

**DELEGATED REPORT**

**TO:** Senior Planner  
**FROM:** Planning Officer  
**DATE:** 23 May 2023

**APPLICATION DETAILS**

APPLICATION		PREMISES	
<b>APPLICATION NO:</b>	OPW/23/0001		
<b>RPD:</b>	Lot 3 on SP213770	<b>ADDRESS:</b>	12B Morton Street, Kuranda
<b>APPLICANT:</b>	K McDowell C/- Scope Town Planning 38 Kowa Street Mareeba Qld 4880	<b>OWNER:</b>	K McDowell
<b>ASSESSMENT MANAGER</b>	Mareeba Shire Council	<b>DATE REFERRAL RECEIVED</b>	9 May 2023
<b>TYPE OF APPROVAL:</b>	Development Permit for Operational Works (Vegetation Clearing) assessable against the Mareeba Shire Council Planning Scheme 2016 - Environmental Significance Overlay and Hill and Slope Overlay		
<b>PLANNING SCHEME:</b>	Mareeba Shire Council Planning Scheme 2016		
<b>ZONE:</b>	Rural Residential zone		

**ATTACHMENTS:** 1. Site Plan  
2. Ecological Assessment

**THE SITE**

The subject site is described as Lot 3 on SP213770 and is situated at 12B Morton Street, Kuranda. The site is irregular in shape with an area of 2,358m<sup>2</sup> and is zoned Rural Residential under the Mareeba Shire Council Planning Scheme 2016.

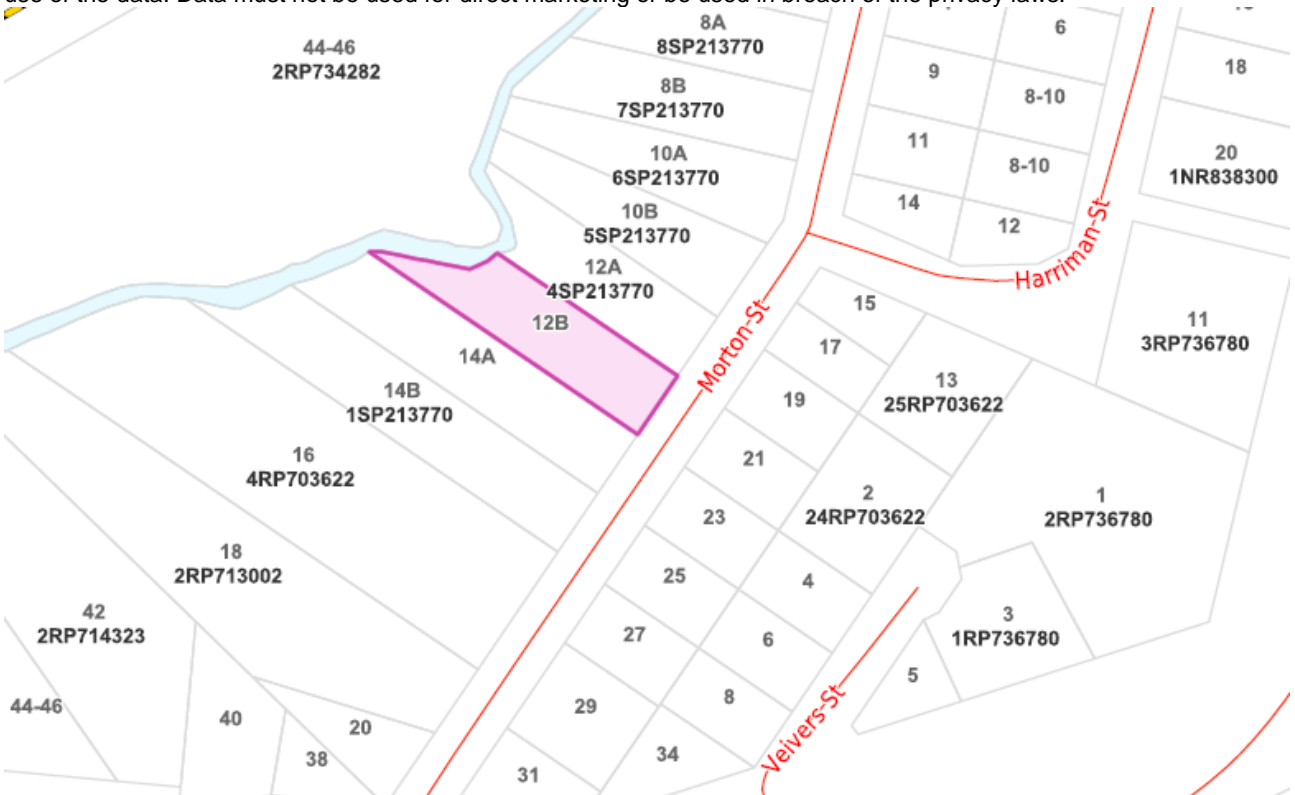
The site has approximately 25 metres of frontage to Morton Street which is constructed to bitumen sealed standard with kerbing on both sides. The site is unimproved and apart from approximately 390m<sup>2</sup> adjoining the Morton Street frontage, is covered by mature vegetation mapped as 'Wildlife Habitat'. The Hill and Slope Overlay maps all but 82m<sup>2</sup> of the subject site.

