMPSITES FOR 4WD VEHICLES ONLY.
FIRE PIT, PICNIC TABLE AND TENT PADS AT EACH SITE

P **R** parking and reception
PARKING, RECEPTION, ORIENTATION, FIRST AID,
BICYCLE RENTAL AND TRAIL HEADS

ziplines

bike trails

from C4

to C4

STP
and buffer storage tanks

property boundary

GUANABA ROAD

to P R

to P R

bike
pump track

0 25 50 75M

N

de-volution.com

CAMP ZONE 2

4WD ACCESS ONLY,
10 STANDAR SITES, UP TO 40 CAMPERS
4 PRESTIGE SITES, UP TO 16 CAMPERS

campsite number

c4 4wd camping
campsites for 4wd vehicles only.
fire pit, picnic table and tent pads at each site

pC prestige camping
campsites for 4wd vehicles only.
fire pit, picnic table and tent pads at each site

bike trails

de-volution.com

1 2 3 4 5 6 7 8 9 10 11 12 13 14

c4 c4 c4 c4

pC pC pC pC

c2

R to CAMP ZONE 1 and RECEPTION

0 25 50 75M

N

CAMP ZONE 3

4WD ACCESS ONLY, 10 SITES, UP TO 40 CAMPERS

\# campsite number

c4 **4wd camping**
CAMPSITES FOR 4WD VEHICLES ONLY.
FIRE PIT, PICNIC TABLE AND TENT PADS AT EACH SITE

bike trails

6
7
c4
5
8
4
9
3
10
2
c4
1
c2
R

to CAMP ZONES 1, 2
and RECEPTION

0 25 50 75M

N

de-volution.com

PRESTIGE CAMPING

4WD ACCESS ONLY, 1 CAMPSITE, UP TO 4 CAMPERS

property boundary

4WD parking

P

c4

c4 R

to CAMP ZONES 1, 2, 3
and RECEPTION

GUANABA CREEK

tent pads

property boundary

picnic table
and fire pit

0 10 20 30M

N

de-volution.com

WATERFALL PICNIC AREA

4WD ACCESS ONLY

P 4wd parking

shaded picnic areas
with tables and grills

lantana field
to be cleared

walking
trail to waterfall

c4 R

to CAMP ZONES 1, 2, 3
and RECEPTION

0 10 20 30M

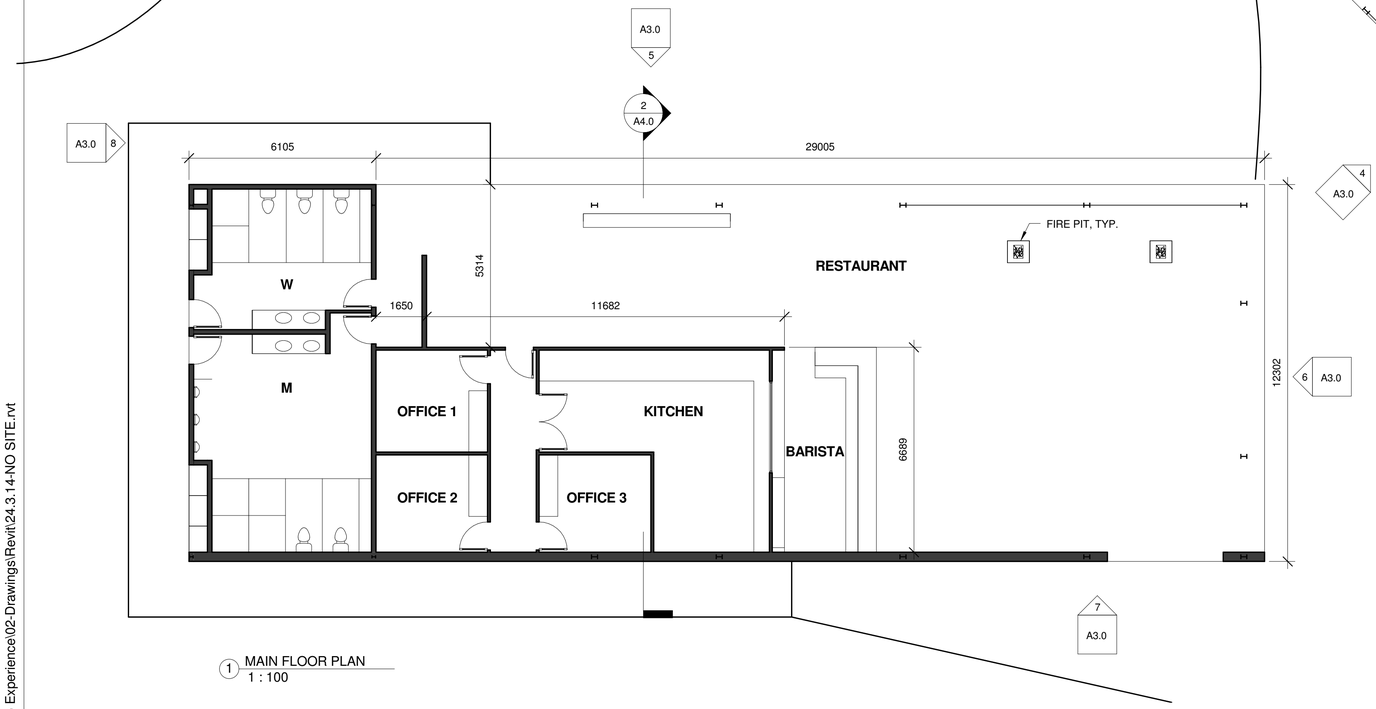
N

de-volution.com

ATTACHMENT 2

PROPOSED ARCHITECTURAL PLANS

(Source: Design Evolution)



1 MAIN FLOOR PLAN
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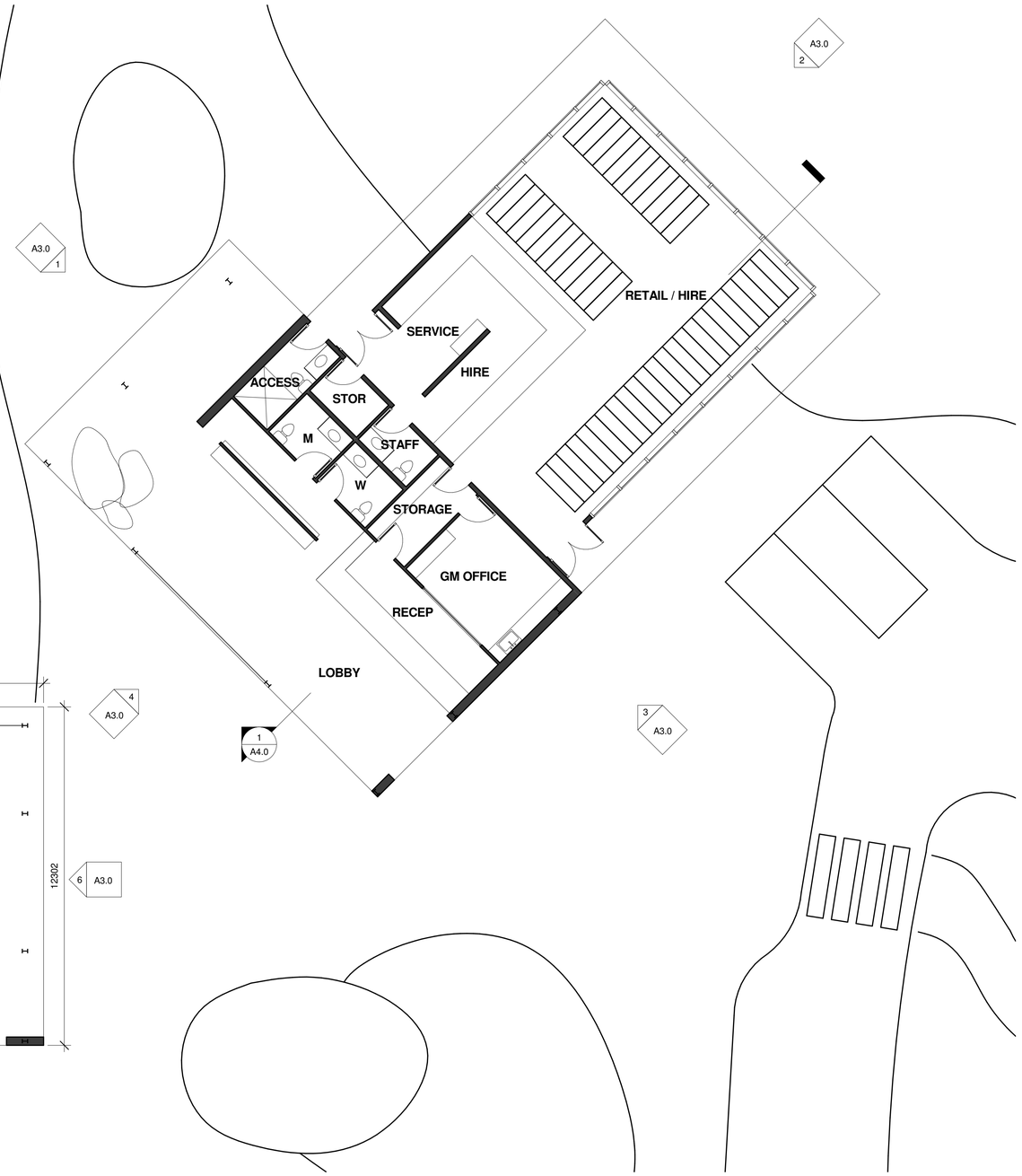


DESIGN
EVOLUTION
ARCHITECTURE
WEB DESIGN

6/125 MORETON ST
NEW FARM, QLD 4005
www.de-volution.com

Rev#	Date	Description

ISSUE DATE: 22/03/14

GUANABA EXPERIENCE

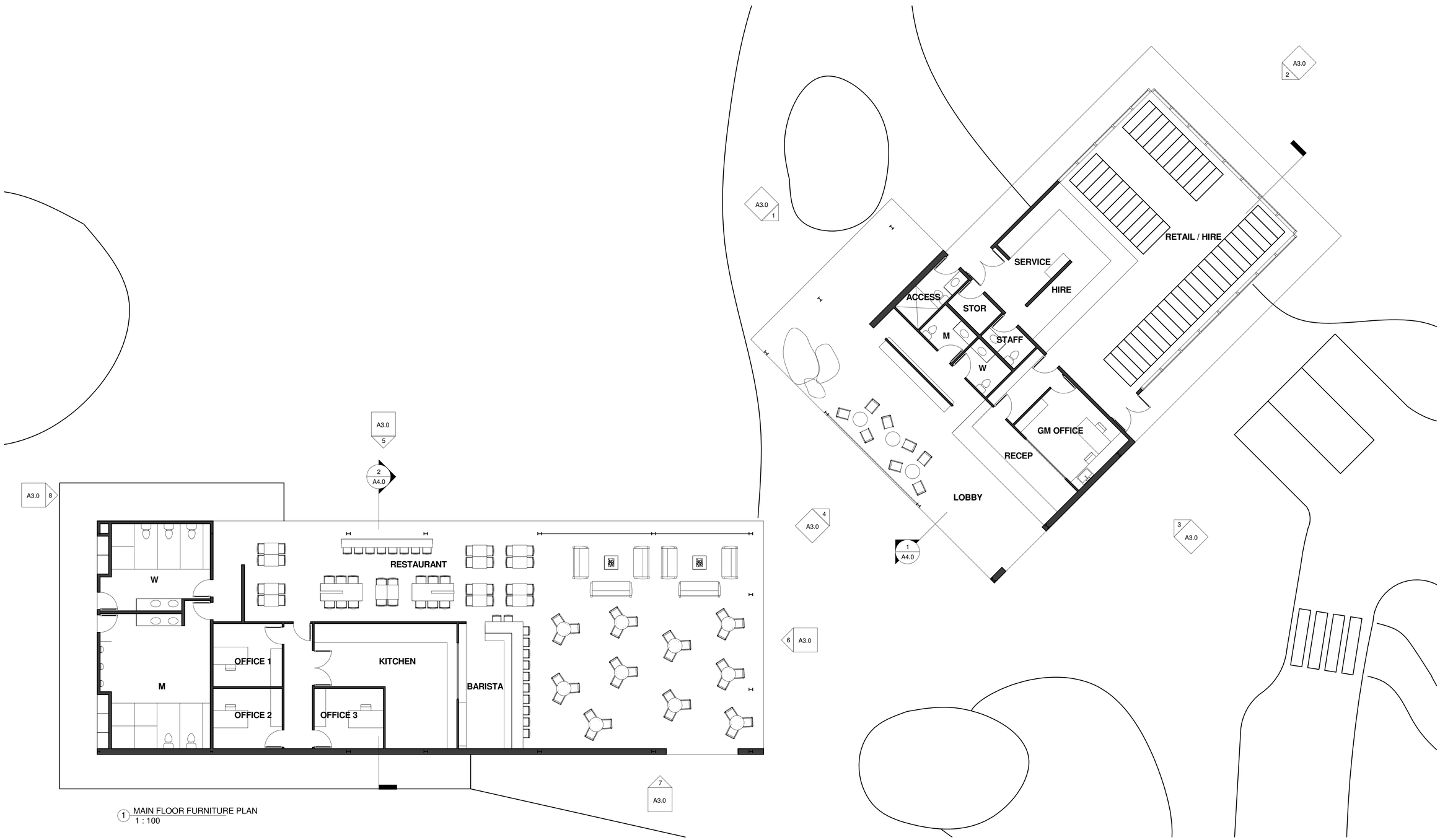
JIM MOORT

PROJECT #:	1301
DRAWN BY:	LCW
CHECKED BY:	LCW

MAIN FLOOR PLAN

A2.1

SCHEMATIC SET



1 MAIN FLOOR FURNITURE PLAN
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GUANABA EXPERIENCE

JIM NOORT

PROJECT #:	1301
DRAWN BY:	LCW
CHECKED BY:	LCW

MAIN FLOOR
FURNITURE PLAN

A2.2

SCHEMATIC SET

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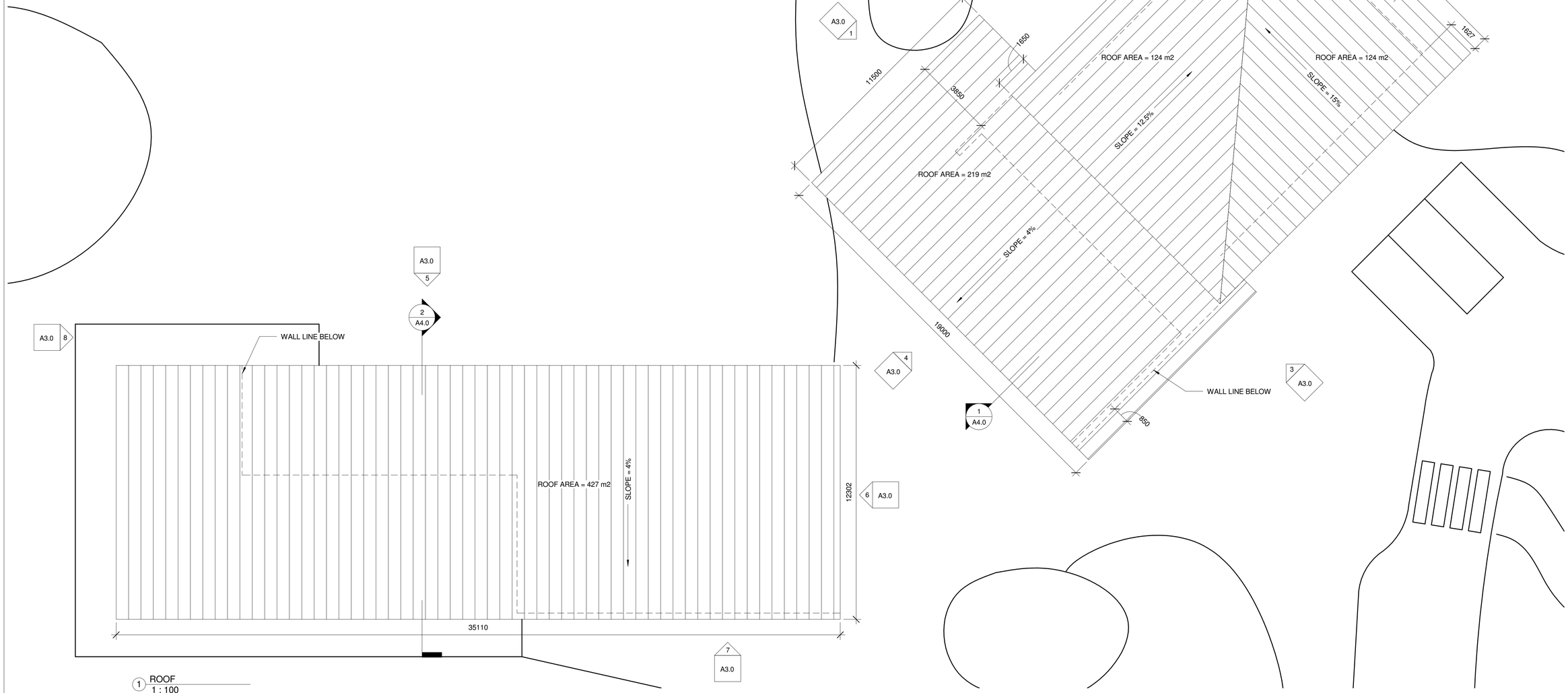

1 ROOF
1 : 100

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JIM NOORT

PROJECT #:	1301
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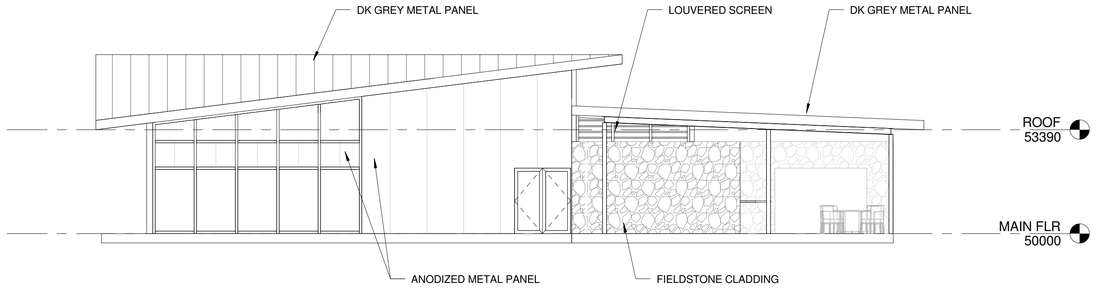
ROOF PLAN

A2.3

SCHEMATIC SET



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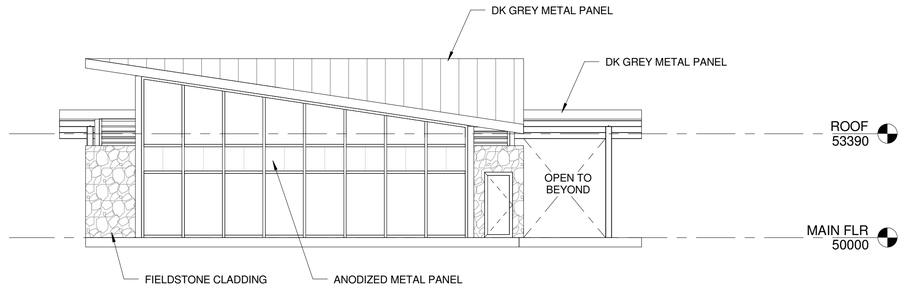

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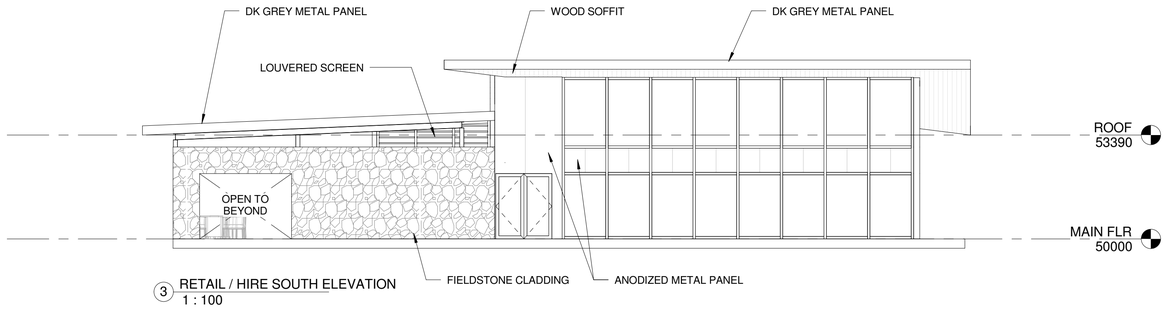

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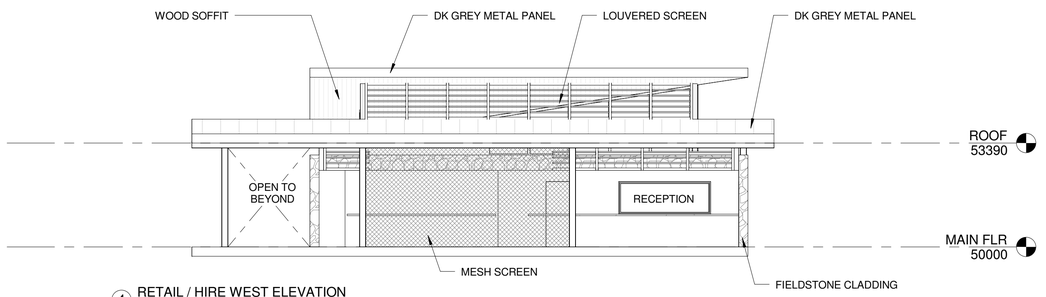

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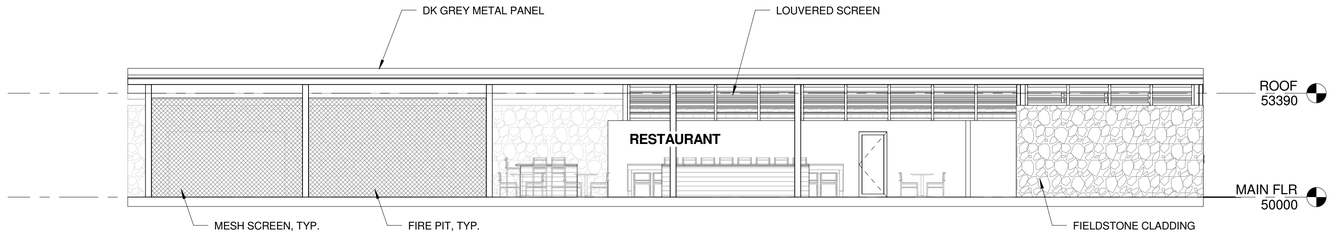
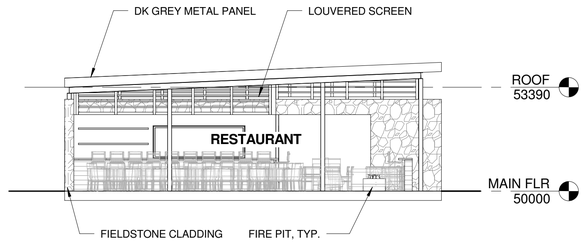
1 : 100



5 RESTAURANT NORTH ELEVATION
1 : 100



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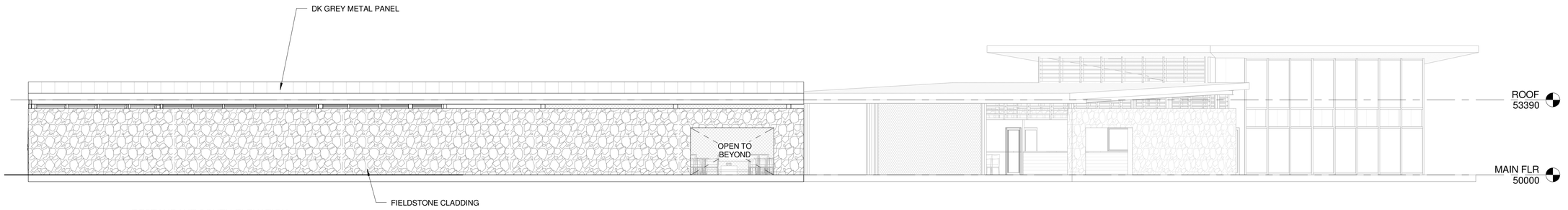
1 : 100



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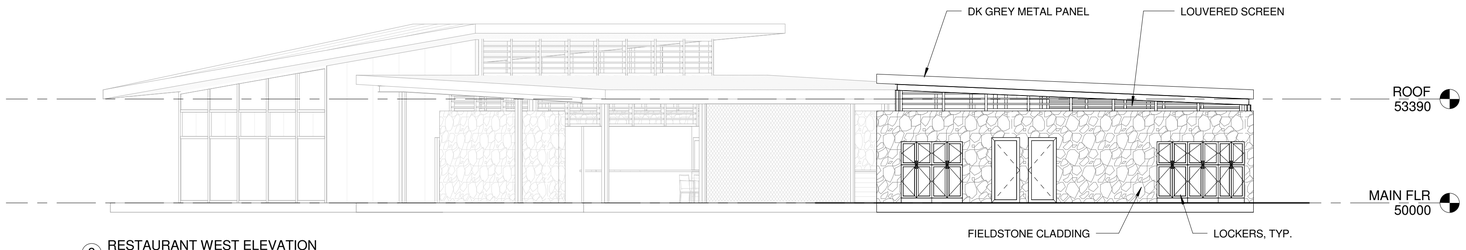

8 RESTAURANT WEST ELEVATION
1 : 100

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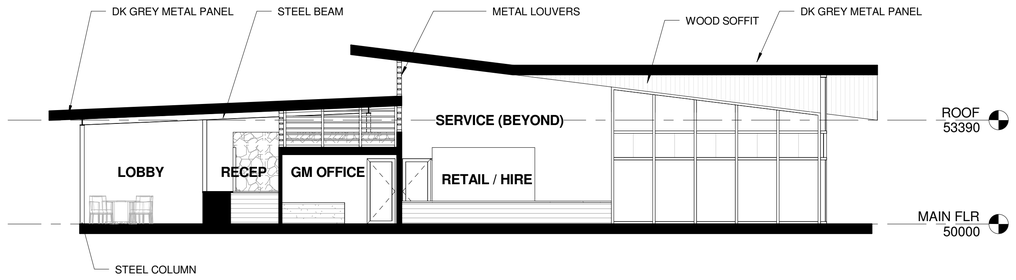
ELEVATIONS

A3.0

SCHEMATIC SET



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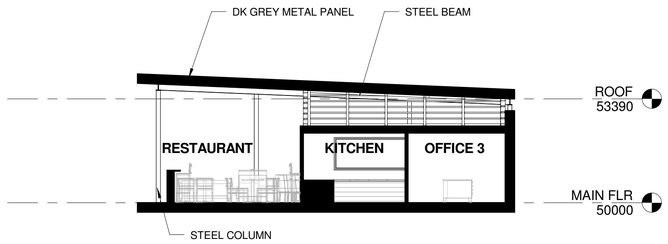

2 RESTAURANT SECTION
1 : 100

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BUILDING SECTIONS

A4.0

SCHEMATIC SET

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ATTACHMENT 3

PROPOSED MOUNTAIN BIKE TRAILS AND ZIPLINE COURSE PLANS

(Source: Jim Noort)

Drawn By : Jim Noort
Date: 25/ 03/ 14
Size: A3

Total Trail Network

- Beginner Trail <5%
- Intermediate 5%-7%
- Advanced 7%-13%
- Family X Country <5%
- Suspension Bridge
- Proven 4WD Track
- Unproven 4WD Track
- Shuttle Trail One Way
- Shuttle Trail Two Ways
- Property Boundary

GUANABA experience

Drawn By : Jim Noort
Date: 25/ 03/ 14
Size: A3

Existing 4WD Tracks

1.5 km

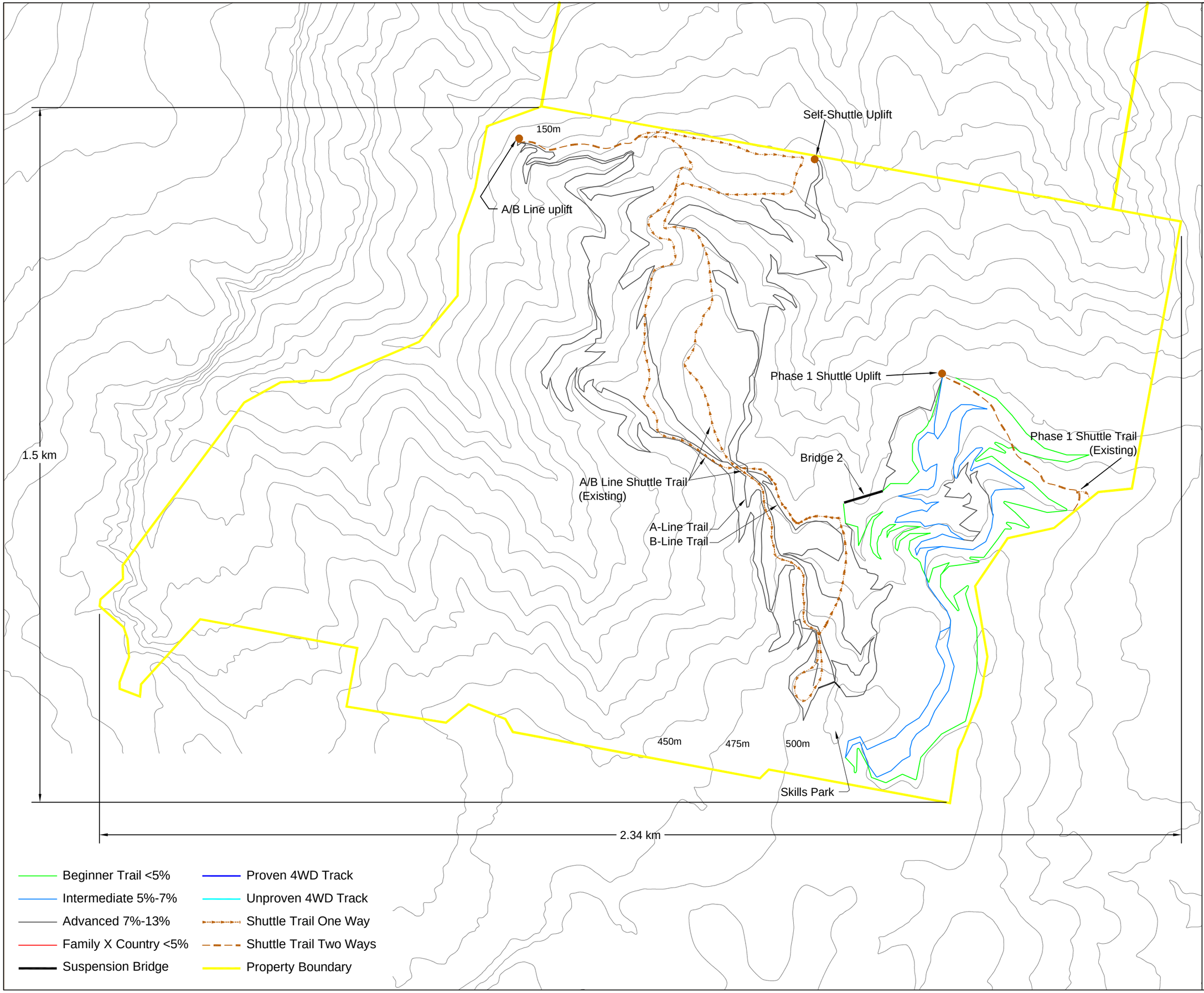
2.34 km

- Beginner Trail <5%
- Intermediate 5%-7%
- Advanced 7%-13%
- Family X Country <5%
- Suspension Bridge
- Proven 4WD Track
- Unproven 4WD Track
- Shuttle Trail One Way
- Shuttle Trail Two Ways
- Property Boundary

GUANABA experience

Drawn By : Jim Noort
Date: 25/ 03/ 14
Size: A3

Phase 1
Trails and Shuttles



- Beginner Trail <5%
- Intermediate 5%-7%
- Advanced 7%-13%
- Family X Country <5%
- Suspension Bridge
- Proven 4WD Track
- Unproven 4WD Track
- Shuttle Trail One Way
- Shuttle Trail Two Ways
- Property Boundary

GUANABA experience

Drawn By : Jim Noort
Date: 25/ 03/ 14
Size: A3

Phase 2
Trails and Shuttles

Phase 2 Shuttle Uplift

Bridge 3

Phase 2 Shuttle Trail (New)

Bridge 5

Bridge 4

Family X-Country Trail

1.5 km

2.34 km

- Beginner Trail <5%
- Intermediate 5%-7%
- Advanced 7%-13%
- Family X Country <5%
- Suspension Bridge
- Proven 4WD Track
- Unproven 4WD Track
- Shuttle Trail One Way
- Shuttle Trail Two Ways
- Property Boundary

GUANABA experience

Drawn By : Jim Noort
Date: 25/ 03/ 14
Size: A3

Zipline Course

- Beginner Trail <5%
- Intermediate 5%-7%
- Advanced 7%-13%
- Family X Country <5%
- Suspension Bridge
- Proven 4WD Track
- Unproven 4WD Track
- Shuttle Trail One Way
- Shuttle Trail Two Ways
- Property Boundary

GUANABA experience

ATTACHMENT 4

PROPOSED STORMWATER MANAGEMENT PLAN

(Source: Knobel Consulting)

LEGEND

- STORMWATER CATCHMENT BOUNDARY
- Ⓐ STORMWATER CATCHMENT I.D.
- EPOD EXISTING POINT OF DISCHARGE
- PROPOSED SWALE
- PROPOSED TABLE DRAIN
- BIORETENTION BASIN FILTRATION AREA
- SWD PROPOSED STORMWATER PIPE

BIORETENTION NOTES:

- DO NOT SCALE THIS DRAWING TAKE FIGURED DIMENSIONS ONLY
- ALL DIMENSIONS IN METERS UNLESS NOTED OTHERWISE

FILTRATION LAYER:

1. MATERIAL TO CONSIST OF SANDY LOAM OR EQUIVALENT MATERIAL.
2. MATERIAL TO HAVE 5% - 10% ORGANIC CONTENT IN ACCORDANCE WITH AS12894.1.1
3. MATERIAL TO HAVE AN AVERAGE PARTICLE SIZE (D50) OF 0.45mm.
4. SATURATED HYDRAULIC CONDUCTIVITY BETWEEN 50 - 200mm/hr DETERMINED IN ACCORDANCE WITH AS 4419 -1998 APPENDIX H SOIL PERMEABILITY.
5. pH BETWEEN 6 & 7.
6. DEPTH TO BE 800mm OR GREATER FOR TREE PLANTING.

TRANSITION LAYER:

1. MATERIAL TO CONSIST OF SAND/COURSE SAND MATERIAL.
2. TYPICAL PARTICLE SIZE DISTRIBUTION
   % PASSING: 1.4mm 100%
   1.0mm 80%
   0.7mm 44%
   0.5mm 08%

DRAINAGE LAYER:

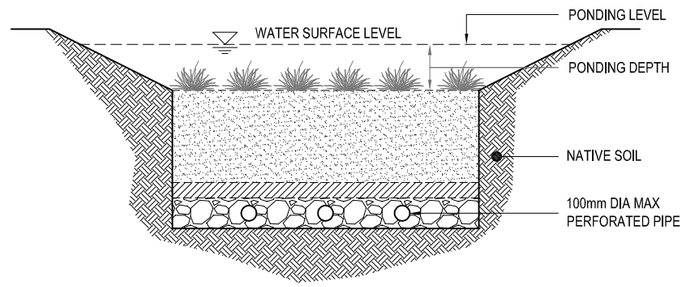
1. MATERIAL TO CONSIST OF 2 - 5mm GRAVEL.

PERFORATED PIPE:

1. MINIMUM GRADE OF 0.5%
2. MAXIMUM SPACING * 1.5m CENTRE FOR BASINS < 100m²
   * 2.5m CENTRE FOR BASINS > 100m²

CONSTRUCTION PHASE:

1. COVER FILTRATION LAYER WITH GEOTEXTILE, 50mm TOPSOIL & TURF STRIPS PERPENDICULAR TO FLOW.
2. GEOTEXTILE TO BE REMOVED ONLY WHEN UPSTREAM SEDIMENT LOADS ARE CONTROLLED.



SECTION B
1:20 AT A1

LEGEND:

- FILTRATION LAYER, DEPTH = 600mm
- TRANSITION LAYER, DEPTH = 100mm
- DRAINAGE LAYER, DEPTH = 200mm

EPOD-B
2m WIDE OVERFLOW WEIR
2xØ100
ROCK CHANNEL TO OUTLET
11m² BIORETENTION BASIN WITH 23m³ OF DETENTION STORAGE
Ⓑ
Ⓐ
SWD
SW4
SW3
SW2
SW1
2m WIDE OVERFLOW WEIR
OVERFLOW FROM RAINWATER TANK TO DISCHARGE TO PROPOSED SWALE
Ø225i
15KL RAINWATER TANK
ROCK CHANNEL TO OUTLET
32m² BIORETENTION BASIN WITH 184m³ OF DETENTION STORAGE
EPOD-A
EPOD-C
2m WIDE OVERFLOW WEIR
2xØ100
ROCK CHANNEL TO OUTLET
6m² BIORETENTION BASIN WITH 26m³ OF DETENTION STORAGE
POTENTIAL FUTURE CARPARK EXTENTS
Ⓒ
SW5
KAISER ROAD
497.5
500
502.5
505
507.5
510

ISSUE No.	DATE	AMENDMENT
B	10-04-14	LAYOUT AMENDED
A	20-02-14	ISSUED FOR REPORT

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Burleigh Heads QLD 4220
ABN 33 071 435 202

CLIENT: MT TAMBORINE CAMPING & ACTIVITIES P/L	DESIGN: TP	DRAWN: EL	APPROVED:
PROJECT: GUANABA MOUNTAIN BIKE EXPERIENCE 98-196 GUANABA ROAD MT TAMBORINE			

TITLE: STORMWATER MANAGEMENT PLAN

SCALE: 1:300 AT A1, 1:600 AT A3 (0, 10, 20, 30m)

PROJECT NO.: K2691
DWG NO.: P004
ISSUE: B

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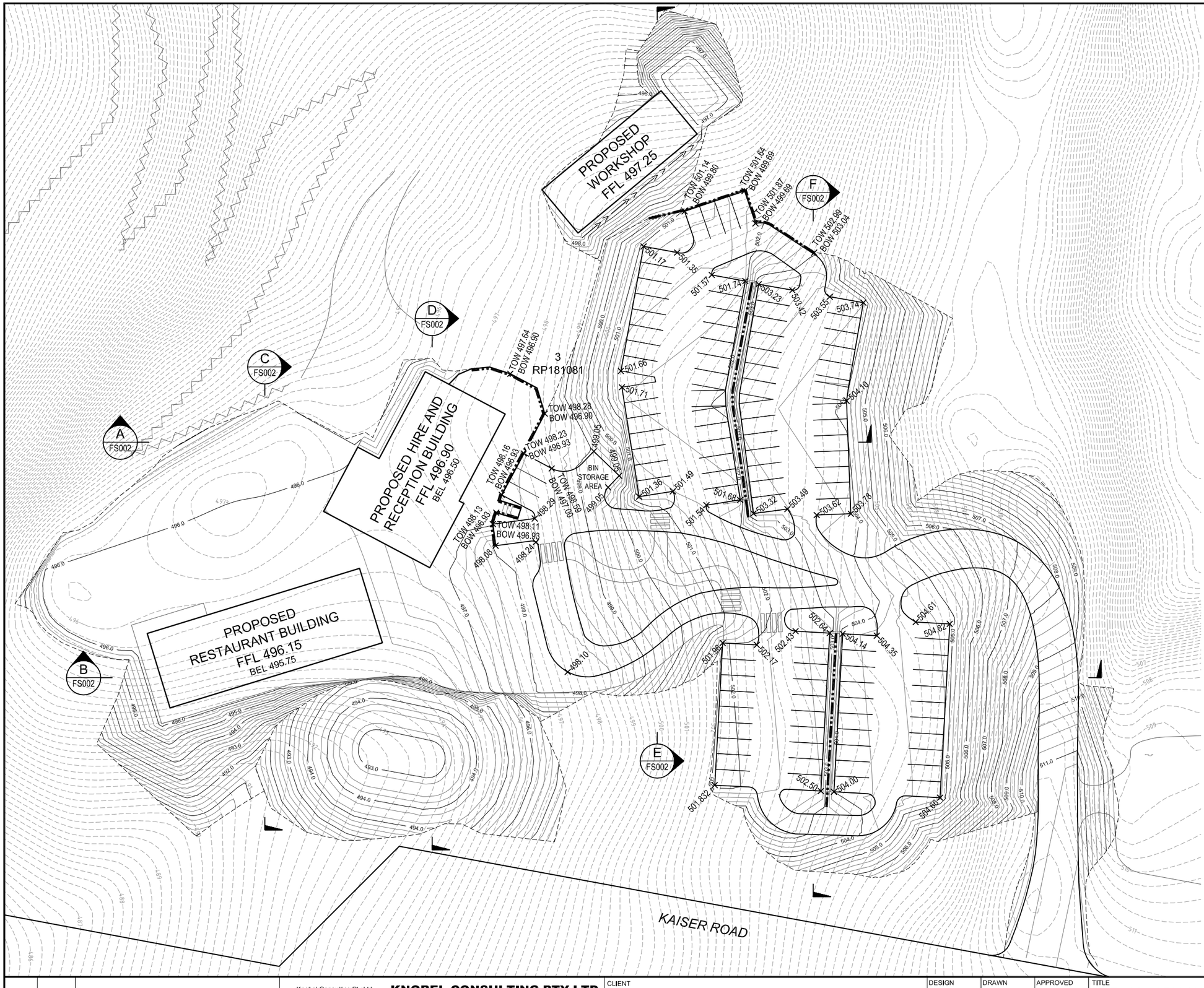
ATTACHMENT 5

PROPOSED SURFACE LEVELS/CROSS SECTIONS PLANS

(Source: Knobel Consulting)



LEGEND

FFL	FINISHED FLOOR LEVEL
BEL	BULK EARTHWORKS LEVEL
+510.00	DESIGN SURFACE LEVEL
× TOW / BOW	TOP OF WALL / BOTTOM OF WALL
510	DESIGN CONTOUR MAJOR
505	DESIGN CONTOUR MINOR
495	NATURAL SURFACE CONTOUR
	RETAINING WALL
	PROPOSED CATCH DRAIN

EARTHWORKS NOTES

1. STRIP THE CONSTRUCTION AREA OF ALL GRASS, SHRUBS, RUBBISH, DELETERIOUS MATERIAL AND UNSUITABLE TOPSOIL AS NOMINATED BY THE ENGINEER. DISPOSE OF ALL SUCH MATERIAL OFF SITE.
2. TOPSOIL APPROVED BY THE ENGINEER FOR REUSE, IS TO BE STOCKPILED ON SITE AS DIRECTED BY THE SUPERINTENDENT.
3. BULK EARTHWORKS IS TO BE CARRIED OUT IN ACCORDANCE WITH GOLD COAST CITY COUNCIL STANDARDS AND THE REQUIREMENTS OF AS3798. GEOTECHNICAL SUPERVISION OF EARTHWORKS IS TO BE CARRIED OUT IN ACCORDANCE WITH LEVEL 1 OF AS3798 BY A N.A.T.A. REGISTERED GEOTECHNICAL TESTING AUTHORITY AT THE CONTRACTORS COST. THE CONTRACTOR SHALL PROVIDE DETAILS OF ALL TESTING TO THE ENGINEER PROGRESSIVELY THROUGH THE WORKS AND NOTIFY THE ENGINEER OF ANY NON-CONFORMANCES. ALL NON CONFORMING WORK IS TO BE RECTIFIED AS DIRECTED BY THE ENGINEER.
4. A MINIMUM RELATIVE COMPACTION OF 98% FOR FILLING IS TO BE ACHIEVED IN ACCORDANCE WITH TABLE 5.1 OF AS3798-2007.
5. PRIOR TO FILL OPERATIONS AND IN THE PRESENCE OF THE ENGINEER, PROOF ROLL THE FILL AREA SUBGRADE. REMOVE SOFT AND OR COMPRESSIBLE ZONES AND REPLACE WITH SELECT SITE MATERIAL COMPACTED TO A DENSITY CONSISTENT WITH THAT PRESCRIBED FOR PROPOSED FILLING ABOVE.
6. THE MAJORITY OF MATERIAL WON FROM PROPOSED EXCAVATIONS SHOULD BE SUITABLE FOR REUSE AS FILL MATERIAL APART FROM ANY OVERSIZE MATERIAL. SUITABLE MATERIALS FOR FILLING SHOULD GENERALLY HAVE A MAXIMUM PARTICLE SIZE NOT EXCEEDING 150mm. OVERSIZE MATERIAL IS TO BE EITHER CRUSHED TO A PARTICLE SIZE ≦ 150mm FOR REUSE AS FILL MATERIAL OR DISPOSED OF OFF SITE.
7. PLACE FILL IN LAYERS OF LOOSE THICKNESS APPROPRIATE TO THE TYPE OF COMPACTION EQUIPMENT BEING USED AND NOT GREATER THAN 250mm. COMPACT EACH FILLING LAYER TO THE MINIMUM DRY DENSITY SPECIFIED. THE MOISTURE CONTENT OF FILL MATERIAL SHOULD BE MAINTAINED WITHIN THE RANGE OF +/- 2% OF THE OPTIMUM MOISTURE CONTENT.
8. EARTHWORKS PROFILES ARE TO BE TRANSITIONED UNIFORMLY BETWEEN PRESCRIBED SLOPES.

PRELIMINARY - NOT FOR CONSTRUCTION

ISSUE No.	DATE	AMENDMENT
3	17-04-14	ISSUED FOR CLIENT REVIEW
2	15-04-14	ISSUED FOR CLIENT REVIEW
1	11-04-14	ISSUED FOR CLIENT REVIEW

Knobel Consulting Pty Ltd
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ABN 33 071 435 202

CLIENT: MT TAMBORINE CAMPING & ACTIVITIES P/L	DESIGN: TP	DRAWN: EL	APPROVED:
PROJECT: GUANABA MOUNTAIN BIKE EXPERIENCE 98-196 GUANABA ROAD MT TAMBORINE			

TITLE: PRELIMINARY SURFACE LEVELS PLAN

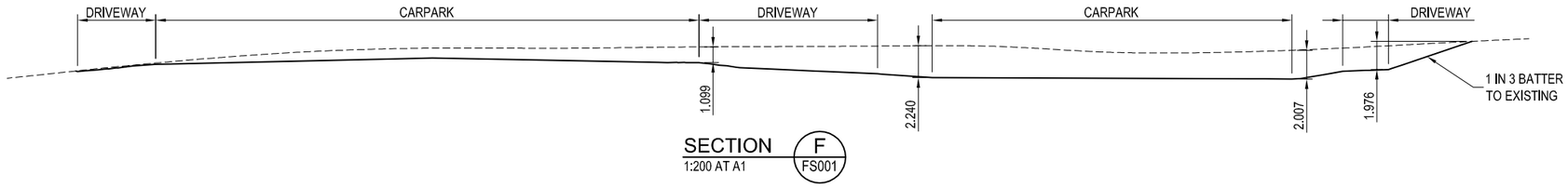
SCALE: 1:300 AT A1, 1:600 AT A3 (0, 10, 20, 30m)

PROJECT NO.: K2691

DWG NO.: FS001

ISSUE: 3

Z:\K2691\Construction\DWG\K2691-FS001-03.dwg, 17/04/2014 3:45:28 PM, EvanL, PDF995

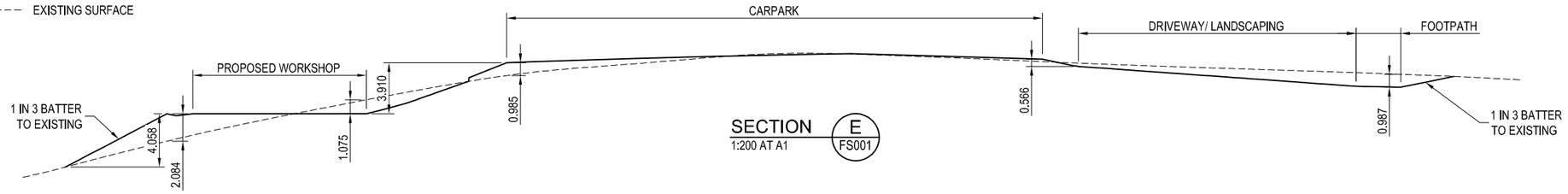


SECTION F
1:200 AT A1
FS001

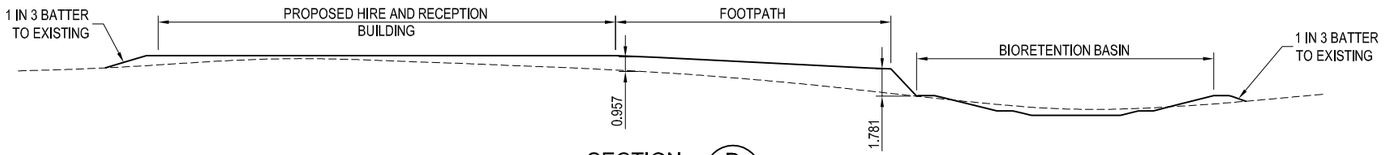
LEGEND:

DESIGN SURFACE

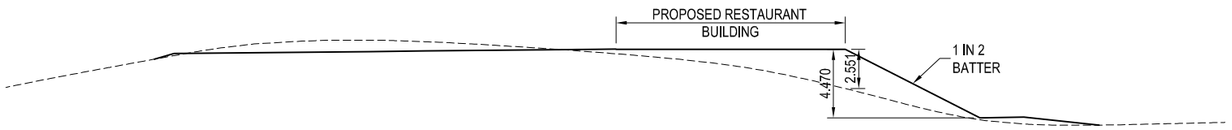
EXISTING SURFACE



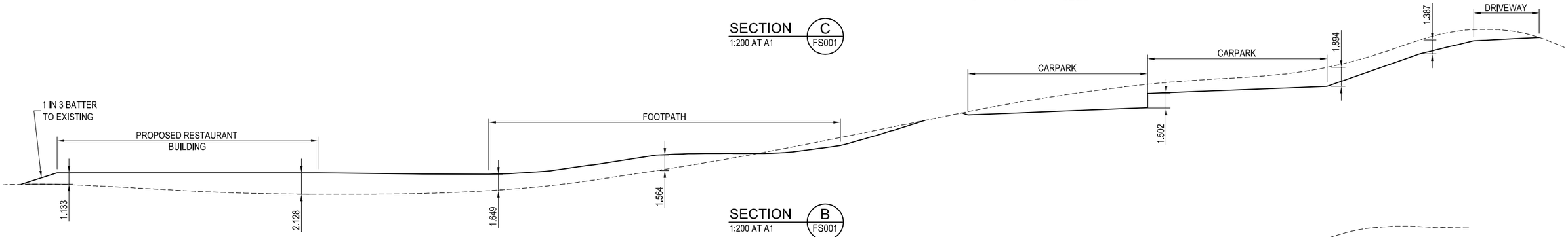
SECTION E
1:200 AT A1
FS001



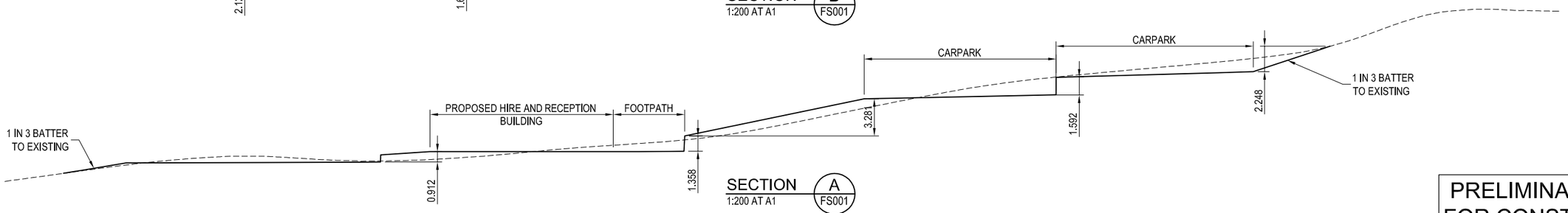
SECTION D
1:200 AT A1
FS001



SECTION C
1:200 AT A1
FS001



SECTION B
1:200 AT A1
FS001



SECTION A
1:200 AT A1
FS001

PRELIMINARY - NOT FOR CONSTRUCTION

ISSUE No.	DATE	AMENDMENT
3	17-04-14	ISSUED FOR CLIENT REVIEW
2	15-04-14	ISSUED FOR CLIENT REVIEW
1	11-04-14	ISSUED FOR CLIENT REVIEW

Knobel Consulting Pty Ltd

KNOBEL CONSULTING PTY LTD

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CLIENT: MT TAMBORINE CAMPING & ACTIVITIES P/L

PROJECT: GUANABA MOUNTAIN BIKE EXPERIENCE
98-196 GUANABA ROAD
MT TAMBORINE

DESIGN	DRAWN	APPROVED
TP	EL	

TITLE: PRELIMINARY SURFACE CROSS SECTIONS

SCALE: 1:200 AT A1, 1:400 AT A3 (0 5 10 15 20m)

PROJECT NO.: K2691

DWG NO.: FS002

ISSUE: 3

Z:\K2691\Construction\DWG\K2691-FS002-03.dwg, 17/04/2014 3:42:57 PM, EvanL, PDF995

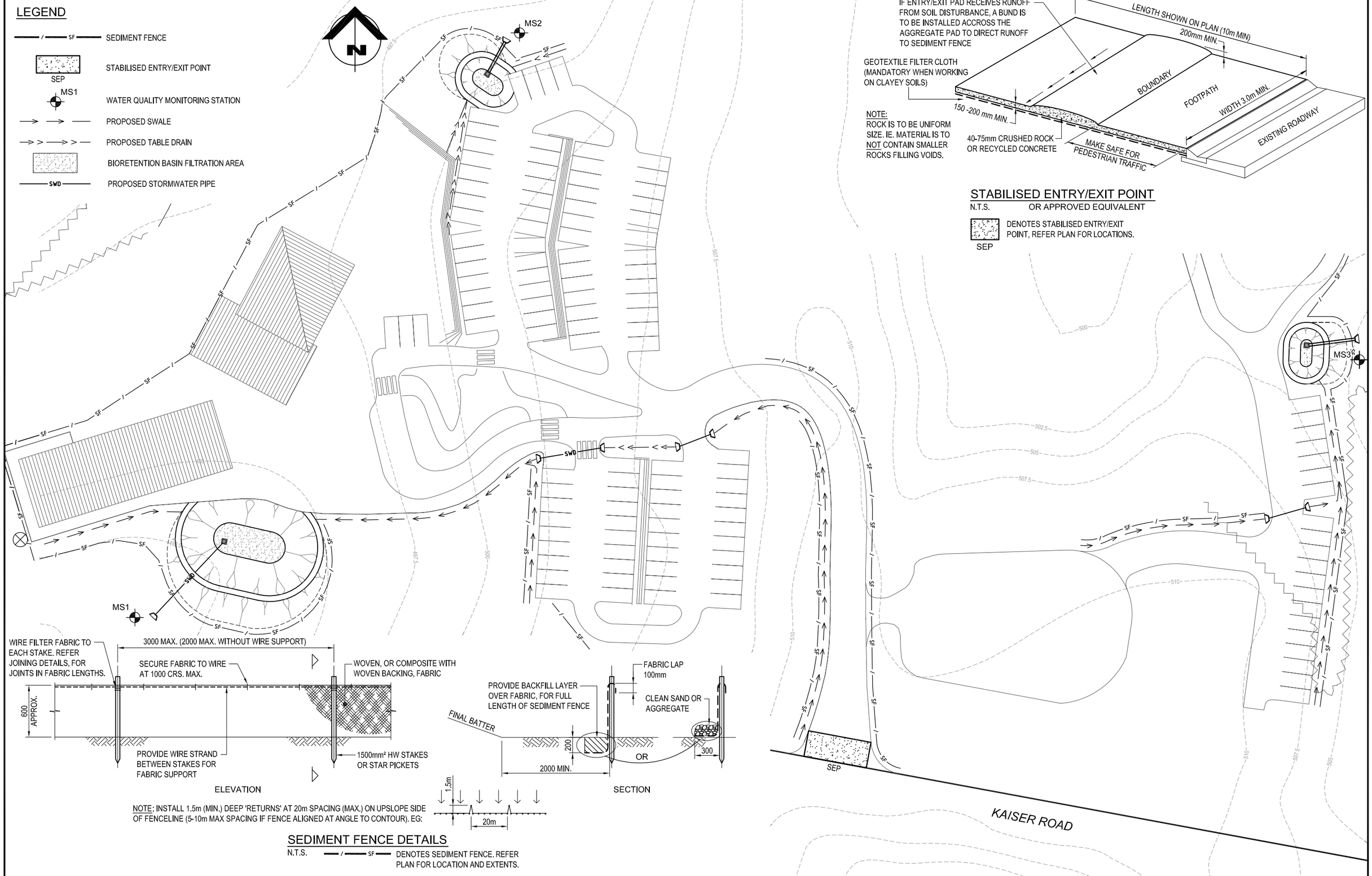
ATTACHMENT 6

PROPOSED SEDIMENT AND EROSION CONTROL PLAN

(Source: Knobel Consulting)

LEGEND

- SF — SEDIMENT FENCE
- SEP — STABILISED ENTRY/EXIT POINT
- MS1 — WATER QUALITY MONITORING STATION
- PROPOSED SWALE
- PROPOSED TABLE DRAIN
- BIORETENTION BASIN FILTRATION AREA
- SWD — PROPOSED STORMWATER PIPE



NOTE:
ROCK IS TO BE UNIFORM SIZE. IE. MATERIAL IS TO NOT CONTAIN SMALLER ROCKS FILLING VOIDS.

STABILISED ENTRY/EXIT POINT

N.T.S. OR APPROVED EQUIVALENT

SEP — DENOTES STABILISED ENTRY/EXIT POINT, REFER PLAN FOR LOCATIONS.

NOTE: INSTALL 1.5m (MIN.) DEEP 'RETURNS' AT 20m SPACING (MAX.) ON UPSLOPE SIDE OF FENCELINE (5-10m MAX SPACING IF FENCE ALIGNED AT ANGLE TO CONTOUR). EG:

SEDIMENT FENCE DETAILS

N.T.S. SF — DENOTES SEDIMENT FENCE. REFER PLAN FOR LOCATION AND EXTENTS.

ISSUE No.	DATE	AMENDMENT
B	10-04-14	LAYOUT AMENDED
A	20-02-14	ISSUED FOR REPORT

Knobel Consulting Pty Ltd
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CLIENT	DESIGN	DRAWN	APPROVED
MT TAMBORINE CAMPING & ACTIVITIES P/L	TP	EL	

PROJECT
GUANABA MOUNTAIN BIKE EXPERIENCE
98-196 GUANABA ROAD
MT TAMBORINE

TITLE
DEVELOPMENT AREA
SEDIMENT AND EROSION CONTROL PLAN

SCALE 1:300 AT A1, 1:600 AT A3 (0, 10, 20, 30m)

PROJECT NO. K2691
DWG NO. P005
ISSUE B

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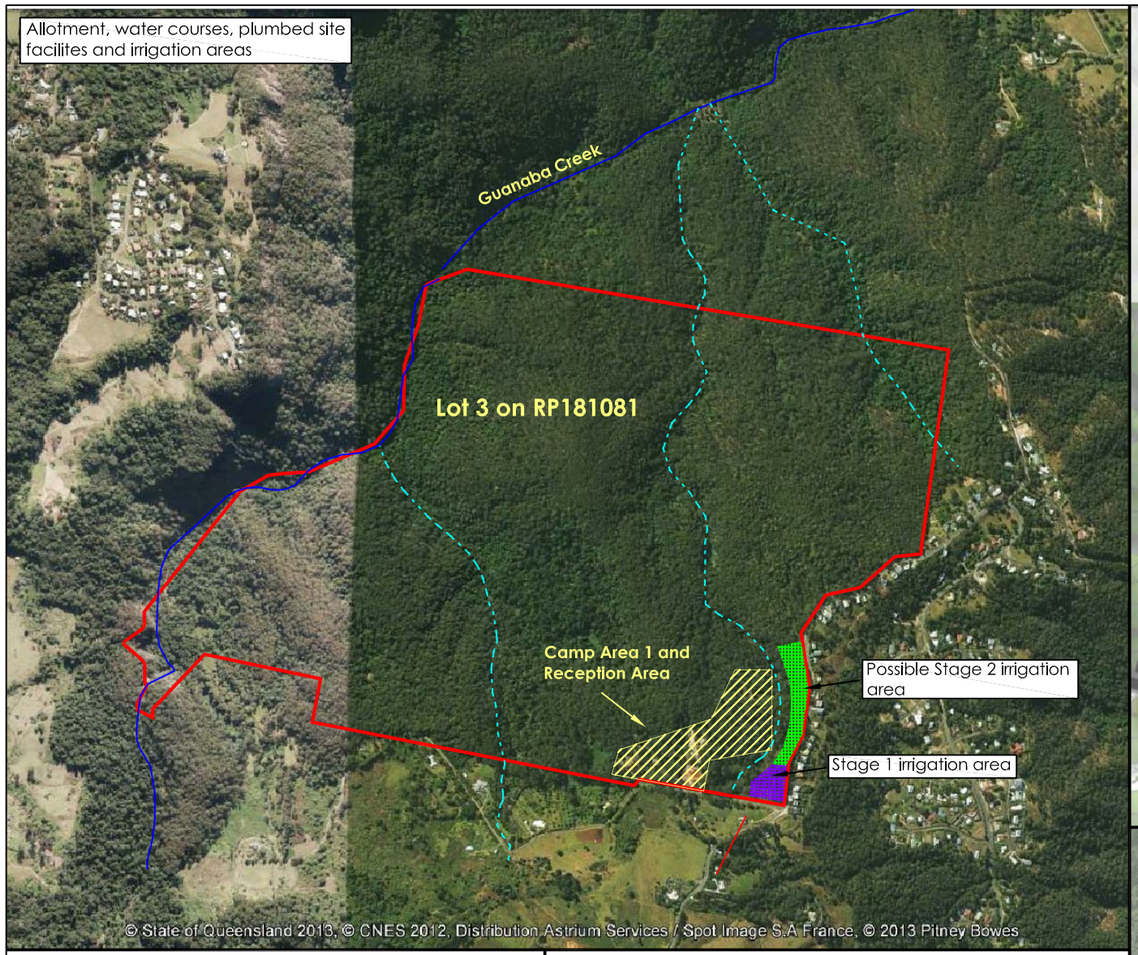
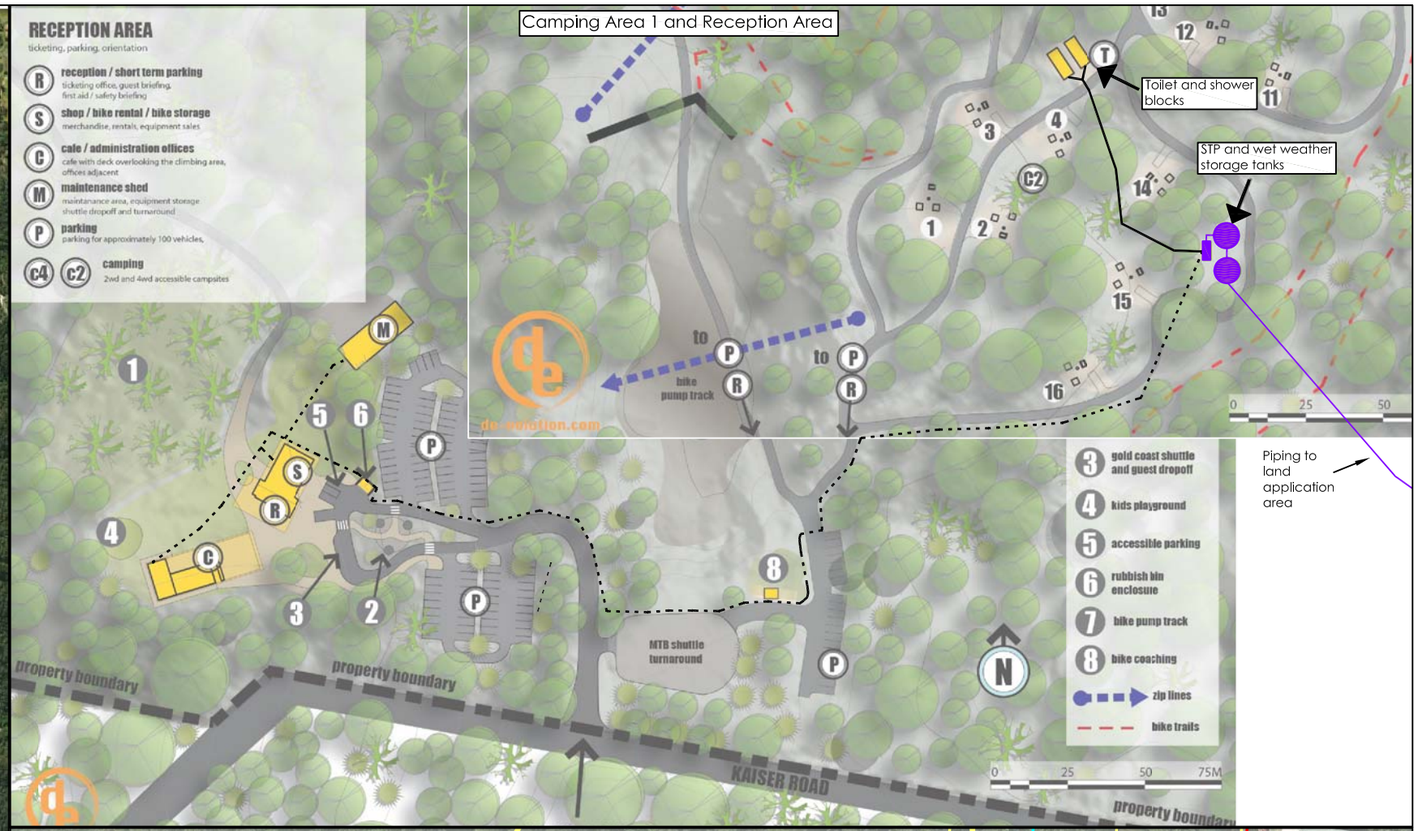
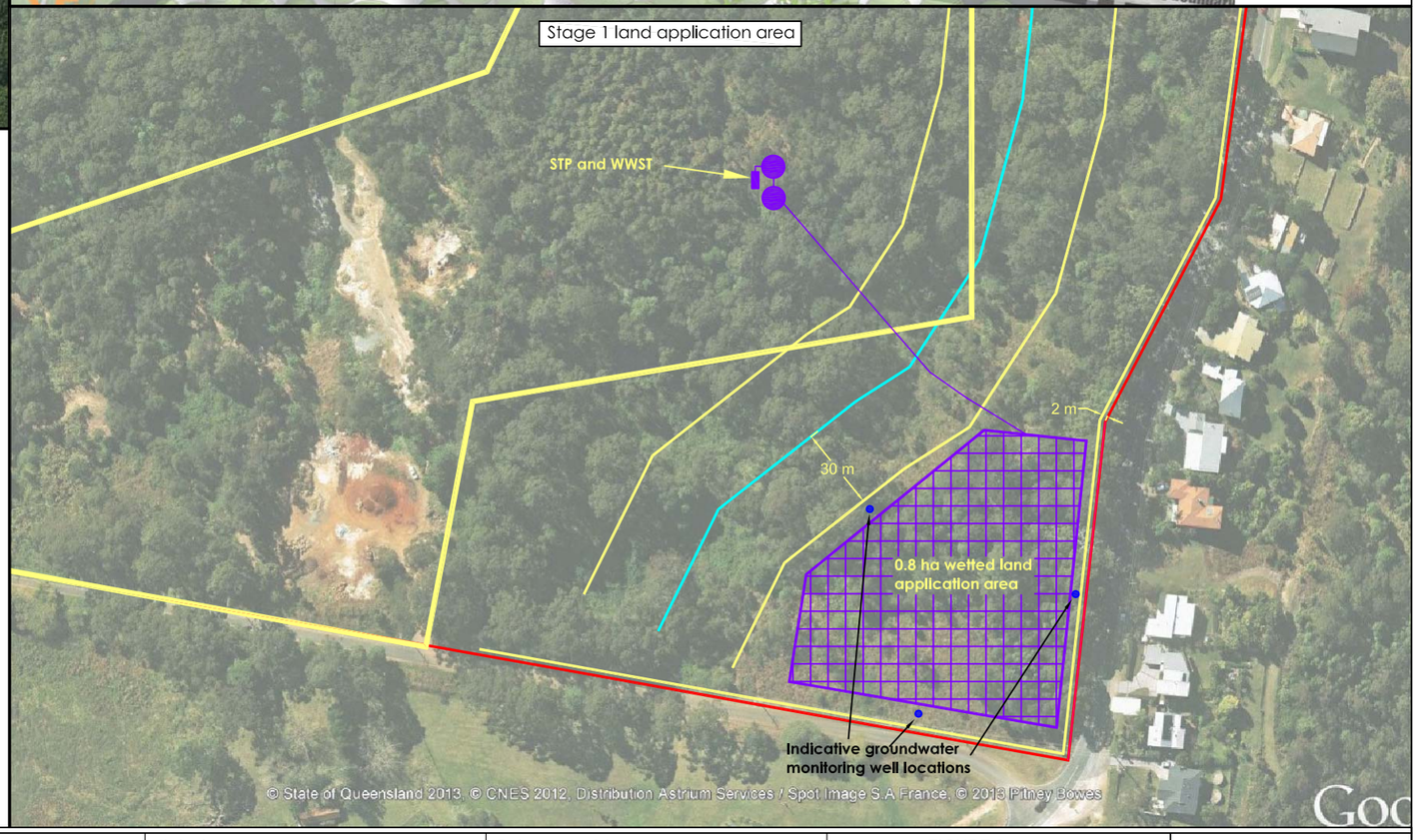
ATTACHMENT 7

PROPOSED WASTEWATER LAYOUT/DETAIL PLAN

(Source: Precise Environmental)

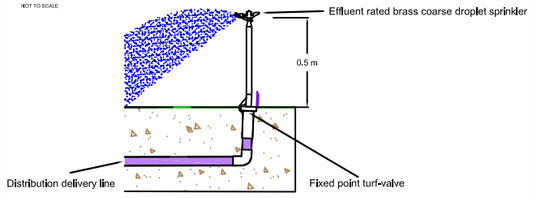




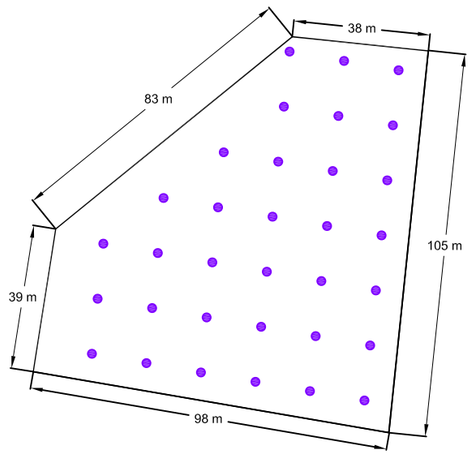


TYPICAL RECYCLED WATER DISTRIBUTION

NOT TO SCALE



INDICATIVE LAYOUT FOR FIXED POINT SPRINKLERS



INSTALLATION NOTES

- Wetted irrigation area to be a minimum of 0,8 ha.
- System to be maintained and operated as per manufacturers specifications.
- All plumbing and drainage work is to comply with the Plumbing and Drainage Act, AS/NZS 3500, AS/NZS 1547:2012 and the Queensland Plumbing and Wastewater Code.
- Distribution delivery lines must be coloured or fitted with warning tape and must be installed a minimum of 150 mm below the ground surface level.
- All irrigation lines and fittings must be suitable for effluent use.
- The irrigation system must be constructed by a licensed person, following the requirements of AS/NZS 1547:2012.
- Application areas must remain turfed or planted out with appropriate vegetation and warning signs displayed prior to commissioning the wastewater treatment system.
- All buried pipes shall be indicated using underground marking tape to AS/NZS 2648.1 or be indicated by signage stating the words: Sewage effluent pipework installed below. DO NOT DIG.

LEGEND

- Allotment boundary
- Influent
- Potential influent line (alternative to trucking to STP)
- Class A recycled water
- Land application area (fixed sprinklers)
- Creek
- Ephemeral creek / gully

All locations indicative only

Images sourced and modified from Google Earth (2013), version 7.1.2.2041

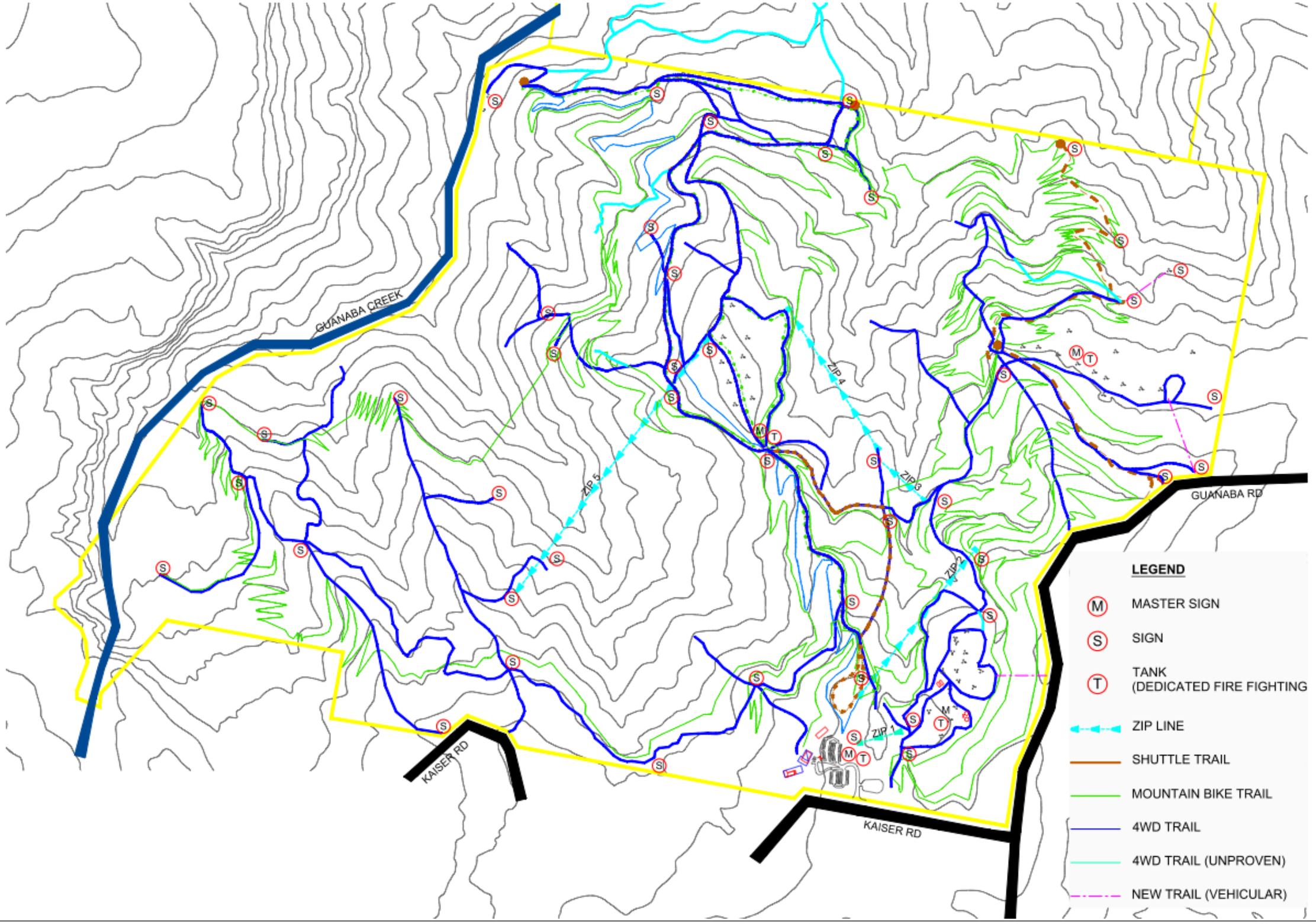
Plan sourced and modified from Jim Noort

Client: JIM NOORT	Site location: 98 - 196 GUANABA ROAD, TAMBORINE MOUNTAIN, QUEENSLAND		Real property description: LOT 3 ON RP181081		Drawing number: FIGURE 2 Drawing version: F	PRECISE ENVIRONMENTAL
Project: ONSITE SEWAGE MANAGEMENT PLAN - PROPOSED CAMPING AND OUTDOOR RECREATIONAL FACILITY	Project number: PE1349.13	Scale: AS SHOWN	Drawn by: LM Date drawn: 24.04.2014	Reviewed by: CB Approved: CB	Drawing title: SITE LAYOUT AND STAGE 1 WASTEWATER DETAIL	Unit 7 / 14 Fremantle Street, Burleigh Heads, Qld, 4220 PO Box 4424, Robina Town Centre, Qld 4230 Ph: (07) 5593 7848 Fax: (07) 5593 7020 mail@preciseenvironmental.com.au

ATTACHMENT 8

PROPOSED BUSHFIRE MANAGEMENT PLANS

(Source: Eldon Bottcher Architect)



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   The copyright for these drawings & any construction produced from these drawings is vested with Eldon Bottcher.
2. Do not scale from drawings
3. Verify all dimensions on site
4. Check any discrepencies with Architect.