Adjoining lots on Morton Street are zoned Rural Residential and predominantly developed with a single dwelling house.



Map Disclaimer:

Based on or contains data provided by the State of Queensland (Department of Environment and Resource Management) (2009). In consideration of the State permitting use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, reliability, completeness, currency or suitability) and accepts no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws.



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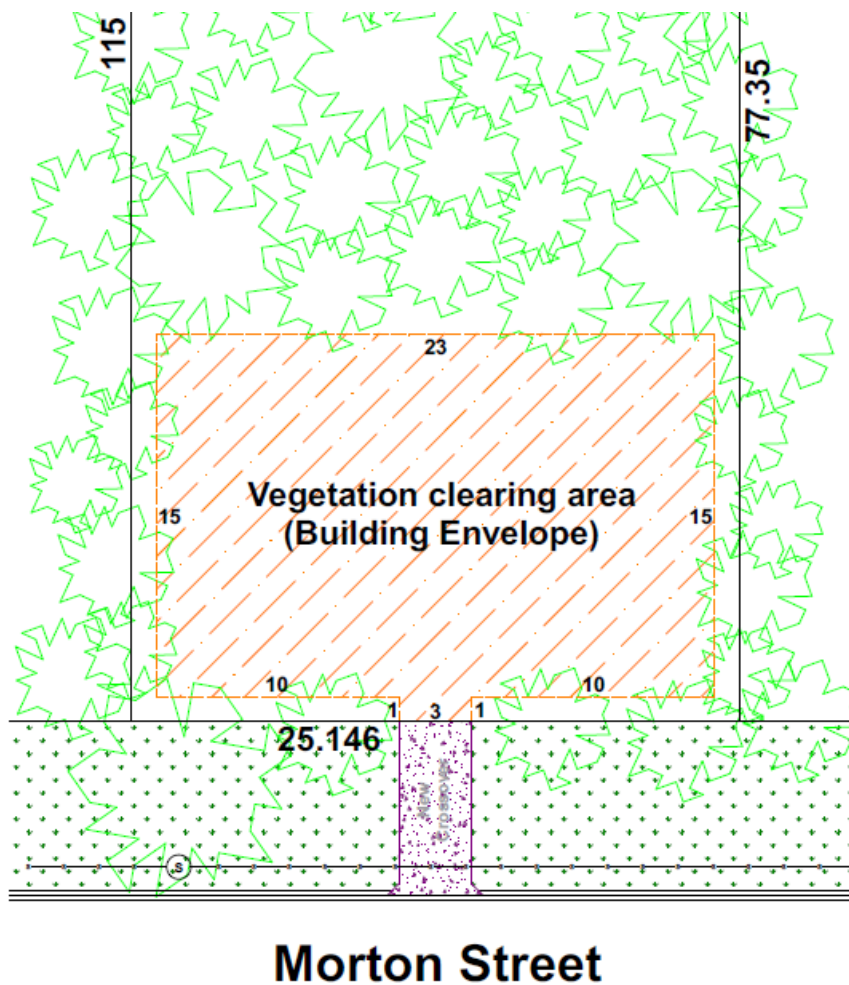
## DESCRIPTION OF PROPOSED DEVELOPMENT

Kelli McDowell, the landowner, proposes to clear an area of approximately 345m<sup>2</sup> (dimensions of area to be cleared - 15m x 23m) for the siting of a future dwelling.