REVISIONS

A	REMOVE CARETAKERS ACCOMM.	RK	17.02.14
B	UPDATE DEVELOPMENT PLAN	JN	24.04.14

PROJECT TITLE

GUANABA EXPERIENCE

DRAWING TITLE

EMERGENCY MANAGEMENT PLAN

Eldon Bottcher Architect Pty. Ltd

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SCALE	DATE
NTS @ A3	24.04.14
DRAWN	CHECKED
RK	
PROJECT NUMBER	DRAWING NUMBER
FM-1797	**FM-01** B

GUANABA CREEK

KAISER RD

KAISER RD

GUANABA RD

LEGEND

- ZIP LINE
- SHUTTLE TRAIL
- MOUNTAIN BIKE TRAIL
- 4WD TRAIL
- EXISTING TRAIL (OVERGROWN TO BE REINSTATED)
- NEW TRAIL (VEHICULAR)
- A RECEPTION AND CARPARK
- B CAMP ZONE 1
- C CAMP ZONE 2
- D WALK IN CAMPING
- E CAMP ZONE 3
- F PRESTIGE CAMPING
- G PICNIC AREA (DAY ONLY)

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3. Verify all dimensions on site
4. Check any discrepencies with Architect.

REVISIONS

A	REVISE LEGEND	RK	04.02.14
B	REMOVE CARETAKERS ACCOMM	RK	17.02.14
C	UPDATE DEVELOPMENT PLAN	JN	24.04.14

PROJECT TITLE

GUANABA EXPERIENCE

DRAWING TITLE

TRAILS PLAN

Eldon Bottcher Architect Pty. Ltd

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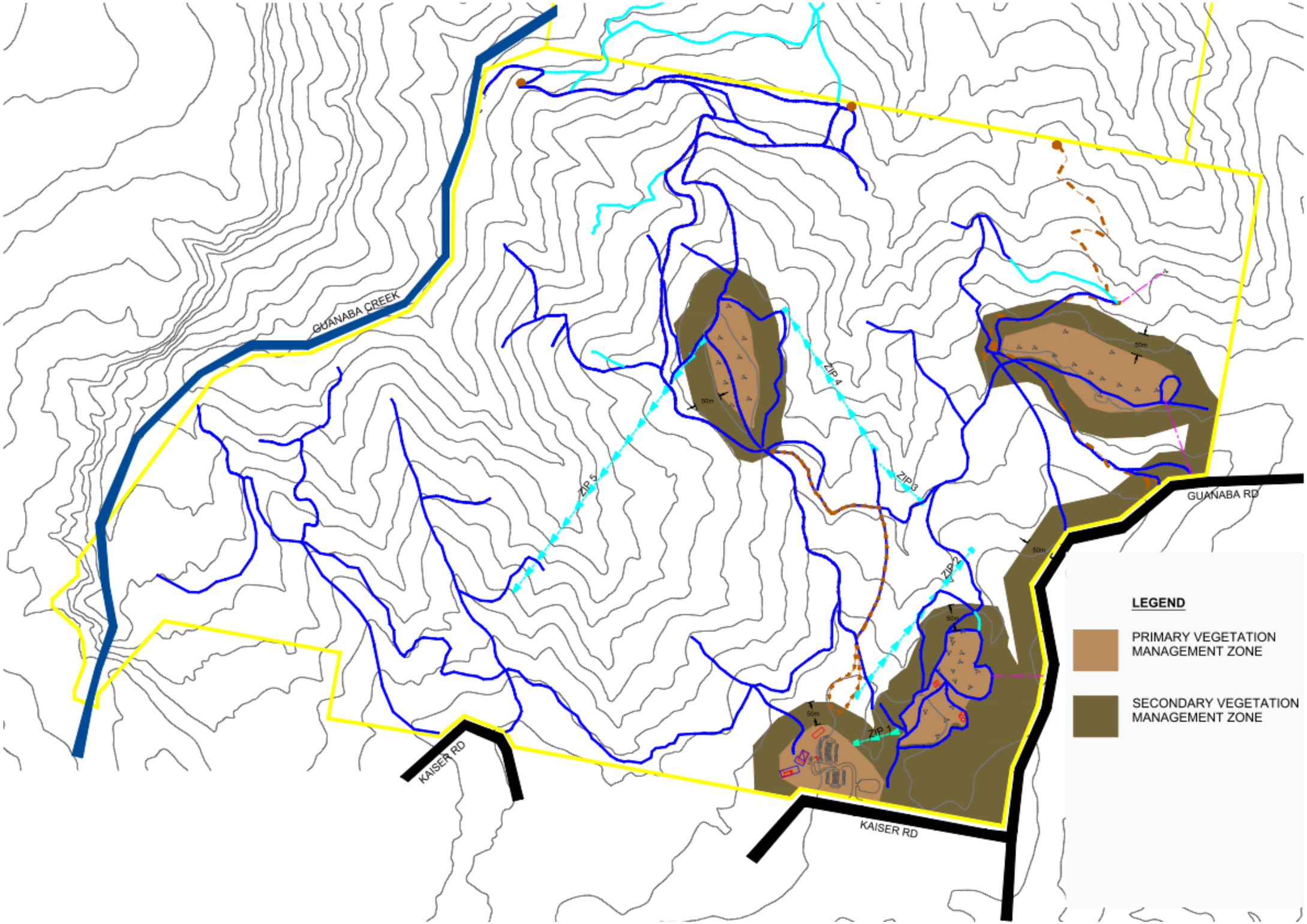
SCALE: NTS @ A3
DATE: 24.04.14
DRAWN: RK
CHECKED:
PROJECT NUMBER: **FM-1797**
DRAWING NUMBER: **FM-02**[C]



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2. Do not scale from drawings
3. Verify all dimensions on site
4. Check any discrepencies with Architect.

REVISIONS

A	ADD ECO VEGETATION AREAS	RK	04.02.14
B	REMOVE CARETAKERS ACCOMM	RK	17.02.14
C	UPDATE DEVELOPMENT PLAN	JN	24.04.14

PROJECT TITLE

GUANABA EXPERIENCE

DRAWING TITLE

VEGETATION MANAGEMENT PLAN

Eldon Bottcher Architect Pty. Ltd

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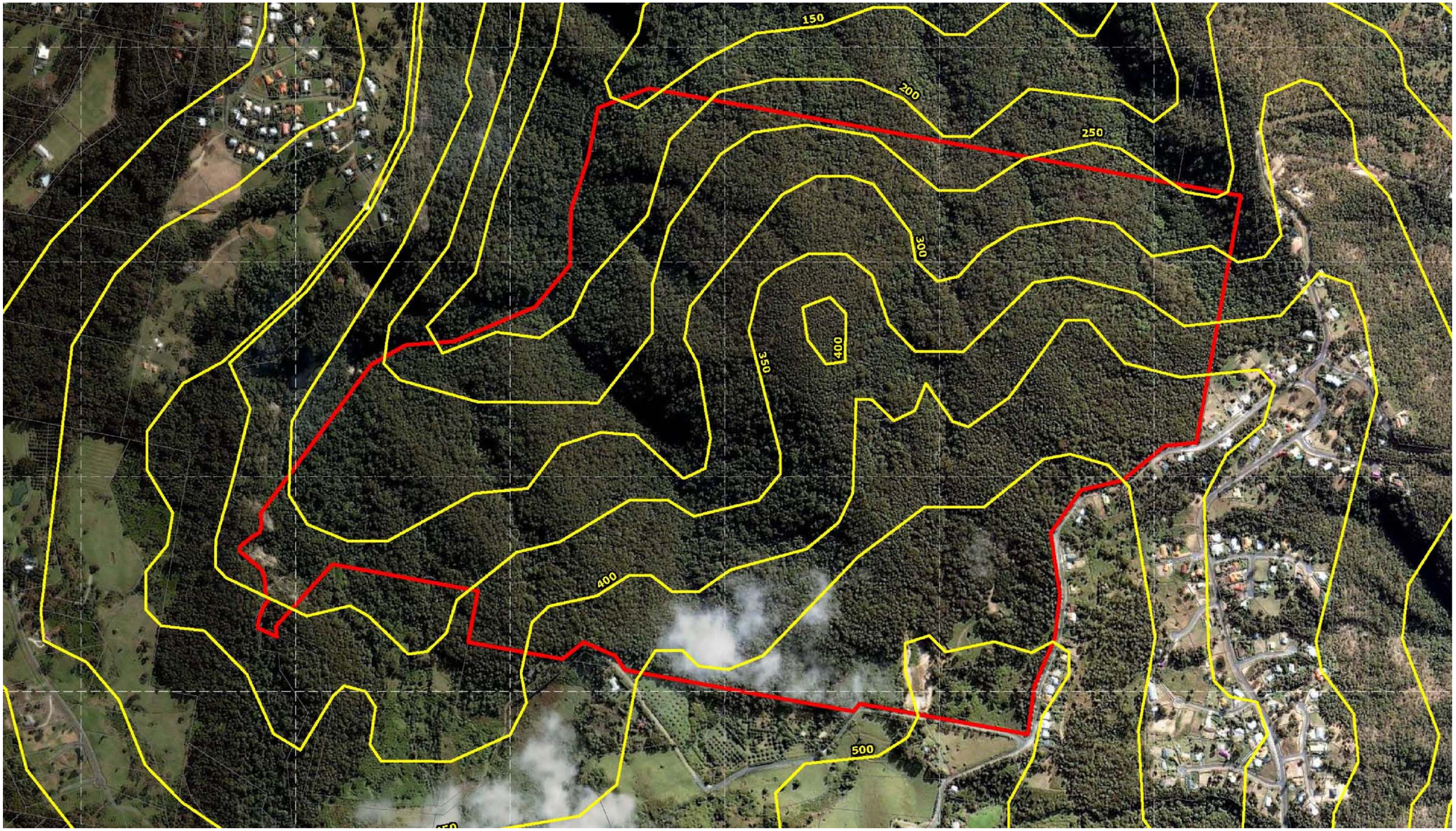
SCALE	DATE
NTS @ A3	24.04.14
DRAWN	CHECKED
RK	
PROJECT NUMBER	DRAWING NUMBER
FM-1797	**FM-03** C

ATTACHMENT 9

AERIAL IMAGE

(Adapted From: HBA/DAB Geospatial)



DRAWING:

AERIAL IMAGE

DATE:	DRAWN:
SEPTEMBER 2013	MJ
PROJECT NO:	SCALE:
TAM03	NTS
DRAWING NO:	ISSUE: / SHEET NO:
TAM03_AI	A / 1 OF 1

PROJECT:

PROPOSED MCU DEVELOPMENT
98 GUANABA ROAD,
TAMBORINE MOUNTAIN
LOT 3 RP181081

BYRNS LARDNER ENVIRONMENTAL
P: PO BOX 928 SOUTHPORT BC QLD 4215
E: mark@byrnslardner.com.au
T: 07 5528 6712

CLIENT:

MOUNT TAMBORINE CAMPING & ACTIVITIES PTY LTD

BYRNS LARDNER ENVIRONMENTAL

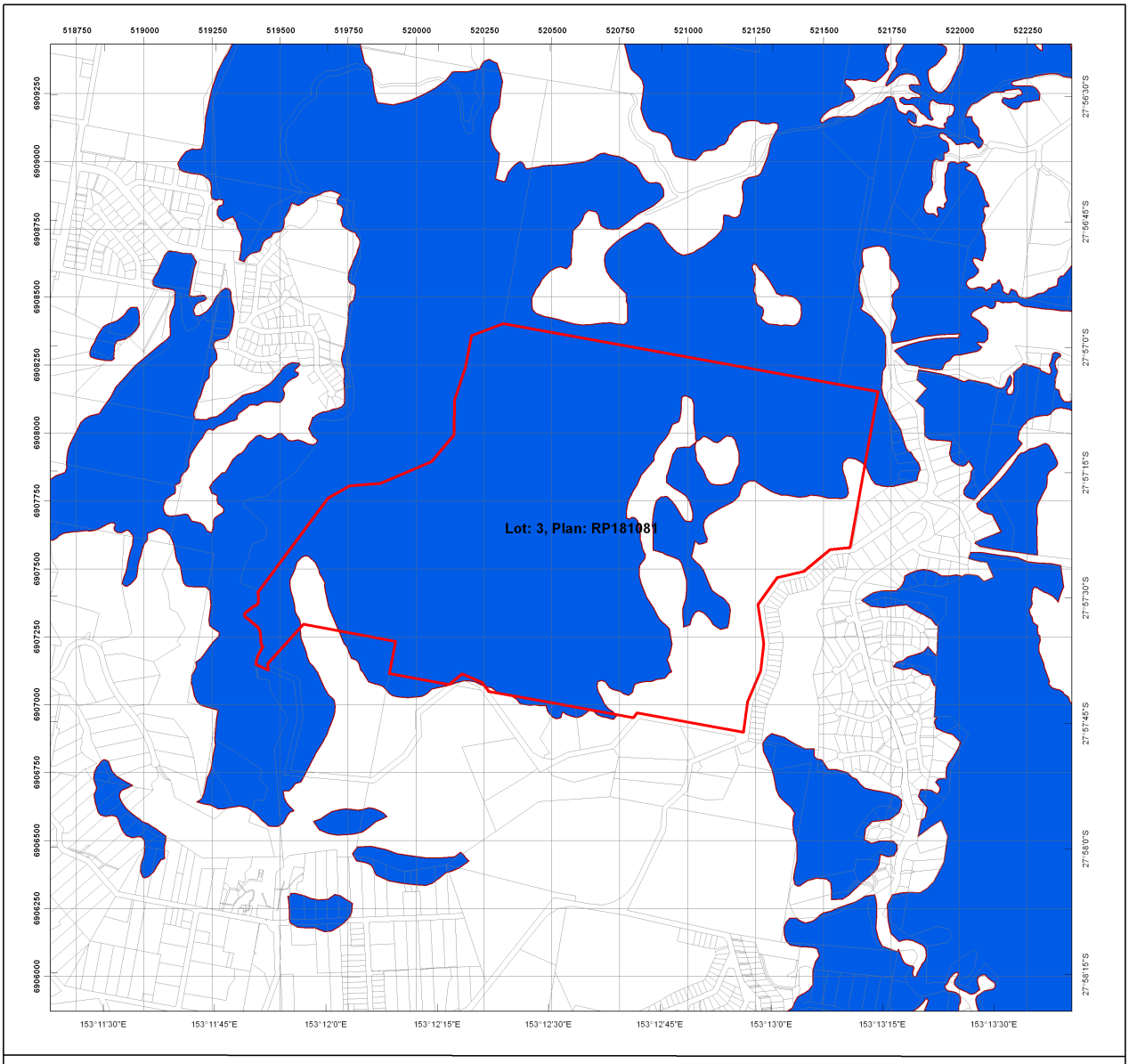
ADAPTED FROM:

HBA/DAB GEOSPATIAL

ATTACHMENT 10

CERTIFIED REGULATED VEGETATION MANAGEMENT/SUPPORTING MAPS

(Source: DNRM)

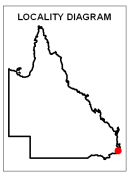


Regulated Vegetation Management Map

Legend

- Lot and Plan
- Category A area (Vegetation offsets/compliance notices/VDecs)
- Category B area (Remnant vegetation)
- Category C area (High-value regrowth vegetation)
- Category R area (Reef regrowth watercourse vegetation)
- Category X area (Vegetation not regulated under the VMA)
- Water
- Area not categorised
- Cadastral line
  Property boundaries shown are provided as a locational aid only

LOCALITY DIAGRAM



N

0 200 400 600 800 1,000 m

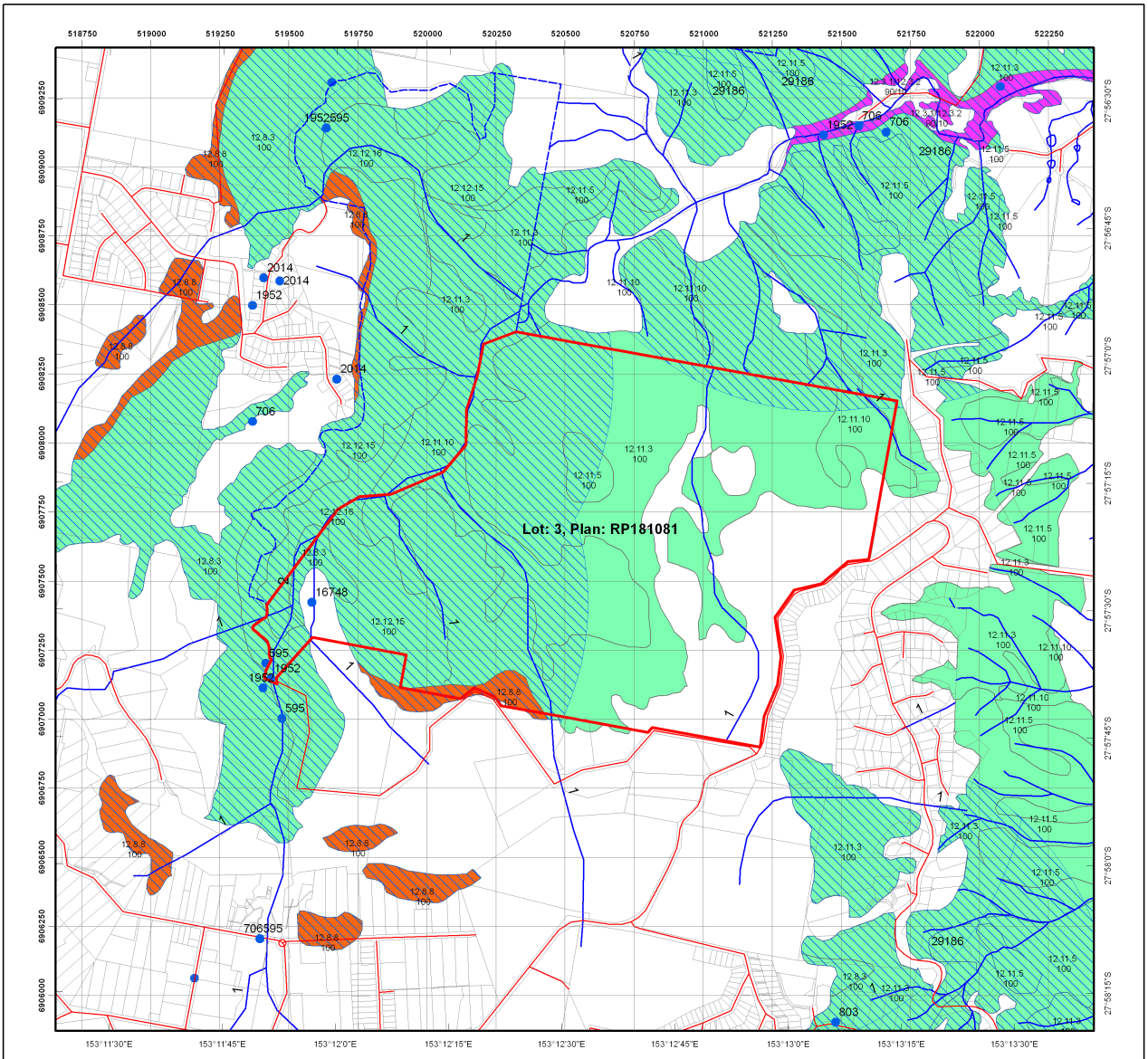
This product is projected into:
GDA 1994 MGA Zone 56

Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Natural Resources and Mines makes no representations or warranties about its accuracy, reliability, completeness or suitability or any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incurr as a result of the product being inaccurate or incomplete in any way and for any reason.

Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: www.dnrm.qld.gov.au or contact the Department of Natural Resources and Mines.

Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.

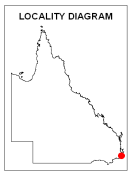


Vegetation Management Supporting Map

Legend

- Lot and Plan
- Category A or B area containing endangered regional ecosystems
- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem
- Category A or B area containing remnant vegetation
- Category A or B area under Section 20AH
  These areas are edged in yellow and filled with the remnant RE Status
- Category C area containing endangered regional ecosystems
- Category C area containing of concern regional ecosystems
- Category C area that is a least concern regional ecosystem
- Category C area containing high value regrowth vegetation
- Category C area under Section 20AI
  These areas are edged in purple and filled with the remnant RE Status
- Non Remnant
- Water
- Wetland on the vegetation management wetlands map
- Essential habitat on the essential habitat map
- Essential habitat species record
- Watercourse on the vegetation management watercourse map
  (Stream order shown as black number against stream where available)
- Roads
  © Pitney Bowes Software Pty Ltd
- National Parks, State Forest and other reserves
- Cadastral line
  Property boundaries shown are provided as a locational aid only

LOCALITY DIAGRAM



N

0 150 300 450 600 750 m

This product is projected into:
GDA 1994 MGA Zone 56

Labels for Essential Habitat are centred on the area of enquiry.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/- 100 metres.

Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Natural Resources and Mines and Pitney Bowes Software, makes no representations or warranties about its accuracy, reliability, completeness or suitability or any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incurr as a result of the product being inaccurate or incomplete in any way and for any reason.

Additional information may be required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.dnrm.qld.gov.au or contact the Department of Natural Resources and Mines.

Digital data for the vegetation management watercourse map, vegetation management wetlands map, essential habitat map and the vegetation management remnant and regional ecosystem map are available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

Vegetation Management Act 1999 - Extract from the essential habitat database - version 4.0

Essential habitat is required for assessment under the:

- State Development Assessment Provisions - Module 8: Native vegetation clearing which sets out the matters of interest to the state for development assessment under the *Sustainable Planning Act 2009*; and
- Self-assessable vegetation clearing codes made under the *Vegetation Management Act 1999*

Essential habitat for one or more of the following species is found on and within 1.1 km of the identified subject lot/s or on and within 2.2 km of an identified coordinate on the accompanying essential habitat map.

This report identifies essential habitat in Category A, B and Category C areas.

The numeric labels on the essential habitat map can be cross referenced with the database below to determine which essential habitat factors might exist for a particular species.

Essential habitat is compiled from a combination of species habitat models and buffered species records.

The Department of Natural Resources and Mines website (http://www.dnrm.qld.gov.au) has more information on how the layer is applied under the State Development Assessment Provisions - Module 8: Native vegetation clearing and the *Vegetation Management Act 1999*.

Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated.

Essential habitat, for protected wildlife, means a category A area, a category B area or category C area shown on the regulated vegetation management map-

(a) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database; or

(b) in which the protected wildlife, at any stage of its life cycle, is located.

Essential habitat identifies endangered or vulnerable native wildlife prescribed under the *Nature Conservation Act 1994*.

Essential habitat in Category A and B (Remnant vegetation species record) areas:1100m Species Information

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
803	Dasyurus maculatus maculatus	Spotted-tailed Quoll (southern subsp.)	V	Rainforest, wet and dry structurally complex sclerophyll forest (e.g. Eucalyptus andrewsii, E. saligna, E. tereticornis & Corymbia intermedia) on productive soils (gullies & flats) and in rocky areas (ridges), also open woodland (E. alba, E. melliodora, Callitris glaucophylla), coastal heathland (adjacent to forest) and riparian forest. Dens in caves, rock crevices and hollow logs.	Sea level to 1000m.	no soil information	None
706	Adelotus brevis	Tusked Frog	V	In cavities, under debris (logs, stones) in subtropical vine forest, tall open moist forest, heaths, Melaleuca swamp and pasturelands near puddles and streams.	Sea level to 1000m.	no soil information	None
595	Litoria pearsoniana	Cascade Treefrog	V	Under stones and in low vegetation along relatively large (upstream catchment volume >1000GL) fast flowing rocky streams in subtropical vine forest (complex notophyll) and wet sclerophyll forest, especially where palms present in midstorey, and occasionally along perennial densely vegetated streams in open forest adjacent to rainforest.	100-1000m.	no soil information	Near/in streams.
1952	Podargus ocellatus plumiferus	Marbled Frogmouth (Plumed)	V	Upper canopy of closed forest (notophyll and complex notophyll vine forest), often with emergents (Eucalyptus grandis and Lophostemon confertus = wet sclerophyll forest), vines and palms Archonotophoenix cunninghamiana along creeks, occasionally in araucarian vine forest (notophyll and microphyll); roosts by day in thick rainforest vegetation and occasionally use adjacent open forest .	Sea level to 900m.	no soil information	None
16748	Macadamia tetraphylla	macadamia nut	V	complex notophyll vine forest	0 to 700 m	red to brown loam or clay occasionally shallow and rocky, derived from metasediments, acid volcanics or basalts	alluvial terrace or bank of watercourse or hill slope or rocky scree slope
2014	Ornithoptera richmondia	Richmond Birdwing Butterfly	V	Lowland (including littoral & gallery) and upland subtropical rainforest with Paristolochia praevenosa and P. laheyana respectively; P. praevenosa occurs below 600m asl on basaltic slopes, creek banks, or on volcanic alluvial soils near watercourses, while P. laheyana occurs on basaltic ridges and slopes at >800m asl.	Sea level to >800m.	Basalt and volcanic alluvial substrates.	None

Essential habitat in Category A and B (Remnant vegetation species record) areas:1100m Regional Ecosystems Information

Label	Regional Ecosystem (this is a mandatory essential habitat factor, unless otherwise stated)
803	11.1.4, 11.2.1, 11.2.2, 11.2.3, 11.2.5, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.6, 11.3.8, 11.3.9, 11.3.10, 11.3.11, 11.3.12, 11.3.13, 11.3.14, 11.3.15, 11.3.16, 11.3.17, 11.3.18, 11.3.19, 11.3.23, 11.3.25, 11.3.26, 11.3.27, 11.3.28, 11.3.29, 11.3.30, 11.3.35, 11.3.36, 11.3.37, 11.3.39, 11.4.1, 11.4.2, 11.4.3, 11.4.5, 11.4.6, 11.4.7, 11.4.8, 11.4.9, 11.4.10, 11.4.12, 11.4.13, 11.5.1, 11.5.2, 11.5.3, 11.5.4, 11.5.5, 11.5.7, 11.5.8, 11.5.9, 11.5.12, 11.5.13, 11.5.14, 11.5.15, 11.5.16, 11.5.17, 11.5.20, 11.5.21, 11.7.1, 11.7.2, 11.7.4, 11.7.6, 11.8.1, 11.8.2, 11.8.3, 11.8.4, 11.8.5, 11.8.6, 11.8.8, 11.8.9, 11.8.11, 11.8.12, 11.8.13, 11.8.14, 11.8.15, 11.9.1, 11.9.2, 11.9.3, 11.9.4, 11.9.5, 11.9.6, 11.9.7, 11.9.8, 11.9.9, 11.9.10, 11.9.13, 11.9.14, 11.10.1, 11.10.2, 11.10.3, 11.10.4, 11.10.5, 11.10.6, 11.10.7, 11.10.8, 11.10.9, 11.10.11, 11.10.12, 11.10.13, 11.11.1, 11.11.3, 11.11.4, 11.11.5, 11.11.6, 11.11.7, 11.11.8, 11.11.9, 11.11.10, 11.11.11, 11.11.13, 11.11.14, 11.11.15, 11.11.16, 11.11.18, 11.11.19, 11.11.20, 11.11.21, 11.12.1, 11.12.2, 11.12.3, 11.12.4, 11.12.5, 11.12.6, 11.12.7, 11.12.8, 11.12.9, 11.12.10, 11.12.11, 11.12.12, 11.12.13, 11.12.14, 11.12.15, 11.12.17, 11.12.19, 11.12.20, 11.12.21, 12.1.1, 12.2.1, 12.2.2, 12.2.3, 12.2.4, 12.2.5, 12.2.6, 12.2.7, 12.2.8, 12.2.10, 12.2.11, 12.2.12, 12.2.13, 12.3.1, 12.3.2, 12.3.3, 12.3.4, 12.3.5, 12.3.6, 12.3.7, 12.3.9, 12.3.10, 12.3.11, 12.3.12, 12.3.14, 12.3.15, 12.5.1, 12.5.2, 12.5.3, 12.5.4, 12.5.5, 12.5.6, 12.5.7, 12.5.12, 12.5.13, 12.7.1, 12.7.2, 12.8.1, 12.8.2, 12.8.3, 12.8.4, 12.8.5, 12.8.6, 12.8.7, 12.8.8, 12.8.9, 12.8.10, 12.8.11, 12.8.12, 12.8.13, 12.8.14, 12.8.16, 12.8.17, 12.8.18, 12.8.19, 12.8.21, 12.8.22, 12.8.23, 12.8.24, 12.8.25, 12.8.26, 12.9-10.1, 12.9-10.2, 12.9-10.3, 12.9-10.4, 12.9-10.5, 12.9-10.6, 12.9-10.7, 12.9-10.8, 12.9-10.10, 12.9-10.11, 12.9-10.12, 12.9-10.14, 12.9-10.15, 12.9-10.16, 12.9-10.17, 12.9-10.18, 12.9-10.19, 12.9-10.20, 12.9-10.21, 12.9-10.23, 12.9-10.24, 12.11.1, 12.11.2, 12.11.3, 12.11.4, 12.11.5, 12.11.6, 12.11.7, 12.11.8, 12.11.9, 12.11.10, 12.11.11, 12.11.12, 12.11.13, 12.11.14, 12.11.15, 12.11.16, 12.11.17, 12.11.18, 12.11.19, 12.11.20, 12.11.21, 12.11.22, 12.11.23, 12.12.1, 12.12.2, 12.12.3, 12.12.4, 12.12.5, 12.12.6, 12.12.7, 12.12.8, 12.12.9, 12.12.11, 12.12.12, 12.12.13, 12.12.14, 12.12.15, 12.12.16, 12.12.17, 12.12.18, 12.12.20, 12.12.21, 12.12.22, 12.12.23, 12.12.24, 12.12.25, 12.12.26, 12.12.27, 12.12.28, 13.3.1, 13.3.2, 13.3.3, 13.3.4, 13.3.5, 13.9.2, 13.11.1, 13.11.2, 13.11.3, 13.11.4, 13.11.5, 13.11.6, 13.11.7, 13.11.8, 13.12.1, 13.12.2, 13.12.3, 13.12.4, 13.12.5, 13.12.8, 13.12.9, 13.12.10

Label	Regional Ecosystem (this is a mandatory essential habitat factor, unless otherwise stated)
706	8.1.5, 8.2.1, 8.2.2, 8.2.3, 8.2.4, 8.2.5, 8.2.6, 8.2.7, 8.2.8, 8.2.11, 8.2.12, 8.2.13, 8.3.1, 8.3.2, 8.3.3, 8.3.5, 8.3.6, 8.3.8, 8.3.9, 8.3.10, 8.3.11, 8.3.13, 8.5.1, 8.5.2, 8.5.3, 8.5.5, 8.5.6, 8.8.1, 8.9.1, 8.11.1, 8.11.2, 8.11.3, 8.11.4, 8.11.5, 8.11.6, 8.11.8, 8.12.1, 8.12.2, 8.12.3, 8.12.4, 8.12.5, 8.12.6, 8.12.7, 8.12.8, 8.12.9, 8.12.10, 8.12.11, 8.12.12, 8.12.14, 8.12.16, 8.12.17, 8.12.18, 8.12.19, 8.12.20, 8.12.22, 8.12.23, 8.12.25, 8.12.26, 8.12.27, 8.12.28, 8.12.29, 8.12.30, 8.12.31, 8.12.32, 11.1.4, 11.2.1, 11.2.2, 11.2.3, 11.2.5, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.5, 11.3.6, 11.3.7, 11.3.8, 11.3.9, 11.3.10, 11.3.11, 11.3.12, 11.3.13, 11.3.14, 11.3.15, 11.3.16, 11.3.17, 11.3.18, 11.3.19, 11.3.20, 11.3.23, 11.3.25, 11.3.26, 11.3.27, 11.3.28, 11.3.29, 11.3.30, 11.3.32, 11.3.33, 11.3.34, 11.3.35, 11.3.36, 11.3.37, 11.3.38, 11.3.39, 11.4.1, 11.4.2, 11.4.3, 11.4.5, 11.4.6, 11.4.7, 11.4.8, 11.4.9, 11.4.10, 11.4.12, 11.4.13, 11.5.1, 11.5.2, 11.5.3, 11.5.4, 11.5.5, 11.5.7, 11.5.8, 11.5.9, 11.5.12, 11.5.13, 11.5.14, 11.5.15, 11.5.16, 11.5.17, 11.5.20, 11.5.21, 11.7.1, 11.7.2, 11.7.3, 11.7.4, 11.7.6, 11.7.7, 11.8.1, 11.8.2, 11.8.3, 11.8.4, 11.8.5, 11.8.6, 11.8.8, 11.8.9, 11.8.11, 11.8.12, 11.8.13, 11.8.14, 11.8.15, 11.9.1, 11.9.2, 11.9.3, 11.9.4, 11.9.5, 11.9.6, 11.9.7, 11.9.8, 11.9.9, 11.9.10, 11.9.13, 11.9.14, 11.10.1, 11.10.2, 11.10.4, 11.10.5, 11.10.6, 11.10.7, 11.10.8, 11.10.9, 11.10.11, 11.10.12, 11.10.13, 11.11.1, 11.11.2, 11.11.3, 11.11.4, 11.11.5, 11.11.6, 11.11.7, 11.11.8, 11.11.9, 11.11.10, 11.11.11, 11.11.12, 11.11.13, 11.11.14, 11.11.15, 11.11.16, 11.11.17, 11.11.18, 11.11.19, 11.11.20, 11.11.21, 11.12.1, 11.12.2, 11.12.3, 11.12.4, 11.12.5, 11.12.6, 11.12.7, 11.12.8, 11.12.9, 11.12.10, 11.12.11, 11.12.12, 11.12.13, 11.12.14, 11.12.16, 11.12.17, 11.12.18, 11.12.19, 11.12.20, 11.12.21, 12.1.1, 12.2.1, 12.2.2, 12.2.3, 12.2.4, 12.2.5, 12.2.6, 12.2.7, 12.2.8, 12.2.9, 12.2.10, 12.2.11, 12.2.12, 12.2.13, 12.3.1, 12.3.2, 12.3.3, 12.3.4, 12.3.5, 12.3.6, 12.3.7, 12.3.9, 12.3.10, 12.3.11, 12.3.12, 12.3.13, 12.3.14, 12.3.15, 12.5.1, 12.5.2, 12.5.3, 12.5.4, 12.5.5, 12.5.6, 12.5.7, 12.5.8, 12.5.10, 12.5.11, 12.5.12, 12.5.13, 12.7.1, 12.7.2, 12.8.1, 12.8.2, 12.8.3, 12.8.4, 12.8.5, 12.8.6, 12.8.7, 12.8.8, 12.8.9, 12.8.10, 12.8.11, 12.8.12, 12.8.13, 12.8.14, 12.8.16, 12.8.17, 12.8.18, 12.8.19, 12.8.20, 12.8.21, 12.8.22, 12.8.23, 12.8.24, 12.8.25, 12.8.26, 12.9-10.1, 12.9-10.2, 12.9-10.3, 12.9-10.4, 12.9-10.5, 12.9-10.6, 12.9-10.7, 12.9-10.8, 12.9-10.9, 12.9-10.12, 12.9-10.13, 12.9-10.14, 12.9-10.16, 12.9-10.17, 12.9-10.18, 12.9-10.19, 12.9-10.20, 12.9-10.21, 12.9-10.23, 12.9-10.24, 12.11.1, 12.11.2, 12.11.3, 12.11.4, 12.11.5, 12.11.6, 12.11.7, 12.11.8, 12.11.9, 12.11.10, 12.11.11, 12.11.12, 12.11.13, 12.11.14, 12.11.15, 12.11.16, 12.11.17, 12.11.18, 12.11.19, 12.11.20, 12.11.21, 12.11.22, 12.11.23, 12.12.1, 12.12.2, 12.12.3, 12.12.4, 12.12.5, 12.12.6, 12.12.7, 12.12.8, 12.12.9, 12.12.11, 12.12.12, 12.12.13, 12.12.14, 12.12.15, 12.12.16, 12.12.17, 12.12.18, 12.12.20, 12.12.21, 12.12.22, 12.12.23, 12.12.24, 12.12.25, 12.12.26, 12.12.27, 12.12.28, 13.3.1, 13.3.2, 13.3.3, 13.3.4, 13.3.5, 13.3.7, 13.9.2, 13.11.1, 13.11.2, 13.11.3, 13.11.4, 13.11.5, 13.11.6, 13.11.7, 13.11.8, 13.12.1, 13.12.2, 13.12.3, 13.12.4, 13.12.5, 13.12.8, 13.12.9, 13.12.10
595	12.1.1, 12.2.1, 12.2.2, 12.2.3, 12.2.4, 12.2.5, 12.2.7, 12.2.8, 12.3.1, 12.3.2, 12.3.3, 12.3.4, 12.3.5, 12.3.7, 12.3.9, 12.3.10, 12.3.11, 12.3.15, 12.5.1, 12.5.3, 12.5.6, 12.5.13, 12.8.1, 12.8.2, 12.8.3, 12.8.4, 12.8.5, 12.8.6, 12.8.7, 12.8.8, 12.8.9, 12.8.10, 12.8.11, 12.8.12, 12.8.13, 12.8.14, 12.8.18, 12.8.21, 12.8.22, 12.8.23, 12.8.24, 12.8.25, 12.8.26, 12.9-10.1, 12.9-10.2, 12.9-10.3, 12.9-10.4, 12.9-10.5, 12.9-10.6, 12.9-10.10, 12.9-10.11, 12.9-10.14, 12.9-10.15, 12.9-10.16, 12.9-10.17, 12.9-10.18, 12.9-10.19, 12.9-10.20, 12.9-10.21, 12.9-10.23, 12.9-10.24, 12.11.1, 12.11.2, 12.11.3, 12.11.4, 12.11.5, 12.11.6, 12.11.7, 12.11.8, 12.11.9, 12.11.10, 12.11.11, 12.11.12, 12.11.13, 12.11.14, 12.11.15, 12.11.16, 12.11.17, 12.11.18, 12.11.19, 12.11.20, 12.11.21, 12.11.22, 12.11.23, 12.12.1, 12.12.2, 12.12.3, 12.12.4, 12.12.5, 12.12.6, 12.12.7, 12.12.8, 12.12.9, 12.12.11, 12.12.12, 12.12.13, 12.12.14, 12.12.15, 12.12.16, 12.12.17, 12.12.18, 12.12.20, 12.12.26, 12.12.28
1952	12.1.1, 12.2.1, 12.2.2, 12.2.3, 12.2.4, 12.2.5, 12.2.7, 12.2.8, 12.3.1, 12.3.2, 12.3.3, 12.3.4, 12.3.5, 12.3.7, 12.3.9, 12.3.10, 12.3.11, 12.3.15, 12.5.1, 12.5.3, 12.5.6, 12.5.13, 12.8.1, 12.8.2, 12.8.3, 12.8.4, 12.8.5, 12.8.6, 12.8.7, 12.8.8, 12.8.9, 12.8.10, 12.8.11, 12.8.12, 12.8.13, 12.8.14, 12.8.18, 12.8.21, 12.8.22, 12.8.23, 12.8.24, 12.8.25, 12.8.26, 12.9-10.1, 12.9-10.2, 12.9-10.3, 12.9-10.4, 12.9-10.5, 12.9-10.6, 12.9-10.10, 12.9-10.11, 12.9-10.14, 12.9-10.15, 12.9-10.16, 12.9-10.17, 12.9-10.18, 12.9-10.19, 12.9-10.20, 12.9-10.21, 12.9-10.23, 12.9-10.24, 12.11.1, 12.11.2, 12.11.3, 12.11.4, 12.11.5, 12.11.6, 12.11.7, 12.11.8, 12.11.9, 12.11.10, 12.11.11, 12.11.12, 12.11.13, 12.11.16, 12.11.17, 12.11.18, 12.11.19, 12.11.23, 12.12.1, 12.12.2, 12.12.3, 12.12.4, 12.12.5, 12.12.6, 12.12.11, 12.12.13, 12.12.15, 12.12.16, 12.12.17, 12.12.18, 12.12.20, 12.12.26, 12.12.28
16748	12.8.3, 12.11.1, 12.11.5, 12.11.10, 12.12.16
2014	12.2.1, 12.2.2, 12.2.3, 12.5.13, 12.8.3, 12.8.4, 12.8.5, 12.8.6, 12.8.7, 12.8.13, 12.8.18, 12.8.21, 12.8.22, 12.9-10.16, 12.11.1, 12.11.4, 12.11.10, 12.11.11, 12.11.12, 12.11.13, 12.12.1, 12.12.13, 12.12.16, 12.12.17, 12.12.18

Essential habitat in Category A and B (Remnant vegetation) areas:1100m Species Information

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
29186	Phascolarctos cinereus (southeast Queensland bioregion)	Koala	V	Open eucalypt forest and woodland that has: a) multiple strata layers containing Eucalyptus, Corymbia, Angophora, Lophostemon or Melaleuca trees that—at 1.3 metres above the ground—have a diameter both greater and less than 30 centimetres; and b) at least 1 of the following species: Eucalyptus tereticornis, E. fibrosa, E. propinqua; E. umbra, E. grandis, E. microcorys, E. tindaliae, E. resinifera, E. populnea, E. robusta, E. nigra, E. racemosa, E. crebra, E. exserta, E. seeana, Lophostemon confertus, L. suaveolens, Melaleuca quinquenervia.	Sea level to 1000m.	no soil information	None

Essential habitat in Category A and B (Remnant vegetation) areas:1100m Regional Ecosystems Information

Label	Regional Ecosystem (this is a mandatory essential habitat factor, unless otherwise stated)
29186	12.3.3, 12.3.4, 12.3.6, 12.3.7, 12.3.10, 12.3.11, 12.5.2, 12.5.3, 12.8.14, 12.9-10.4, 12.9-10.7, 12.9-10.17, 12.11.5, 12.11.18, 12.12.12

Essential habitat in Category C (High value regrowth vegetation) areas:1100m Species Information - (no results)

Essential habitat in Category C (High value regrowth vegetation) areas:1100m Regional Ecosystems Information - (no results)

ATTACHMENT 11

WILDLIFE ONLINE EXTRACT

(Source: DEHP/DSITIA)

Queensland Government

Wildlife Online Extract

Search Criteria: Species List for a Specified Point
Species: All
Type: Native
Status: All
Records: All
Date: All
Latitude: 27.9553
Longitude: 153.2104
Distance: 5
Email: mark@byrnslardner.com.au
Date submitted: Wednesday 12 Jun 2013 14:43:44
Date extracted: Wednesday 12 Jun 2013 14:50:07

The number of records retrieved = 853

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Hylidae	*Litoria fallax*	eastern sedgefrog		C		12
animals	amphibians	Hylidae	*Litoria nasuta*	striped rocketfrog		C		3
animals	amphibians	Hylidae	*Litoria pearsoniana*	cascade treefrog		V		16
animals	amphibians	Hylidae	*Litoria latopalmata*	broad palmed rocketfrog		C		13
animals	amphibians	Hylidae	*Litoria verreauxii*	whistling treefrog		C		5
animals	amphibians	Hylidae	*Litoria gracilenta*	graceful treefrog		C		14
animals	amphibians	Hylidae	*Litoria wilcoxii*	eastern stony creek frog		C		6
animals	amphibians	Hylidae	*Litoria revelata*	whirring treefrog		NT		2/1
animals	amphibians	Hylidae	*Litoria caerulea*	common green treefrog		C		19/1
animals	amphibians	Hylidae	*Litoria rubella*	ruddy treefrog		C		16
animals	amphibians	Hylidae	*Litoria peronii*	emerald spotted treefrog		C		16
animals	amphibians	Hylidae	*Litoria dentata*	bleating treefrog		C		4/1
animals	amphibians	Hylidae	*Litoria chloris*	orange eyed treefrog		C		15
animals	amphibians	Hylidae	*Litoria tyleri*	southern laughing treefrog		C		3
animals	amphibians	Limnodynastidae	*Limnodynastes tasmaniensis*	spotted grassfrog		C		3/2
animals	amphibians	Limnodynastidae	*Adelotus brevis*	tusked frog		V		17
animals	amphibians	Limnodynastidae	*Lechriodus fletcheri*	black soled frog		C		10/1
animals	amphibians	Limnodynastidae	*Limnodynastes peronii*	striped marshfrog		C		34
animals	amphibians	Limnodynastidae	*Platyplectrum ornatum*	ornate burrowing frog		C		2
animals	amphibians	Limnodynastidae	*Limnodynastes terraereginae*	scarlet sided pobblebonk		C		8
animals	amphibians	Myobatrachidae	*Mixophyes sp.*					3
animals	amphibians	Myobatrachidae	*Uperoleia fusca*	dusky gungan		C		2
animals	amphibians	Myobatrachidae	*Crinia signifera*	clicking froglet		C		1
animals	amphibians	Myobatrachidae	*Pseudophryne raveni*	copper backed broodfrog		C		1/1
animals	amphibians	Myobatrachidae	*Crinia parinsignifera*	beeping froglet		C		3
animals	amphibians	Myobatrachidae	*Pseudophryne coriacea*	red backed broodfrog		C		2
animals	amphibians	Myobatrachidae	*Mixophyes fasciolatus*	great barred frog		C		31/1
animals	birds	Acanthizidae	*Acanthiza nana*	yellow thornbill		C		5
animals	birds	Acanthizidae	*Acanthiza chrysorrhoa*	yellow-rumped thornbill		C		1
animals	birds	Acanthizidae	*Sericornis frontalis*	white-browed scrubwren		C		116
animals	birds	Acanthizidae	*Smicrornis brevirostris*	weebill		C		5
animals	birds	Acanthizidae	*Sericornis citreogularis*	yellow-throated scrubwren		C		20
animals	birds	Acanthizidae	*Gerygone albogularis*	white-throated gerygone		C		2
animals	birds	Acanthizidae	*Acanthiza reguloides*	buff-rumped thornbill		C		3
animals	birds	Acanthizidae	*Acanthiza pusilla*	brown thornbill		C		162
animals	birds	Acanthizidae	*Acanthiza lineata*	striated thornbill		C		41
animals	birds	Acanthizidae	*Sericornis sp.*					1
animals	birds	Acanthizidae	*Gerygone mouki*	brown gerygone		C		74
animals	birds	Acanthizidae	*Sericornis magnirostra*	large-billed scrubwren		C		104
animals	birds	Accipitridae	*Haliastur sphenurus*	whistling kite		C		6
animals	birds	Accipitridae	*Aviceda subcristata*	Pacific baza		C		37
animals	birds	Accipitridae	*Accipiter novaehollandiae*	grey goshawk		NT		25
animals	birds	Accipitridae	*Accipiter cirrocephalus*	collared sparrowhawk		C		3
animals	birds	Accipitridae	*Aquila audax*	wedge-tailed eagle		C		33
animals	birds	Accipitridae	*Accipiter fasciatus*	brown goshawk		C		10
animals	birds	Accipitridae	*Elanus axillaris*	black-shouldered kite		C		10

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animals	birds	Accipitridae	*Haliastur indus*	brahminy kite		C		1
animals	birds	Accipitridae	*Elanus scriptus*	letter-winged kite		C		1
animals	birds	Accipitridae	*Haliaeetus leucogaster*	white-bellied sea-eagle		C		2
animals	birds	Aegothelidae	*Aegotheles cristatus*	Australian owlet-nightjar		C		1
animals	birds	Alcedinidae	*Ceyx azureus*	azure kingfisher		C		15
animals	birds	Anatidae	*Chenonetta jubata*	Australian wood duck		C		42
animals	birds	Anatidae	*Dendrocygna eytoni*	plumed whistling-duck		C		2
animals	birds	Anatidae	*Dendrocygna arcuata*	wandering whistling-duck		C		2
animals	birds	Anatidae	*Anas superciliosa*	Pacific black duck		C		58
animals	birds	Anhingidae	*Anhinga novaehollandiae*	Australasian darter		C		9
animals	birds	Anseranatidae	*Anseranas semipalmata*	magpie goose		C		5
animals	birds	Apodidae	*Apus pacificus*	fork-tailed swift		C		1
animals	birds	Apodidae	*Hirundapus caudacutus*	white-throated needletail		C		8
animals	birds	Ardeidae	*Egretta garzetta*	little egret		C		7
animals	birds	Ardeidae	*Ardea ibis*	cattle egret		C		44
animals	birds	Ardeidae	*Ardea modesta*	eastern great egret		C		5
animals	birds	Ardeidae	*Ardea pacifica*	white-necked heron		C		10
animals	birds	Ardeidae	*Ardea intermedia*	intermediate egret		C		6
animals	birds	Ardeidae	*Egretta novaehollandiae*	white-faced heron		C		37
animals	birds	Ardeidae	*Nycticorax caledonicus*	Nankeen night-heron		C		1
animals	birds	Artamidae	*Cracticus nigrogularis*	pied butcherbird		C		167
animals	birds	Artamidae	*Cracticus torquatus*	grey butcherbird		C		104
animals	birds	Artamidae	*Artamus cyanopterus*	dusky woodswallow		C		4
animals	birds	Artamidae	*Cracticus tibicen*	Australian magpie		C		238
animals	birds	Artamidae	*Strepera graculina*	pied currawong		C		279
animals	birds	Burhinidae	*Burhinus grallarius*	bush stone-curlew		C		1
animals	birds	Cacatuidae	*Eolophus roseicapillus*	galah		C		40
animals	birds	Cacatuidae	*Calyptorhynchus banksii*	red-tailed black-cockatoo		C		4
animals	birds	Cacatuidae	*Calyptorhynchus lathami*	glossy black-cockatoo		V		35
animals	birds	Cacatuidae	*Calyptorhynchus funereus*	yellow-tailed black-cockatoo		C		64
animals	birds	Cacatuidae	*Cacatua galerita*	sulphur-crested cockatoo		C		87
animals	birds	Cacatuidae	*Calyptorhynchus sp.*					3
animals	birds	Cacatuidae	*Cacatua sanguinea*	little corella		C		2
animals	birds	Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike		C		139
animals	birds	Campephagidae	*Coracina tenuirostris*	cicadabird		C		53
animals	birds	Campephagidae	*Coracina papuensis*	white-bellied cuckoo-shrike		C		5
animals	birds	Campephagidae	*Coracina lineata*	barred cuckoo-shrike		C		10
animals	birds	Campephagidae	*Lalage leucomela*	varied triller		C		15
animals	birds	Charadriidae	*Vanellus miles novaehollandiae*	masked lapwing (southern subspecies)		C		70
animals	birds	Charadriidae	*Vanellus miles*	masked lapwing		C		9
animals	birds	Charadriidae	*Erythrogonys cinctus*	red-kneed dotterel		C		1
animals	birds	Ciconiidae	*Ephippiorhynchus asiaticus*	black-necked stork		NT		1
animals	birds	Cisticolidae	*Cisticola exilis*	golden-headed cisticola		C		12
animals	birds	Climacteridae	*Cormobates leucophaea*	white-throated treecreeper		C		33
animals	birds	Climacteridae	*Climacteris erythrops*	red-browed treecreeper		NT		1
animals	birds	Climacteridae	*Climacteris picumnus*	brown treecreeper		C		1

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animals	birds	Climacteridae	*Cormobates leucophaea metastasis*	white-throated treecreeper (southern)		C		57
animals	birds	Columbidae	*Ptilinopus regina*	rose-crowned fruit-dove		C		22
animals	birds	Columbidae	*Chalcophaps indica*	emerald dove		C		15
animals	birds	Columbidae	*Geopelia humeralis*	bar-shouldered dove		C		102
animals	birds	Columbidae	*Leucosarcia picata*	wonga pigeon		C		50
animals	birds	Columbidae	*Ptilinopus superbus*	superb fruit-dove		C		2
animals	birds	Columbidae	*Ptilinopus magnificus*	wompoo fruit-dove		C		92/1
animals	birds	Columbidae	*Macropygia amboinensis*	brown cuckoo-dove		C		164
animals	birds	Columbidae	*Lopholaimus antarcticus*	topknot pigeon		C		67
animals	birds	Columbidae	*Phaps elegans*	brush bronzewing		C		1
animals	birds	Columbidae	*Geopelia striata*	peaceful dove		C		23
animals	birds	Columbidae	*Columba leucomela*	white-headed pigeon		C		30
animals	birds	Columbidae	*Ocyphaps lophotes*	crested pigeon		C		90
animals	birds	Columbidae	*Phaps chalcoptera*	common bronzewing		C		3
animals	birds	Coraciidae	*Eurystomus orientalis*	dollarbird		C		65
animals	birds	Corvidae	*Corvus orru*	Torresian crow		C		236
animals	birds	Corvidae	*Corvus coronoides*	Australian raven		C		1
animals	birds	Cuculidae	*Cacomantis variolosus*	brush cuckoo		C		18
animals	birds	Cuculidae	*Cacomantis pallidus*	pallid cuckoo		C		3
animals	birds	Cuculidae	*Chalcites lucidus*	shining bronze-cuckoo		C		15
animals	birds	Cuculidae	*Chalcites basalis*	Horsfield's bronze-cuckoo		C		6
animals	birds	Cuculidae	*Centropus phasianinus*	pheasant coucal		C		93
animals	birds	Cuculidae	*Cacomantis flabelliformis*	fan-tailed cuckoo		C		53
animals	birds	Cuculidae	*Scythrops novaehollandiae*	channel-billed cuckoo		C		46
animals	birds	Cuculidae	*Eudynamys orientalis*	eastern koel		C		77
animals	birds	Dicruridae	*Dicrurus bracteatus*	spangled drongo		C		81
animals	birds	Estrildidae	*Taeniopygia bichenovii*	double-barred finch		C		5
animals	birds	Estrildidae	*Stagonopleura guttata*	diamond firetail		C		1
animals	birds	Estrildidae	*Lonchura castaneothorax*	chestnut-breasted mannikin		C		4
animals	birds	Estrildidae	*Neochmia temporalis*	red-browed finch		C		96
animals	birds	Falconidae	*Falco berigora*	brown falcon		C		5
animals	birds	Falconidae	*Falco subniger*	black falcon		C		1
animals	birds	Falconidae	*Falco longipennis*	Australian hobby		C		1
animals	birds	Falconidae	*Falco cenchroides*	nankeen kestrel		C		14
animals	birds	Falconidae	*Falco peregrinus*	peregrine falcon		C		4
animals	birds	Halcyonidae	*Todiramphus sanctus*	sacred kingfisher		C		4
animals	birds	Halcyonidae	*Dacelo novaeguineae*	laughing kookaburra		C		304
animals	birds	Halcyonidae	*Dacelo leachii*	blue-winged kookaburra		C		1
animals	birds	Halcyonidae	*Todiramphus macleayii*	forest kingfisher		C		34
animals	birds	Hirundinidae	*Hirundo sp.*					2
animals	birds	Hirundinidae	*Petrochelidon nigricans*	tree martin		C		20
animals	birds	Hirundinidae	*Hirundo neoxena*	welcome swallow		C		109
animals	birds	Maluridae	*Malurus melanocephalus*	red-backed fairy-wren		C		49
animals	birds	Maluridae	*Malurus cyaneus*	superb fairy-wren		C		51
animals	birds	Maluridae	*Malurus lamberti*	variegated fairy-wren		C		39
animals	birds	Megaluridae	*Megalurus gramineus*	little grassbird		C		1

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animals	birds	Megaluridae	*Megalurus timoriensis*	tawny grassbird		C		2
animals	birds	Megapodiidae	*Alectura lathami*	Australian brush-turkey		C		228
animals	birds	Meliphagidae	*Melithreptus lunatus*	white-naped honeyeater		C		11
animals	birds	Meliphagidae	*Philemon corniculatus*	noisy friarbird		C		39
animals	birds	Meliphagidae	*Manorina melanocephala*	noisy miner		C		175
animals	birds	Meliphagidae	*Myzomela sanguinolenta*	scarlet honeyeater		C		41
animals	birds	Meliphagidae	*Philemon citreogularis*	little friarbird		C		16
animals	birds	Meliphagidae	*Anthochaera carunculata*	red wattlebird		C		6
animals	birds	Meliphagidae	*Anthochaera chrysoptera*	little wattlebird		C		75
animals	birds	Meliphagidae	*Phylidonyris novaehollandiae*	New Holland honeyeater		C		3
animals	birds	Meliphagidae	*Lichmera indistincta*	brown honeyeater		C		40
animals	birds	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater		C		25
animals	birds	Meliphagidae	*Caligavis chrysops*	yellow-faced honeyeater		C		58
animals	birds	Meliphagidae	*Meliphaga lewinii*	Lewin's honeyeater		C		267
animals	birds	Meliphagidae	*Acanthorhynchus tenuirostris*	eastern spinebill		C		81
animals	birds	Meliphagidae	*Melithreptus albogularis*	white-throated honeyeater		C		28
animals	birds	Meliphagidae	*Manorina melanophrys*	bell miner		C		1
animals	birds	Menuridae	*Menura alberti*	Albert's lyrebird		NT		326
animals	birds	Meropidae	*Merops ornatus*	rainbow bee-eater		C		16
animals	birds	Monarchidae	*Monarcha melanopsis*	black-faced monarch		C		44
animals	birds	Monarchidae	*Carterornis leucotis*	white-eared monarch		C		5
animals	birds	Monarchidae	*Symposiarchus trivirgatus*	spectacled monarch		C		46
animals	birds	Monarchidae	*Myiagra inquieta*	restless flycatcher		C		5
animals	birds	Monarchidae	*Myiagra rubecula*	leaden flycatcher		C		8
animals	birds	Monarchidae	*Grallina cyanoleuca*	magpie-lark		C		92
animals	birds	Motacillidae	*Anthus novaeseelandiae*	Australasian pipit		C		9
animals	birds	Nectariniidae	*Dicaeum hirundinaceum*	mistletoebird		C		28
animals	birds	Neosittidae	*Daphoenositta chrysoptera*	varied sittella		C		8
animals	birds	Oriolidae	*Oriolus sagittatus*	olive-backed oriole		C		31
animals	birds	Oriolidae	*Sphecotheres vieilloti*	Australasian figbird		C		92
animals	birds	Orthonychidae	*Orthonyx temminckii*	Australian logrunner		C		125
animals	birds	Pachycephalidae	*Colluricincla megarhyncha*	little shrike-thrush		C		75
animals	birds	Pachycephalidae	*Pachycephala rufiventris*	rufous whistler		C		27
animals	birds	Pachycephalidae	*Pachycephala pectoralis*	golden whistler		C		131
animals	birds	Pachycephalidae	*Colluricincla harmonica*	grey shrike-thrush		C		127
animals	birds	Pachycephalidae	*Falcunculus frontatus*	crested shrike-tit		C		2
animals	birds	Paradisaeidae	*Ptiloris paradiseus*	paradise riflebird		C		10
animals	birds	Pardalotidae	*Pardalotus striatus*	striated pardalote		C		105
animals	birds	Pardalotidae	*Pardalotus punctatus*	spotted pardalote		C		88
animals	birds	Petroicidae	*Melanodryas cucullata*	hooded robin		C		1
animals	birds	Petroicidae	*Eopsaltria australis*	eastern yellow robin		C		62
animals	birds	Petroicidae	*Petroica rosea*	rose robin		C		56
animals	birds	Petroicidae	*Tregellasia capito*	pale-yellow robin		C		117
animals	birds	Phalacrocoracidae	*Microcarbo melanoleucos*	little pied cormorant		C		8
animals	birds	Phalacrocoracidae	*Phalacrocorax sulcirostris*	little black cormorant		C		8
animals	birds	Phalacrocoracidae	*Phalacrocorax varius*	pied cormorant		C		10

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animals	birds	Phalacrocoracidae	*Phalacrocorax carbo*	great cormorant		C		1
animals	birds	Phasianidae	*Coturnix sp.*					1
animals	birds	Phasianidae	*Coturnix ypsilophora*	brown quail		C		6
animals	birds	Pittidae	*Pitta versicolor*	noisy pitta		C		30
animals	birds	Podargidae	*Podargus strigoides*	tawny frogmouth		C		79
animals	birds	Podargidae	*Podargus ocellatus plumiferus*	plumed frogmouth		V		17
animals	birds	Podargidae	*Podargus ocellatus marmoratus*	marbled frogmouth		C		2
animals	birds	Podicipedidae	*Tachybaptus novaehollandiae*	Australasian grebe		C		3
animals	birds	Pomatostomidae	*Pomatostomus temporalis*	grey-crowned babbler		C		8
animals	birds	Psittacidae	*Platycercus elegans*	crimson rosella		C		212
animals	birds	Psittacidae	*Glossopsitta pusilla*	little lorikeet		C		18
animals	birds	Psittacidae	*Trichoglossus haematodus moluccanus*	rainbow lorikeet		C		266
animals	birds	Psittacidae	*Trichoglossus chlorolepidotus*	scaly-breasted lorikeet		C		111
animals	birds	Psittacidae	*Aprosmictus erythropterus*	red-winged parrot		C		2
animals	birds	Psittacidae	*Glossopsitta concinna*	musk lorikeet		C		1
animals	birds	Psittacidae	*Platycercus eximius*	eastern rosella		C		27
animals	birds	Psittacidae	*Alisterus scapularis*	Australian king-parrot		C		184
animals	birds	Psittacidae	*Barnardius zonarius*	Australian ringneck		C		1
animals	birds	Psittacidae	*Platycercus adscitus*	pale-headed rosella		C		174
animals	birds	Psophodidae	*Cinclosoma punctatum*	spotted quail-thrush		C		3
animals	birds	Psophodidae	*Psophodes olivaceus*	eastern whipbird		C		241
animals	birds	Ptilonorhynchidae	*Ptilonorhynchus violaceus*	satin bowerbird		C		194
animals	birds	Ptilonorhynchidae	*Sericulus chrysocephalus*	regent bowerbird		C		82
animals	birds	Ptilonorhynchidae	*Ailuroedus crassirostris*	green catbird		C		108
animals	birds	Rallidae	*Fulica atra*	Eurasian coot		C		2
animals	birds	Rallidae	*Porphyrio porphyrio*	purple swamphen		C		27
animals	birds	Rallidae	*Gallinula tenebrosa*	dusky moorhen		C		12
animals	birds	Rallidae	*Gallirallus philippensis*	buff-banded rail		C		3
animals	birds	Rallidae	*Lewinia pectoralis*	Lewin's rail		NT		1
animals	birds	Rhipiduridae	*Rhipidura leucophrys*	willie wagtail		C		73
animals	birds	Rhipiduridae	*Rhipidura rufifrons*	rufous fantail		C		50
animals	birds	Rhipiduridae	*Rhipidura albiscapa*	grey fantail		C		136
animals	birds	Scolopacidae	*Gallinago hardwickii*	Latham's snipe		C		1
animals	birds	Strigidae	*Ninox strenua*	powerful owl		V		2
animals	birds	Strigidae	*Ninox boobook*	southern boobook		C		64
animals	birds	Threskiornithidae	*Platalea regia*	royal spoonbill		C		7
animals	birds	Threskiornithidae	*Platalea flavipes*	yellow-billed spoonbill		C		2
animals	birds	Threskiornithidae	*Threskiornis spinicollis*	straw-necked ibis		C		53
animals	birds	Threskiornithidae	*Threskiornis molucca*	Australian white ibis		C		13
animals	birds	Timaliidae	*Zosterops lateralis*	silvereye		C		103
animals	birds	Turdidae	*Zoothera lunulata*	Bassian thrush		C		8
animals	birds	Turdidae	*Zoothera sp.*					2
animals	birds	Turdidae	*Zoothera heinei*	russet-tailed thrush		C		1
animals	birds	Turnicidae	*Turnix melanogaster*	black-breasted button-quail		V	V	2
animals	birds	Turnicidae	*Turnix maculosus*	red-backed button-quail		C		2
animals	birds	Tytonidae	*Tyto tenebricosa tenebricosa*	sooty owl		NT		62

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animals	birds	Tytonidae	*Tyto javanica*	eastern barn owl		C		1
animals	birds	Tytonidae	*Tyto novaehollandiae novaehollandiae*	masked owl (southern subspecies)		C		1
animals	insects	Lycaenidae	*Zizina labradus labradus*	common grass-blue (Australian subspecies)				2
animals	insects	Lycaenidae	*Acrodipsas illidgei*	Illidge's ant-blue		V		1
animals	insects	Nymphalidae	*Phaedyma shepherdi shepherdi*	white-banded plane (southern subspecies)				1
animals	insects	Nymphalidae	*Acraea andromacha andromacha*	glasswing				2
animals	insects	Nymphalidae	*Heteronympha merope merope*	common brown				1
animals	insects	Nymphalidae	*Junonia villida calybe*	meadow argus				1
animals	insects	Nymphalidae	*Danaus plexippus plexippus*	monarch				2
animals	insects	Nymphalidae	*Doleschallia bisaltide australis*	leafwing				1
animals	insects	Nymphalidae	*Hypocysta metirius*	brown ringlet				2
animals	insects	Nymphalidae	*Euploea core corinna*	common crow				1
animals	insects	Nymphalidae	*Hypocysta pseudirius*	grey ringlet				1
animals	insects	Nymphalidae	*Argyreus hyperbius inconstans*	Australian fritillary		E		1
animals	insects	Nymphalidae	*Vanessa itea*	yellow admiral				4
animals	insects	Papilionidae	*Ornithoptera richmondia*	Richmond birdwing		V		22
animals	insects	Papilionidae	*Graphium sarpedon choredon*	blue triangle				4
animals	insects	Papilionidae	*Papilio aegeus aegeus*	orchard swallowtail (Australian subspecies)				4
animals	insects	Pieridae	*Delias harpalyce*	imperial jezebel				2
animals	insects	Pieridae	*Delias nigrina*	black jezebel				4
animals	insects	Pieridae	*Eurema hecabe phoebus*	large grass-yellow				2
animals	insects	Pieridae	*Belenois java teutonia*	caper white				1
animals	insects	Pieridae	*Catopsilia gorgophone gorgophone*	yellow migrant				1
animals	mammals	Acrobatidae	*Acrobates pygmaeus*	feathertail glider		C		3
animals	mammals	Canidae	*Canis lupus dingo*	dingo				15
animals	mammals	Canidae	*Canis sp.*					1
animals	mammals	Dasyuridae	*Phascogale tapoatafa*	brush-tailed phascogale		C		3
animals	mammals	Dasyuridae	*Sminthopsis murina*	common dunnart		C		1/1
animals	mammals	Dasyuridae	*Planigale maculata*	common planigale		C		1
animals	mammals	Dasyuridae	*Antechinus sp.*					1
animals	mammals	Dasyuridae	*Antechinus subtropicus*			C		10/1
animals	mammals	Dasyuridae	*Antechinus flavipes flavipes*	yellow-footed antechinus (south-east Queensland)		C		2
animals	mammals	Dasyuridae	*Dasyurus maculatus maculatus*	spotted-tailed quoll (southern subspecies)		V	E	1
animals	mammals	Dasyuridae	*Antechinus stuartii*	brown antechinus		C		1
animals	mammals	Macropodidae	*Macropus rufogriseus*	red-necked wallaby		C		15/1
animals	mammals	Macropodidae	*Thylogale stigmatica*	red-legged pademelon		C		4/2
animals	mammals	Macropodidae	*Macropus giganteus*	eastern grey kangaroo		C		1
animals	mammals	Macropodidae	*Wallabia bicolor*	swamp wallaby		C		2
animals	mammals	Macropodidae	*Thylogale thetis*	red-necked pademelon		C		25/3
animals	mammals	Macropodidae	*Macropus parryi*	whiptail wallaby		C		25
animals	mammals	Macropodidae	*Macropus sp.*					2

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	mammals	Molossidae	*Tadarida australis*	white-striped freetail bat		C		2
animals	mammals	Muridae	*Rattus fuscipes*	bush rat		C		13
animals	mammals	Muridae	*Rattus lutreolus*	swamp rat		C		2
animals	mammals	Muridae	*Melomys cervinipes*	fawn-footed melomys		C		5
animals	mammals	Muridae	*Hydromys chrysogaster*	water rat		C		3
animals	mammals	Ornithorhynchidae	*Ornithorhynchus anatinus*	platypus		C		34/1
animals	mammals	Peramelidae	*Isoodon macrourus*	northern brown bandicoot		C		26
animals	mammals	Peramelidae	*Perameles nasuta*	long-nosed bandicoot		C		30/1
animals	mammals	Petauridae	*Petaurus sp.*					1
animals	mammals	Petauridae	*Petaurus australis australis*	yellow-bellied glider (southern subspecies)		C		62
animals	mammals	Petauridae	*Petaurus norfolcensis*	squirrel glider		C		10/1
animals	mammals	Petauridae	*Petaurus breviceps*	sugar glider		C		21/1
animals	mammals	Phalangeridae	*Trichosurus vulpecula*	common brushtail possum		C		9
animals	mammals	Phalangeridae	*Trichosurus sp.*					1
animals	mammals	Phalangeridae	*Trichosurus caninus*	short-eared possum		C		52
animals	mammals	Phascolarctidae	*Phascolarctos cinereus (southeast Queensland bioregion)*	koala (southeast Queensland bioregion)		V	V	45
animals	mammals	Potoroidae	*Potorous tridactylus tridactylus*	long-nosed potoroo		V	V	4/1
animals	mammals	Pseudocheiridae	*Pseudocheirus peregrinus*	common ringtail possum		C		38
animals	mammals	Pseudocheiridae	*Petauroides volans*	greater glider		C		1/1
animals	mammals	Pteropodidae	*Pteropus alecto*	black flying-fox		C		5
animals	mammals	Pteropodidae	*Pteropus scapulatus*	little red flying-fox		C		5
animals	mammals	Pteropodidae	*Pteropus poliocephalus*	grey-headed flying-fox		C	V	21
animals	mammals	Pteropodidae	*Pteropus sp.*					7
animals	mammals	Rhinolophidae	*Rhinolophus megaphyllus*	eastern horseshoe-bat		C		7
animals	mammals	Tachyglossidae	*Tachyglossus aculeatus*	short-beaked echidna		C		7/1
animals	mammals	Vespertilionidae	*Nyctophilus gouldi*	Gould's long-eared bat		C		1/1
animals	mammals	Vespertilionidae	*Vespadelus pumilus*	eastern forest bat		C		1
animals	mammals	Vespertilionidae	*Nyctophilus geoffroyi*	lesser long-eared bat		C		1
animals	mammals	Vespertilionidae	*Miniopterus schreibersii oceanensis*	eastern bent-wing bat		C		1
animals	ray-finned fishes	Anguillidae	*Anguilla reinhardtii*	longfin eel				1
animals	ray-finned fishes	Melanotaeniidae	*Melanotaenia duboulayi*	crimsonspotted rainbowfish				2
animals	reptiles	Agamidae	*Intellagama lesueurii*	eastern water dragon		C		32
animals	reptiles	Agamidae	*Pogona barbata*	bearded dragon		C		28
animals	reptiles	Boidae	*Morelia spilota*	carpet python		C		57/1
animals	reptiles	Boidae	*Morelia sp.*					1
animals	reptiles	Boidae	*Antaresia maculosa*	spotted python		C		1
animals	reptiles	Carphodactylidae	*Saltuarius swaini*			C		40/1
animals	reptiles	Chelidae	*Emydura macquarii macquarii*	Murray turtle		C		7
animals	reptiles	Chelidae	*Wollumbinia latisternum*	saw-shelled turtle		C		2
animals	reptiles	Chelidae	*Chelodina longicollis*	eastern snake-necked turtle		C		8
animals	reptiles	Chelidae	*Chelodina sp.*					8
animals	reptiles	Colubridae	*Boiga irregularis*	brown tree snake		C		1
animals	reptiles	Colubridae	*Dendrelaphis punctulata*	common tree snake		C		12
animals	reptiles	Colubridae	*Tropidonophis mairii*	freshwater snake		C		3

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animals	reptiles	Diplodactylidae	*Nebulifera robusta*	robust velvet gecko		C		2/1
animals	reptiles	Diplodactylidae	*Amolosia lesueurii*	Lesueur's velvet gecko		C		13
animals	reptiles	Diplodactylidae	*Oedura sp.*					1
animals	reptiles	Elapidae	*Pseudechis porphyriacus*	red-bellied black snake		C		4
animals	reptiles	Elapidae	*Acanthophis antarcticus*	common death adder		NT		1
animals	reptiles	Elapidae	*Tropidechis carinatus*	rough-scaled snake		C		4
animals	reptiles	Elapidae	*Cryptophis nigrescens*	eastern small-eyed snake		C		5/4
animals	reptiles	Elapidae	*Cacophis squamulosus*	golden crowned snake		C		10/4
animals	reptiles	Elapidae	*Vermicella annulata*	bandy-bandy		C		2
animals	reptiles	Elapidae	*Pseudonaja textilis*	eastern brown snake		C		1
animals	reptiles	Elapidae	*Demansia psammophis*	yellow-faced whip snake		C		5/1
animals	reptiles	Elapidae	*Hemiaspis signata*	black-bellied swamp snake		C		7/4
animals	reptiles	Elapidae	*Cacophis krefftii*	dwarf crowned snake		C		7/1
animals	reptiles	Elapidae	*Hoplocephalus stephensii*	Stephens' banded snake		C		2
animals	reptiles	Pygopodidae	*Lialis burtonis*	Burton's legless lizard		C		1
animals	reptiles	Scincidae	*Eulamprus sp.*					3
animals	reptiles	Scincidae	*Eulamprus quoyii*	eastern water skink		C		2/1
animals	reptiles	Scincidae	*Eulamprus tenuis*			C		4/2
animals	reptiles	Scincidae	*Bellatorias major*	land mullet		C		45/3
animals	reptiles	Scincidae	*Eulamprus martini*			C		1
animals	reptiles	Scincidae	*Eulamprus murrayi*			C		5/1
animals	reptiles	Scincidae	*Bellatorias frerei*	major skink		C		24
animals	reptiles	Scincidae	*Tiliqua scincoides*	eastern blue-tongued lizard		C		7
animals	reptiles	Scincidae	*Anomalopus verreauxii*			C		2
animals	reptiles	Scincidae	*Lampropholis delicata*			C		24/2
animals	reptiles	Scincidae	*Morethia taeniopleura*	fire-tailed skink		C		1
animals	reptiles	Scincidae	*Tiliqua rugosa aspera*	shingle-back (eastern subspecies)		C		1
animals	reptiles	Scincidae	*Calyptotis scutirostrum*			C		12/3
animals	reptiles	Scincidae	*Calyptotis lepidorostrum*			C		2
animals	reptiles	Scincidae	*Cyclodomorphus gerrardii*	pink-tongued lizard		C		14
animals	reptiles	Scincidae	*Saproscincus challengeri*			C		18/3
animals	reptiles	Scincidae	*Coeranoscincus reticulatus*	three-toed snake-tooth skink		NT	V	1
animals	reptiles	Scincidae	*Carlia pectoralis sensu lato*			C		1
animals	reptiles	Scincidae	*Cryptoblepharus pulcher pulcher*	elegant snake-eyed skink		C		6/3
animals	reptiles	Scincidae	*Saiphos equalis*			C		13/4
animals	reptiles	Scincidae	*Ctenotus arcanus*			C		3
animals	reptiles	Typhlopidae	*Ramphotyphlops nigrescens*			C		1/1
animals	reptiles	Typhlopidae	*Ramphotyphlops sp.*					1
animals	reptiles	Varanidae	*Varanus sp.*	goanna				1
animals	reptiles	Varanidae	*Varanus varius*	lace monitor		C		7
fungi	club fungi	Basidiomycota	*Macrolepiota clelandii*			C		1/1
fungi	club fungi	Basidiomycota	*Marasmius crinisequi*			C		3/3
fungi	club fungi	Basidiomycota	*Polyporus dictyopus*			C		1/1
fungi	club fungi	Basidiomycota	*Lentinula lateritia*			C		1/1
fungi	club fungi	Basidiomycota	*Microporus affinis*			C		1/1
fungi	club fungi	Basidiomycota	*Russula*			C		2/2

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fungi	club fungi	Basidiomycota	*Lepiota aspera*			C		1/1
fungi	club fungi	Basidiomycota	*Phellinus*			C		1/1
fungi	club fungi	Basidiomycota	*Lactarius*			C		1/1
fungi	club fungi	Basidiomycota	*Entoloma*			C		1/1
fungi	club fungi	Basidiomycota	*Lactarius clarkeae*			C		1/1
fungi	sac fungi	Cladoniaceae	*Cladonia ochrochlora*			C		1/1
fungi	sac fungi	Cladoniaceae	*Cladonia floerkeana*			C		1/1
fungi	sac fungi	Cladoniaceae	*Cladonia kuringaiensis*			C		2/2
fungi	sac fungi	Collemataceae	*Physma byrsaeum*			C		1/1
fungi	sac fungi	Crocyniaceae	*Crocynia glaucescens*			C		1/1
fungi	sac fungi	Graphidaceae	*Glyphis cicatricosa*			C		1/1
fungi	sac fungi	Haematommaceae	*Haematomma africanum*			C		1/1
fungi	sac fungi	Lichen	*Leproplaca*			C		1/1
fungi	sac fungi	Parmeliaceae	*Parmotrema tinctorum*			C		1/1
fungi	sac fungi	Parmeliaceae	*Parmotrema reticulatum*			C		2/2
fungi	sac fungi	Parmeliaceae	*Relicinopsis rahengensis*			C		1/1
fungi	sac fungi	Parmeliaceae	*Parmotrema*			C		1/1
fungi	sac fungi	Pertusariaceae	*Pertusaria*			C		1/1
fungi	sac fungi	Physciaceae	*Dirinaria applanata*			C		1/1
fungi	sac fungi	Pyrenulaceae	*Anthracothecium gregale*			C		1/1
fungi	sac fungi	Ramalinaceae	*Ramalina inflata subsp. perpusilla*			C		6/6
fungi	sac fungi	Ramalinaceae	*Ramalina subfraxinea*			C		1/1
fungi	sac fungi	Ramalinaceae	*Ramalina luciae*			C		1/1
fungi	sac fungi	Ramalinaceae	*Ramalina*			C		2/2
fungi	sac fungi	Usneaceae	*Usnea bismolliuscula*			C		2/2
fungi	sac fungi	Usneaceae	*Usnea molliuscula subsp. queenslandica*			C		1/1
fungi	sac fungi	Usneaceae	*Usnea rubrotincta*			C		1/1
fungi	sac fungi	Usneaceae	*Usnea sanguinea*			C		1/1
fungi	sac fungi	Usneaceae	*Usnea rubicunda*			C		1/1
fungi	sac fungi	Usneaceae	*Usnea baileyi*			C		1/1
fungi	sac fungi	Usneaceae	*Usnea dasaea*			C		3/3
fungi	sac fungi	Usneaceae	*Usnea*			C		2/2
fungi	uncertain	Ascomycota	*Hypoxylon rubiginosum var. rubiginosum*			C		1/1
plants	conifers	Cupressaceae	*Callitris macleayana*	stringybark pine		C		2/1
plants	cycads	Zamiaceae	*Lepidozamia peroffskyana*	shining burrawang		C		5/5
plants	ferns	Adiantaceae	*Adiantum atroviride*			C		1/1
plants	ferns	Adiantaceae	*Adiantum formosum*			C		8/1
plants	ferns	Adiantaceae	*Adiantum hispidulum*			C		2
plants	ferns	Adiantaceae	*Adiantum silvaticum*			C		2/1
plants	ferns	Adiantaceae	*Adiantum aethiopicum*			C		1
plants	ferns	Adiantaceae	*Pellaea paradoxa*	heart fern		C		1/1
plants	ferns	Aspleniaceae	*Asplenium australasicum*			C		7/1
plants	ferns	Aspleniaceae	*Asplenium attenuatum*	walking fern		C		1
plants	ferns	Blechnaceae	*Doodia caudata*			C		3/3
plants	ferns	Blechnaceae	*Doodia aspera*	prickly rasp fern		C		6
plants	ferns	Blechnaceae	*Blechnum cartilagineum*	gristle fern		C		1

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plants	ferns	Blechnaceae	*Blechnum patersonii*			C		1
plants	ferns	Cyatheaceae	*Cyathea australis*			C		1
plants	ferns	Cyatheaceae	*Cyathea leichhardtiana*	prickly tree fern		C		2
plants	ferns	Dennstaedtiaceae	*Histiopteris incisa*	bats-wing fern		C		2/1
plants	ferns	Dennstaedtiaceae	*Pteridium esculentum*	common bracken		C		2/1
plants	ferns	Dicksoniaceae	*Calochlaena dubia*			C		1
plants	ferns	Dryopteridaceae	*Lastreopsis marginans*	glossy shield fern		C		4
plants	ferns	Dryopteridaceae	*Lastreopsis microsora*			C		5
plants	ferns	Dryopteridaceae	*Lastreopsis smithiana*			C		1/1
plants	ferns	Dryopteridaceae	*Lastreopsis microsora subsp. microsora*			C		1/1
plants	ferns	Nephrolepidaceae	*Arthropteris beckleri*			C		2/1
plants	ferns	Nephrolepidaceae	*Nephrolepis cordifolia*	fishbone fern		C		1
plants	ferns	Nephrolepidaceae	*Arthropteris tenella*	climbing fern		C		6
plants	ferns	Polypodiaceae	*Platycerium bifurcatum*			C		5
plants	ferns	Polypodiaceae	*Platycerium superbum*	staghorn fern		C		2
plants	ferns	Polypodiaceae	*Dictymia brownii*	strap fern		C		1/1
plants	ferns	Polypodiaceae	*Microsorum scandens*	fragrant climbing fern		C		2/1
plants	ferns	Pteridaceae	*Pteris umbrosa*	jungle bracken		C		1/1
plants	higher dicots	Acanthaceae	*Pseuderanthemum variabile*	pastel flower		C		1
plants	higher dicots	Akaniaceae	*Akania bidwillii*	turnip wood		C		5/3
plants	higher dicots	Anacardiaceae	*Euroschinus falcatus*			C		2
plants	higher dicots	Anacardiaceae	*Rhodosphaera rhodanthema*	tulip satinwood		C		1
plants	higher dicots	Apocynaceae	*Tabernaemontana pandacaqui*	banana bush		C		2
plants	higher dicots	Apocynaceae	*Carissa ovata*	currantbush		C		3
plants	higher dicots	Apocynaceae	*Parsonsia fulva*	furry silkpod		C		1/1
plants	higher dicots	Apocynaceae	*Melodinus australis*	southern melodinus		C		6
plants	higher dicots	Apocynaceae	*Parsonsia straminea*	monkey rope		C		1
plants	higher dicots	Apocynaceae	*Parsonsia lanceolata*	northern silkpod		C		1/1
plants	higher dicots	Apocynaceae	*Parsonsia ventricosa*			C		1/1
plants	higher dicots	Apocynaceae	*Parsonsia induplicata*	thin-leaved silkpod		C		1
plants	higher dicots	Apocynaceae	*Parsonsia brisbanensis*	broad-leaved monkey vine		C		1/1
plants	higher dicots	Araliaceae	*Polyscias sambucifolia*	elderberry panax		C		2
plants	higher dicots	Araliaceae	*Hydrocotyle tripartita*			C		1/1
plants	higher dicots	Araliaceae	*Schefflera actinophylla*	umbrella tree		C		2
plants	higher dicots	Araliaceae	*Cephalaralia cephalobotrys*	climbing panax		C		3
plants	higher dicots	Araliaceae	*Hydrocotyle pedicellosa*			C		3/3
plants	higher dicots	Araliaceae	*Astrotricha latifolia*			C		2/2
plants	higher dicots	Araliaceae	*Polyscias murrayi*			C		1
plants	higher dicots	Araliaceae	*Polyscias elegans*	celery wood		C		4
plants	higher dicots	Asteraceae	*Senecio tenuiflorus*			C		1/1
plants	higher dicots	Asteraceae	*Sigesbeckia orientalis*	Indian weed		C		1/1
plants	higher dicots	Asteraceae	*Gynura drymophila var. drymophila*			C		1/1
plants	higher dicots	Asteraceae	*Picris angustifolia subsp. carolorum-henricorum*			C		1/1
plants	higher dicots	Asteraceae	*Cassinia subtropica*			C		1/1
plants	higher dicots	Asteraceae	*Eclipta prostrata*	white eclipta		C		1/1
plants	higher dicots	Asteraceae	*Youngia japonica*			C		1/1

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plants	higher dicots	Asteraceae	*Olearia nernstii*	Ipswich daisy		C		1/1
plants	higher dicots	Bignoniaceae	*Pandorea pandorana*	wonga vine		C		2
plants	higher dicots	Bignoniaceae	*Pandorea jasminoides*			C		2
plants	higher dicots	Boraginaceae	*Ehretia acuminata*			C		2
plants	higher dicots	Byttneriaceae	*Commersonia bartramia*	brown kurrajong		C		1
plants	higher dicots	Caesalpiniaceae	*Caesalpinia subtropica*	corky pricklevine		C		2
plants	higher dicots	Callitrichaceae	*Callitriche muelleri*			C		1/1
plants	higher dicots	Campanulaceae	*Lobelia trigonocaulis*	forest lobelia		C		2/2
plants	higher dicots	Capparaceae	*Capparis arborea*	brush caper berry		C		2
plants	higher dicots	Capparaceae	*Capparis sarmentosa*	scrambling caper		C		1
plants	higher dicots	Casuarinaceae	*Allocasuarina torulosa*			C		1
plants	higher dicots	Casuarinaceae	*Allocasuarina littoralis*			C		1
plants	higher dicots	Celastraceae	*Siphonodon australis*	ivorywood		C		1
plants	higher dicots	Celastraceae	*Celastrus subspicata*	large-leaved staffvine		C		2/1
plants	higher dicots	Celastraceae	*Denhamia celastroides*	broad-leaved boxwood		C		3/1
plants	higher dicots	Celastraceae	*Hedraianthera porphyropetala*	hedrianthera		C		2
plants	higher dicots	Celastraceae	*Elaeodendron australe*			C		1
plants	higher dicots	Convolvulaceae	*Calystegia marginata*	forest bindweed		C		1
plants	higher dicots	Cornaceae	*Alangium villosum*					1
plants	higher dicots	Cucurbitaceae	*Trichosanthes subvelutina*	silky cucumber		C		1
plants	higher dicots	Cucurbitaceae	*Diplocyclos palmatus*			C		1
plants	higher dicots	Cucurbitaceae	*Neoachmandra cunninghamii*			C		1
plants	higher dicots	Cunoniaceae	*Geissois benthamiana*	red carabeen		C		5/2
plants	higher dicots	Cunoniaceae	*Schizomeria ovata*	white cherry		C		2/2
plants	higher dicots	Cunoniaceae	*Pseudoweinmannia lachnocarpa*	rose marara		C		9
plants	higher dicots	Dilleniaceae	*Hibbertia aspera*			C		1/1
plants	higher dicots	Dilleniaceae	*Hibbertia aspera subsp. aspera*			C		1/1
plants	higher dicots	Dilleniaceae	*Hibbertia scandens*			C		2/1
plants	higher dicots	Ebenaceae	*Diospyros fasciculosa*	grey ebony		C		1
plants	higher dicots	Ebenaceae	*Diospyros pentamera*	myrtle ebony		C		4
plants	higher dicots	Elaeocarpaceae	*Elaeocarpus grandis*	blue quandong		C		2
plants	higher dicots	Elaeocarpaceae	*Sloanea australis*			C		3
plants	higher dicots	Elaeocarpaceae	*Sloanea woollsii*	yellow carrabeen		C		5/1
plants	higher dicots	Elatinaceae	*Elatine gratioloides*	waterwort		C		1/1
plants	higher dicots	Ericaceae	*Trochocarpa laurina*	tree heath		C		1
plants	higher dicots	Ericaceae	*Acrotriche aggregata*	red cluster heath		C		1
plants	higher dicots	Escalloniaceae	*Polyosma cunninghamii*	featherwood		C		2
plants	higher dicots	Euphorbiaceae	*Alchornea ilicifolia*	native holly		C		2
plants	higher dicots	Euphorbiaceae	*Croton acronychioides*	thick-leaved croton		C		3/1
plants	higher dicots	Euphorbiaceae	*Mallotus philippensis*	red kamala		C		4
plants	higher dicots	Euphorbiaceae	*Macaranga tanarius*	macaranga		C		1
plants	higher dicots	Euphorbiaceae	*Homalanthus nutans*			C		4/1
plants	higher dicots	Euphorbiaceae	*Croton stigmatosus*	white croton		C		1/1
plants	higher dicots	Euphorbiaceae	*Claoxylon australe*	brittlewood		C		4/2
plants	higher dicots	Euphorbiaceae	*Beyeria lasiocarpa*			C		2/2
plants	higher dicots	Euphorbiaceae	*Baloghia marmorata*	jointed baloghia		V	V	15/10

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plants	higher dicots	Euphorbiaceae	*Baloghia inophylla*	scrub bloodwood		C		3
plants	higher dicots	Euphorbiaceae	*Mallotus discolor*	white kamala		C		1
plants	higher dicots	Euphorbiaceae	*Acalypha*			C		1/1
plants	higher dicots	Euphorbiaceae	*Croton verreauxii*	green cascarilla		C		2/2
plants	higher dicots	Fabaceae	*Derris involuta*	native derris		C		4
plants	higher dicots	Fabaceae	*Indigofera australis subsp. australis*			C		2/2
plants	higher dicots	Fabaceae	*Daviesia arborea*	golden pea tree		C		2/2
plants	higher dicots	Fabaceae	*Desmodium gunnii*			C		1/1
plants	higher dicots	Fabaceae	*Goodia macrocarpa*			C		1/1
plants	higher dicots	Fabaceae	*Pultenaea euchila*	orange pultenaea		C		1/1
plants	higher dicots	Fabaceae	*Pultenaea villosa*	hairy bush pea		C		1/1
plants	higher dicots	Fabaceae	*Glycine tomentella*	woolly glycine		C		1/1
plants	higher dicots	Fabaceae	*Jacksonia scoparia*			C		1
plants	higher dicots	Fabaceae	*Desmodium nemorosum*			C		1/1
plants	higher dicots	Fabaceae	*Hardenbergia violacea*			C		1
plants	higher dicots	Fabaceae	*Swainsona galegifolia*	smooth Darling pea		C		2/2
plants	higher dicots	Fabaceae	*Austrosteenisia blackii*	bloodvine		C		2
plants	higher dicots	Fabaceae	*Castanospermum australe*	black bean		C		9
plants	higher dicots	Fabaceae	*Austrosteenisia glabristyla*	giant blood vine		C		1
plants	higher dicots	Fabaceae	*Tephrosia brachyodon var. longipes*			C		1/1
plants	higher dicots	Flacourtiaceae	*Scolopia braunii*	flintwood		C		1
plants	higher dicots	Goodeniaceae	*Goodenia grandiflora*			C		1/1
plants	higher dicots	Goodeniaceae	*Goodenia ovata*			C		3/3
plants	higher dicots	Lamiaceae	*Vitex lignum-vitae*			C		3/1
plants	higher dicots	Lamiaceae	*Clerodendrum floribundum*			C		2
plants	higher dicots	Lamiaceae	*Callicarpa pedunculata*	velvet leaf		C		1/1
plants	higher dicots	Lamiaceae	*Ajuga australis*	Australian bugle		C		1/1
plants	higher dicots	Lamiaceae	*Plectranthus parviflorus*			C		1/1
plants	higher dicots	Lamiaceae	*Teucrium corymbosum*	forest germander		C		1/1
plants	higher dicots	Lamiaceae	*Gmelina leichhardtii*	white beech		C		1
plants	higher dicots	Lentibulariaceae	*Utricularia gibba*	floating bladderwort		C		1/1
plants	higher dicots	Leptaulaceae	*Citronella moorei*	churnwood		C		1
plants	higher dicots	Loranthaceae	*Amylotheca dictyophleba*			C		4/2
plants	higher dicots	Malvaceae	*Hibiscus heterophyllus*			C		1
plants	higher dicots	Meliaceae	*Dysoxylum fraserianum*	rose mahogany		C		2
plants	higher dicots	Meliaceae	*Synoum glandulosum*			C		1
plants	higher dicots	Meliaceae	*Melia azedarach*	white cedar		C		3
plants	higher dicots	Meliaceae	*Dysoxylum rufum*			C		3
plants	higher dicots	Meliaceae	*Toona ciliata*	red cedar		C		1
plants	higher dicots	Mimosaceae	*Acacia irrorata subsp. irrorata*			C		1/1
plants	higher dicots	Mimosaceae	*Pararchidendron pruinosum*			C		1
plants	higher dicots	Mimosaceae	*Archidendron grandiflorum*	lace flower tree		C		7/2
plants	higher dicots	Mimosaceae	*Acacia aulacocarpa*			C		3
plants	higher dicots	Mimosaceae	*Acacia viscidula*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia binervata*	two-veined hickory		C		1/1
plants	higher dicots	Mimosaceae	*Acacia maidenii*	Maiden's wattle		C		2

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plants	higher dicots	Mimosaceae	*Acacia melanoxylon*	blackwood		C		1
plants	higher dicots	Mimosaceae	*Acacia bakeri*	marblewood		C		1
plants	higher dicots	Mimosaceae	*Acacia orites*	mountain wattle		NT		1/1
plants	higher dicots	Moraceae	*Trophis scandens subsp. scandens*			C		4
plants	higher dicots	Moraceae	*Ficus macrophylla forma macrophylla*	Moreton Bay fig		C		1
plants	higher dicots	Moraceae	*Maclura cochinchinensis*	cockspur thorn		C		1
plants	higher dicots	Moraceae	*Ficus watkinsiana*	green-leaved Moreton Bay fig		C		2
plants	higher dicots	Moraceae	*Ficus macrophylla*			C		2
plants	higher dicots	Moraceae	*Trophis scandens*			C		1
plants	higher dicots	Moraceae	*Ficus coronata*	creek sandpaper fig		C		4/1
plants	higher dicots	Moraceae	*Ficus obliqua*			C		3
plants	higher dicots	Moraceae	*Ficus fraseri*	white sandpaper fig		C		4
plants	higher dicots	Moraceae	*Ficus virens*			C		1
plants	higher dicots	Myrsinaceae	*Myrsine subsessilis*			C		2/1
plants	higher dicots	Myrsinaceae	*Embelia australiana*	embelia		C		4
plants	higher dicots	Myrtaceae	*Eucalyptus propinqua*	small-fruited grey gum		C		1
plants	higher dicots	Myrtaceae	*Syzygium crebrinerve*	purple cherry		C		4/1
plants	higher dicots	Myrtaceae	*Eucalyptus acmenoides*			C		1
plants	higher dicots	Myrtaceae	*Eucalyptus microcorys*			C		4
plants	higher dicots	Myrtaceae	*Lophostemon confertus*	brush box		C		3
plants	higher dicots	Myrtaceae	*Eucalyptus eugenioides*			C		1
plants	higher dicots	Myrtaceae	*Rhodomyrtus psidioides*	native guava		C		2
plants	higher dicots	Myrtaceae	*Eucalyptus siderophloia*			C		1
plants	higher dicots	Myrtaceae	*Acmena hemilampra subsp. hemilampra*			C		2/2
plants	higher dicots	Myrtaceae	*Gossia hillii*			C		1
plants	higher dicots	Myrtaceae	*Acmena ingens*	southern satinash		C		2/1
plants	higher dicots	Myrtaceae	*Melaleuca bracteata*			C		1
plants	higher dicots	Myrtaceae	*Corymbia intermedia*	pink bloodwood		C		1
plants	higher dicots	Myrtaceae	*Angophora leiocarpa*	rusty gum		C		1
plants	higher dicots	Myrtaceae	*Rhodamnia argentea*	white myrtle		C		4/1
plants	higher dicots	Myrtaceae	*Eucalyptus grandis*	flooded gum		C		3
plants	higher dicots	Myrtaceae	*Decaspermum humile*	silky myrtle		C		2
plants	higher dicots	Myrtaceae	*Eucalyptus crebra*	narrow-leaved red ironbark		C		1
plants	higher dicots	Myrtaceae	*Acmena hemilampra*			C		1
plants	higher dicots	Myrtaceae	*Gossia bidwillii*			C		2
plants	higher dicots	Myrtaceae	*Acmena smithii*	lillypilly satinash		C		2
plants	higher dicots	Myrtaceae	*Melaleuca viminalis*			C		1
plants	higher dicots	Myrtaceae	*Rhodamnia rubescens*			C		2
plants	higher dicots	Oleaceae	*Olea paniculata*			C		3
plants	higher dicots	Oleaceae	*Notelaea longifolia*			C		2
plants	higher dicots	Oleaceae	*Jasminum suliflorum*			C		1/1
plants	higher dicots	Oleaceae	*Notelaea johnsonii*	veinless mock-olive		C		1/1
plants	higher dicots	Onagraceae	*Epilobium billardierianum subsp. cinereum*			C		1/1
plants	higher dicots	Oxalidaceae	*Oxalis chnoodes*			C		1/1
plants	higher dicots	Pennantiaceae	*Pennantia cunninghamii*	brown beech		C		2
plants	higher dicots	Phyllanthaceae	*Actephila lindleyi*	actephila		C		5/1

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plants	higher dicots	Phyllanthaceae	*Phyllanthus similis*			C		1/1
plants	higher dicots	Phyllanthaceae	*Cleistanthus cunninghamii*	omega		C		7
plants	higher dicots	Phyllanthaceae	*Breynia oblongifolia*			C		1
plants	higher dicots	Phyllanthaceae	*Phyllanthus microcladus*			C		1
plants	higher dicots	Phyllanthaceae	*Poranthera microphylla*	small poranthera		C		1/1
plants	higher dicots	Phyllanthaceae	*Glochidion ferdinandi*			C		3
plants	higher dicots	Picrodendraceae	*Dissiliaria baloghioides*	hauer		C		2/1
plants	higher dicots	Pittosporaceae	*Auranticarpa rhombifolia*			C		1
plants	higher dicots	Pittosporaceae	*Pittosporum multiflorum*			C		1/1
plants	higher dicots	Pittosporaceae	*Pittosporum undulatum*	sweet pittosporum		C		4/2
plants	higher dicots	Pittosporaceae	*Pittosporum spinescens*			C		3
plants	higher dicots	Pittosporaceae	*Pittosporum revolutum*	yellow pittosporum		C		2
plants	higher dicots	Pittosporaceae	*Hymenosporum flavum*	native frangipani		C		1
plants	higher dicots	Pittosporaceae	*Bursaria spinosa*			C		1
plants	higher dicots	Polygonaceae	*Persicaria decipiens*	slender knotweed		C		1/1
plants	higher dicots	Polygonaceae	*Persicaria dichotoma*			C		1/1
plants	higher dicots	Polygonaceae	*Persicaria hydropiper*	water pepper		C		1/1
plants	higher dicots	Proteaceae	*Grevillea robusta*			C		2
plants	higher dicots	Proteaceae	*Macadamia integrifolia*	macadamia nut		V	V	3/2
plants	higher dicots	Proteaceae	*Persoonia stradbrokensis x P.virgata*			C		2
plants	higher dicots	Proteaceae	*Macadamia integrifolia - M.tetraphylla*			C		9/9
plants	higher dicots	Proteaceae	*Stenocarpus sinuatus*	wheel of fire		C		6/1
plants	higher dicots	Proteaceae	*Banksia integrifolia*			C		1
plants	higher dicots	Proteaceae	*Macadamia tetraphylla*			V	V	7/5
plants	higher dicots	Quintiniaceae	*Quintinia sieberi*			C		1
plants	higher dicots	Quintiniaceae	*Quintinia verdonii*	grey possumwood		C		1
plants	higher dicots	Rhamnaceae	*Alphitonia excelsa*	soap tree		C		3
plants	higher dicots	Rhamnaceae	*Emmenosperma alphitonioides*	yellow ash		C		1
plants	higher dicots	Rosaceae	*Rubus rosifolius*			C		1/1
plants	higher dicots	Rosaceae	*Rubus x novus*			C		1/1
plants	higher dicots	Rosaceae	*Rosa*			C		1/1
plants	higher dicots	Rosaceae	*Rubus moluccanus*			C		1
plants	higher dicots	Rubiaceae	*Psychotria simmondsiana*			C		1/1
plants	higher dicots	Rubiaceae	*Atractocarpus chartaceus*			C		1
plants	higher dicots	Rubiaceae	*Gynochthodes jasminoides*			C		1/1
plants	higher dicots	Rubiaceae	*Cyclophyllum coprosmoides*			C		1
plants	higher dicots	Rubiaceae	*Ixora beckleri*	brown coffeewood		C		1
plants	higher dicots	Rubiaceae	*Psydrax odorata*			C		1
plants	higher dicots	Rubiaceae	*Morinda canthoides*			C		1
plants	higher dicots	Rubiaceae	*Morinda jasminoides*	morinda		C		3
plants	higher dicots	Rubiaceae	*Pavetta australiensis*			C		1
plants	higher dicots	Rubiaceae	*Hodgkinsonia ovatiflora*	golden ash		C		1
plants	higher dicots	Rubiaceae	*Psychotria loniceroides*	hairy psychotria		C		3
plants	higher dicots	Rutaceae	*Citrus australasica*			C		8/6
plants	higher dicots	Rutaceae	*Bouchardatia neurococca*	union nut		C		1/1
plants	higher dicots	Rutaceae	*Acronychia laevis*	glossy acronychia		C		1/1

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plants	higher dicots	Rutaceae	*Zieria collina*			V	V	12/12
plants	higher dicots	Rutaceae	*Bosistoa transversa*	three-leaved bosistoa		C	V	1
plants	higher dicots	Rutaceae	*Sarcomelicope simplicifolia subsp. simplicifolia*	yellow aspen		C		2
plants	higher dicots	Rutaceae	*Bosistoa pentacocca var. pentacocca*			C		1/1
plants	higher dicots	Rutaceae	*Zanthoxylum brachyacanthum*			C		1
plants	higher dicots	Rutaceae	*Melicope micrococca*	white evodia		C		3/2
plants	higher dicots	Rutaceae	*Acronychia pubescens*	hairy acronychia		C		6
plants	higher dicots	Rutaceae	*Flindersia australis*	crow's ash		C		2
plants	higher dicots	Rutaceae	*Acronychia pauciflora*	soft acronychia		C		1
plants	higher dicots	Rutaceae	*Flindersia xanthoxyla*	yellow-wood		C		2/2
plants	higher dicots	Rutaceae	*Flindersia bennettiana*	Bennett's ash		C		2
plants	higher dicots	Rutaceae	*Medicosma cunninghamii*	pinkheart		C		1
plants	higher dicots	Santalaceae	*Exocarpos latifolius*			C		1
plants	higher dicots	Sapindaceae	*Dodonaea triquetra*	large-leaved hop bush		C		1
plants	higher dicots	Sapindaceae	*Cupaniopsis serrata*	smooth tuckeroo		C		3
plants	higher dicots	Sapindaceae	*Alectryon tomentosus*			C		1
plants	higher dicots	Sapindaceae	*Cossinia australiana*			E	E	2/2
plants	higher dicots	Sapindaceae	*Cupaniopsis newmanii*	long-leaved tuckeroo		NT		12/6
plants	higher dicots	Sapindaceae	*Harpullia pendula*			C		1
plants	higher dicots	Sapindaceae	*Guioa semiglauca*	guioa		C		3
plants	higher dicots	Sapindaceae	*Jagera pseudorhus*			C		6
plants	higher dicots	Sapindaceae	*Arytera distylis*	twin-leaved coogera		C		4/1
plants	higher dicots	Sapindaceae	*Alectryon subcinereus*			C		1
plants	higher dicots	Sapindaceae	*Mischocarpus pyriformis*			C		2
plants	higher dicots	Sapindaceae	*Diploglottis australis*	native tamarind		C		4
plants	higher dicots	Sapindaceae	*Arytera divaricata*	coogera		C		4
plants	higher dicots	Sapindaceae	*Elattostachys nervosa*	green tamarind		C		6
plants	higher dicots	Sapotaceae	*Planchonella australis*			C		7/2
plants	higher dicots	Sapotaceae	*Niemeyera antiloga*	brown pearwood		C		1
plants	higher dicots	Solanaceae	*Duboisia myoporoides*			C		1
plants	higher dicots	Solanaceae	*Solanum stelligerum*	devil's needles		C		1
plants	higher dicots	Solanaceae	*Solanum aviculare*	kangaroo apple		C		1
plants	higher dicots	Solanaceae	*Solanum rixosum*			C		1/1
plants	higher dicots	Solanaceae	*Solanum corifolium*	straggling nightshade		C		2/2
plants	higher dicots	Sterculiaceae	*Brachychiton acerifolius*	flame tree		C		3
plants	higher dicots	Sterculiaceae	*Argyrodendron actinophyllum*			C		3
plants	higher dicots	Sterculiaceae	*Argyrodendron trifoliolatum*	booyong		C		7
plants	higher dicots	Sterculiaceae	*Sterculia quadrifida*	peanut tree		C		1
plants	higher dicots	Surianaceae	*Guilfoylia monostylis*	guilfoylia		C		1/1
plants	higher dicots	Symplocaceae	*Symplocos thwaitesii*	buff hazelwood		C		2
plants	higher dicots	Thymelaeaceae	*Pimelea linifolia*			C		2
plants	higher dicots	Ulmaceae	*Trema tomentosa var. aspera*			C		1
plants	higher dicots	Ulmaceae	*Aphananthe philippinensis*			C		2
plants	higher dicots	Urticaceae	*Dendrocnide excelsa*	giant stinging tree		C		6
plants	higher dicots	Urticaceae	*Pipturus argenteus*	white nettle		C		1/1
plants	higher dicots	Urticaceae	*Elatostema reticulatum*	rainforest spinach		C		1

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plants	higher dicots	Urticaceae	*Dendrocnide photinophylla*	shiny-leaved stinging tree		C		6
plants	higher dicots	Urticaceae	*Boehmeria macrophylla*	native ramie		C		1/1
plants	higher dicots	Violaceae	*Viola hederacea*			C		2/1
plants	higher dicots	Violaceae	*Viola betonicifolia*			C		1
plants	higher dicots	Violaceae	*Viola betonicifolia subsp. betonicifolia*			C		1/1
plants	higher dicots	Violaceae	*Hybanthus stellarioides*			C		2/2
plants	higher dicots	Vitaceae	*Cissus hypoglauca*			C		1/1
plants	higher dicots	Vitaceae	*Cissus antarctica*			C		9/2
plants	liverworts	Frullaniaceae	*Frullania monocera*			C		1/1
plants	liverworts	Frullaniaceae	*Frullania allanii*			C		1/1
plants	liverworts	Frullaniaceae	*Frullania*			C		1/1
plants	liverworts	Liverwort	*Liverwort*			C		3/3
plants	liverworts	Plagiochilaceae	*Plagiochila metcalfii*			C		1/1
plants	lower dicots	Annonaceae	*Polyalthia nitidissima*	polyalthia		C		1
plants	lower dicots	Annonaceae	*Melodorum leichhardtii*			C		5
plants	lower dicots	Annonaceae	*Meiogyne stenopetala*			C		11/4
plants	lower dicots	Aristolochiaceae	*Pararistolochia praevenosa*			NT		3/2
plants	lower dicots	Atherospermataceae	*Daphnandra apatela*			C		1/1
plants	lower dicots	Eupomatiaceae	*Eupomatia laurina*	bolwarra		C		2
plants	lower dicots	Eupomatiaceae	*Eupomatia bennettii*	small bolwarra		C		3
plants	lower dicots	Lauraceae	*Neolitsea australiensis*	green bolly gum		C		4/1
plants	lower dicots	Lauraceae	*Cryptocarya sclerophylla*	totempole		C		1/1
plants	lower dicots	Lauraceae	*Beilschmiedia obtusifolia*	hard bolly gum		C		2
plants	lower dicots	Lauraceae	*Endiandra muelleri subsp. bracteata*			C		2/2
plants	lower dicots	Lauraceae	*Cryptocarya triplinervis*			C		2
plants	lower dicots	Lauraceae	*Cryptocarya obovata*	pepperberry		C		7
plants	lower dicots	Lauraceae	*Cryptocarya foetida*	stinking cryptocarya		V	V	1/1
plants	lower dicots	Lauraceae	*Neolitsea dealbata*	white bolly gum		C		7/2
plants	lower dicots	Lauraceae	*Endiandra muelleri*			C		2
plants	lower dicots	Lauraceae	*Cinnamomum oliveri*	Oliver's sassafras		C		4
plants	lower dicots	Lauraceae	*Litsea reticulata*			C		1
plants	lower dicots	Lauraceae	*Endiandra floydii*			E	E	1/1
plants	lower dicots	Lauraceae	*Endiandra pubens*	hairy walnut		C		9/2
plants	lower dicots	Lauraceae	*Litsea leefeana*			C		1
plants	lower dicots	Lauraceae	*Endiandra compressa*			C		1/1
plants	lower dicots	Lauraceae	*Cryptocarya bidwillii*	yellow laurel		C		1
plants	lower dicots	Lauraceae	*Cryptocarya meisneriana*	thick-leaved cryptocarya		C		1
plants	lower dicots	Lauraceae	*Cryptocarya glaucescens*			C		1
plants	lower dicots	Lauraceae	*Cryptocarya microneura*	murrogun		C		1
plants	lower dicots	Menispermaceae	*Tinospora tinosporoides*	arrow head vine		V	V	1
plants	lower dicots	Menispermaceae	*Sarcopetalum harveyanum*	pearl vine		C		1
plants	lower dicots	Menispermaceae	*Echinostephia aculeata*	prickly snake vine		C		1/1
plants	lower dicots	Menispermaceae	*Stephania japonica*			C		2
plants	lower dicots	Menispermaceae	*Legnephora moorei*			C		1
plants	lower dicots	Monimiaceae	*Wilkiea huegeliana*	veiny wilkiea		C		5
plants	lower dicots	Monimiaceae	*Palmeria foremanii*			C		1/1

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plants	lower dicots	Monimiaceae	*Palmeria scandens*	anchor vine		C		4
plants	lower dicots	Monimiaceae	*Wilkiea austroqueenslandica*	smooth wilkiea		C		4/2
plants	lower dicots	Monimiaceae	*Hedycarya angustifolia*	native mulberry		C		2/1
plants	lower dicots	Piperaceae	*Piper hederaceum*			C		3
plants	lower dicots	Ranunculaceae	*Clematis glycinoides*			C		1
plants	monocots	Araceae	*Pothos longipes*			C		4/2
plants	monocots	Araceae	*Gymnostachys anceps*	settler's flax		C		2/1
plants	monocots	Araceae	*Alocasia brisbanensis*			C		6
plants	monocots	Araceae	*Alocasia macrorrhizos*			C		1
plants	monocots	Arecaceae	*Calamus muelleri*	lawyer vine		C		10
plants	monocots	Arecaceae	*Linospadix monostachyos*	walking stick palm		C		5
plants	monocots	Arecaceae	*Archontophoenix cunninghamiana*	piccabeen palm		C		11/1
plants	monocots	Colchicaceae	*Tripladenia cunninghamii*			C		9/8
plants	monocots	Commelinaceae	*Aneilema acuminatum*			C		3/1
plants	monocots	Commelinaceae	*Commelina diffusa*	wandering jew		C		1
plants	monocots	Commelinaceae	*Pollia crispata*	pollia		C		1
plants	monocots	Cyperaceae	*Gahnia aspera*			C		3/1
plants	monocots	Cyperaceae	*Schoenoplectus tabernaemontani*			C		1/1
plants	monocots	Cyperaceae	*Cyperus semifertilis*			V	V	1/1
plants	monocots	Cyperaceae	*Cyperus trinervis*			C		1/1
plants	monocots	Cyperaceae	*Cyperus exaltatus*	tall flatsedge		C		1/1
plants	monocots	Dioscoreaceae	*Dioscorea transversa*	native yam		C		6/1
plants	monocots	Flagellariaceae	*Flagellaria indica*	whip vine		C		5/1
plants	monocots	Hemerocallidaceae	*Dianella nervosa*			C		1/1
plants	monocots	Hemerocallidaceae	*Dianella caerulea*			C		1/1
plants	monocots	Hemerocallidaceae	*Geitonoplesium cymosum*	scrambling lily		C		3
plants	monocots	Juncaceae	*Juncus usitatus*			C		1/1
plants	monocots	Laxmanniaceae	*Cordyline congesta*	Boonah palm lily		C		1
plants	monocots	Laxmanniaceae	*Lomandra longifolia*			C		4
plants	monocots	Laxmanniaceae	*Lomandra multiflora*			C		1
plants	monocots	Laxmanniaceae	*Cordyline petiolaris*	large-leaved palm lily		C		3
plants	monocots	Laxmanniaceae	*Eustrephus latifolius*	wombat berry		C		2
plants	monocots	Laxmanniaceae	*Arthropodium milleflorum*	vanilla lily		C		1/1
plants	monocots	Laxmanniaceae	*Thysanotus tuberosus subsp. tuberosus*			C		1/1
plants	monocots	Laxmanniaceae	*Cordyline rubra*	red-fruited palm lily		C		3
plants	monocots	Laxmanniaceae	*Lomandra hystrix*			C		2
plants	monocots	Orchidaceae	*Dendrobium kingianum subsp. kingianum*			C		1
plants	monocots	Orchidaceae	*Acianthus exsertus*			C		1/1
plants	monocots	Orchidaceae	*Cymbidium madidum*			C		1/1
plants	monocots	Orchidaceae	*Epipogium roseum*	leafless nodding orchid		C		1/1
plants	monocots	Orchidaceae	*Cymbidium suave*			C		1/1
plants	monocots	Orchidaceae	*Pterostylis baptistii*	king greenhood		C		1
plants	monocots	Orchidaceae	*Dendrobium gracilicaule*	slender orchid		C		1
plants	monocots	Orchidaceae	*Dipodium punctatum*			C		4/3
plants	monocots	Orchidaceae	*Dendrobium speciosum*			C		1
plants	monocots	Orchidaceae	*Dendrobium tetragonum*	tree spider orchid		C		2

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	monocots	Orchidaceae	*Caladenia carnea var. carnea*			C		1/1
plants	monocots	Poaceae	*Imperata cylindrica*	blady grass		C		1
plants	monocots	Poaceae	*Echinopogon ovatus*			C		1/1
plants	monocots	Poaceae	*Themeda triandra*	kangaroo grass		C		1
plants	monocots	Poaceae	*Sarga leiocladum*			C		2/2
plants	monocots	Poaceae	*Aristida personata*			C		1/1
plants	monocots	Poaceae	*Austrostipa ramosissima*	bamboo grass		C		1/1
plants	monocots	Poaceae	*Paspalidium distans*	shotgrass		C		1/1
plants	monocots	Poaceae	*Cymbopogon refractus*	barbed-wire grass		C		1
plants	monocots	Poaceae	*Poa labillardierei var. labillardierei*	tussock grass		C		1/1
plants	monocots	Poaceae	*Poa sieberiana var. sieberiana*			C		1/1
plants	monocots	Poaceae	*Rytidosperma longifolium*			C		1/1
plants	monocots	Potamogetonaceae	*Potamogeton perfoliatus*	perfoliate pondweed		C		1/1
plants	monocots	Ripogonaceae	*Ripogonum album*	white supplejack		C		5/2
plants	monocots	Ripogonaceae	*Ripogonum discolor*	prickly supplejack		C		1
plants	monocots	Ripogonaceae	*Ripogonum elseyanum*	hairy supplejack		C		3
plants	monocots	Smilacaceae	*Smilax glyciphylla*	sweet sarsaparilla		C		1
plants	monocots	Smilacaceae	*Smilax australis*	barbed-wire vine		C		1
plants	monocots	Xanthorrhoeaceae	*Xanthorrhoea macronema*			C		1/1
plants	monocots	Zingiberaceae	*Alpinia caerulea*	wild ginger		C		4
plants	monocots	Zingiberaceae	*Alpinia arundelliana*			C		2/2
plants	mosses	Aulacomniaceae	*Mesochaete undulata*			C		1/1
plants	mosses	Calymperaceae	*Syrrhopodon platycerii*			C		1/1
plants	mosses	Ditrichaceae	*Ditrichum difficile*			C		1/1
plants	mosses	Fissidentaceae	*Fissidens*			C		2/2
plants	mosses	Hedwigiaceae	*Hedwigidium integrifolium*			C		1/1
plants	mosses	Hypnaceae	*Hypnum cupressiforme*			C		1/1
plants	mosses	Hypnodendraceae	*Hypnodendron*			C		2/2
plants	mosses	Hypnodendraceae	*Bescherellia elegantissima*			C		1/1
plants	mosses	Hypopterygiaceae	*Lopidium*			C		1/1
plants	mosses	Lembophyllaceae	*Camptochaete excavata*			C		2/2
plants	mosses	Leucobryaceae	*Leucobryum candidum*			C		1/1
plants	mosses	Leucobryaceae	*Campylopus introflexus*			C		1/1
plants	mosses	Meteoriaceae	*Papillaria crocea*			C		2/2
plants	mosses	Meteoriaceae	*Papillaria flexicaulis*			C		1/1
plants	mosses	Neckeraceae	*Thamnobryum pandum*			C		2/2
plants	mosses	Orthotrichaceae	*Macromitrium*			C		1/1
plants	mosses	Orthotrichaceae	*Macromitrium involutifolium subsp. ptychomitrioides*			C		1/1
plants	mosses	Polytrichaceae	*Dawsonia superba var. pulchra*			C		1/1
plants	mosses	Polytrichaceae	*Pogonatum subulatum*			C		3/3
plants	mosses	Rhizogoniaceae	*Pyrrhobryum paramattense*			C		2/2
plants	mosses	Thuidiaceae	*Thuidium*			C		1/1
plants	uncertain	Indet.	*Indet.*			C		1
plants		Braithwaiteaceae	*Braithwaitea sulcata*			C		1/1
plants		Dendrocerotaceae	*Dendroceros*			C		1/1
plants		Pylaisiadelphaceae	*Wijkia extenuata*			C		1/1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants		Streptophyceae	*Spirogyra*			C		1/1
plants		Streptophyceae	*Closterium*			C		1/1
plants		Streptophyceae	*Micrasterias*			C		1/1
plants		Streptophyceae	*Nitella cristata*			C		1/1
plants		Streptophyceae	*Klebsormidium flaccidum*			C		1/1
plants		Streptophyceae	*Cosmarium*			C		1/1
plants		Streptophyceae	*Zygnema*			C		1/1
plants		Streptophyceae	*Chara*			C		1/1
plants		Streptophyceae	*Hyalotheca*			C		1/1
protists	blue-green algae	Cyanophyceae	*Scytonema hofman-bangii*			C		1/1
protists	blue-green algae	Cyanophyceae	*Schizothrix calcicola*			C		1/1
protists	blue-green algae	Cyanophyceae	*Calothrix parietina*			C		1/1
protists	diatoms	Bacillariophyceae	*Tabellaria flocculosa*			C		1/1
protists	diatoms	Bacillariophyceae	*Fragilariforma virescens*			C		1/1
protists	golden-brown algae	Chrysophyceae	*Chrysophyceae*			C		2/2
protists	green algae	Chlorophyceae	*Stigeoclonium tenue*			C		2/2
protists	green algae	Chlorophyceae	*Ulothrix aequalis*			C		1/1
protists	green algae	Chlorophyceae	*Trentepohlia arborum*			C		3/3
protists	green algae	Chlorophyceae	*Trentepohlia peruana*			C		3/3
protists	green algae	Chlorophyceae	*Trentepohlia rigidula*			C		1/1
protists	green algae	Chlorophyceae	*Schizomeris leibleinii*			C		1/1
protists	green algae	Chlorophyceae	*Radiofilum transversalis*			C		2/2
protists	green algae	Chlorophyceae	*Trentepohlia randhawaiana*			C		1/1
protists	green algae	Chlorophyceae	*Trentepohlia abietina var. tenue*			C		3/3
protists	green algae	Chlorophyceae	*Trentepohlia bossei var. samoensis*			C		4/4
protists	green algae	Chlorophyceae	*Trentepohlia bossei var. brevicellulis*			C		2/2
protists	green algae	Chlorophyceae	*Trentepohlia abietina forma crassisepta*			C		2/2
protists	green algae	Chlorophyceae	*Oedogonium*			C		1/1
protists	green algae	Chlorophyceae	*Trentepohlia effusa*			C		1/1
protists	red algae	Rhodophyceae	*Sirodotia suecica*			C		1/1
protists	red algae	Rhodophyceae	*Audouinella hermannii*			C		1/1
protists	yellow-green algae	Xanthophyceae	*Phyllosiphon*			C		1/1

CODES

I - Y indicates that the taxon is introduced to Queensland and has naturalised.

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992.* The codes are Extinct in the Wild (PE), Endangered (E), Vulnerable (V), Near Threatened (NT), Least Concern (C) or Not Protected ( ).

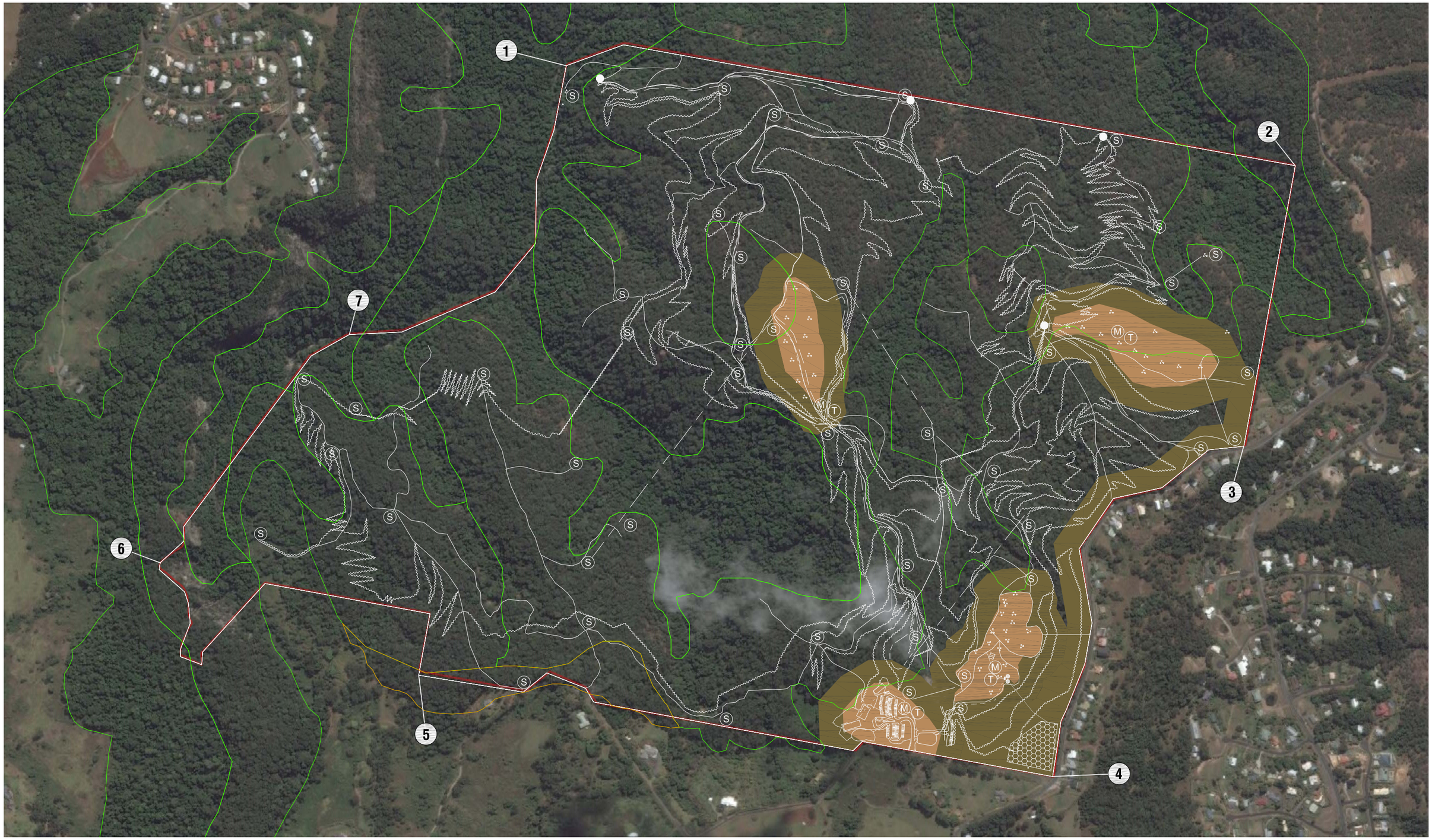
A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999.* The values of EPBC are Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Extinct in the Wild (XW) and Vulnerable (V).

Records – The first number indicates the total number of records of the taxon for the record option selected (i.e. All, Confirmed or Specimens).
This number is output as 99999 if it equals or exceeds this value. The second number located after the / indicates the number of specimen records for the taxon.
This number is output as 999 if it equals or exceeds this value.

ATTACHMENT 12

PROPERTY VEGETATION MANAGEMENT PLAN

(Adapted From: Design Evolution/Jim Noort/Knobel Consulting/Precise Environmental/Eldon Bottcher Architect)



DRAWING:

PROPERTY VEGETATION MANAGEMENT PLAN

DATE:	DRAWN:
MAY 2014	MJ
PROJECT NO:	SCALE:
TAM03	1:7500 @ A3

DRAWING NO:	ISSUE:	SHEET NO:
GUA03_PVMP	A	1 OF 1

PROJECT:

PROPOSED MCU DEVELOPMENT
98 GUANABA ROAD,
TAMBORINE MOUNTAIN
LOT 3 RP181081

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MOUNT TAMBORINE CAMPING AND ACTIVITIES PTY LTD

BYRNS LARDNER ENVIRONMENTAL

ADAPTED FROM:

HBA/DAB GEOSPATIAL
DESIGN EVOLUTION
JIM NOORT
KNOBEL CONSULTING
PRECISE ENVIRONMENTAL
ELDON BOTTCHER ARCHITECT
DNRM