Almost the entire site, and most of the area proposed for clearing is mapped as Hill and Slope Area by the Planning Scheme's Hill and Slope Overlay. A small part of the area proposed for clearing is mapped as Wildlife Habitat by the Planning Scheme's Environmental Significance Overlay.

Any proposed clearing of Hill and Slope Area and Wildlife Habitat is assessable development.

An ecological assessment has been carried out and is included as **Attachment 2**. A plan showing the extent of the site to be cleared is shown below:



## MAREEBA SHIRE COUNCIL PLANNING SCHEME 2016

### Zoning

The subject land is within the Rural Residential zone.

### Relevant Codes:

#### 8.2.4 Environmental significance overlay code

##### 8.2.4.1 Application

(1) This code applies to assessing development where:

- (a) land the subject of development is affected by a constraint category identified on the **Environmental significance overlay maps (OM-004a-z)**; and
- (b) it is identified in the assessment benchmarks for assessable development and requirements for accepted development column of an assessment table in Part 5 of the planning scheme.

Note—Biodiversity and Water quality are appropriately reflected in Overlay Map 4 and is required to be mapped by State Government in response to Environment and Heritage State Interests.

#### 8.2.4.2 Purpose

- (1) The purpose of the Environmental significance overlay code is to identify and protect matters of environmental significance, which include matters of state environmental significance (MSES) as defined under the state planning policy.

The Environmental significance overlay code ensures that:

- (a) waterways and high ecological significance wetlands are protected and enhanced to maintain ecosystem services and hydrological processes and provide aquatic habitat for flora and fauna; and
  - (b) the environmental values of regulated vegetation, wildlife habitat, protected areas and legally secured offset areas are protected and managed.
- (2) The purpose of the code will be achieved through the following overall outcomes:
    - (a) the biodiversity values, ecosystem services and climate change resilience of areas of environmental significance are protected, managed, enhanced and rehabilitated;
    - (b) the biodiversity values of protected areas and legally secured offset areas are protected from development unless overriding community need is demonstrated;
    - (c) development is located, designed and managed to minimise the edge effects of development on areas of regulated vegetation and wildlife habitat;
    - (d) areas of regulated vegetation and wildlife habitat are managed to minimise biodiversity losses;
    - (e) development maintains, protects and enhances a regional network of vegetated corridors that assist in wildlife movement and contribute to the maintenance of habitat and biological diversity;
    - (f) development is appropriately setback from waterways and high ecological significance wetlands to minimise direct and indirect impacts on water quality and biodiversity; and
    - (g) riparian vegetation and vegetation associated with high ecological significance wetlands is protected and enhanced to improve water quality and natural ecosystem function.

#### 8.2.4.3 Criteria for assessment

**Table 8.2.4.3A - Environmental significance overlay code - For accepted development subject to requirements and assessable development**

Performance outcomes	Acceptable outcomes	Complies	Comments
<b>For accepted development subject to requirements and assessable development</b>			
<b>Regulated vegetation</b>			
<b>PO1</b> Vegetation clearing in areas mapped as 'Regulated vegetation' identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b> is avoided unless: <ul style="list-style-type: none"> <li>(a) it is demonstrated that the area does not support regulated vegetation as mapped;</li> <li>(b) the loss or reduction in regulated vegetation is for community infrastructure and</li> </ul>	<b>AO1.1</b> No clearing of native vegetation is undertaken within areas of 'Regulated vegetation' identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b> .	n/a	The subject site does not contain mapped regulated vegetation.

Performance outcomes	Acceptable outcomes	Complies	Comments
<p>associated access facilities that cannot be avoided;</p> <p>(c) wildlife interconnectivity is maintained or enhanced at a local and regional scale; and</p> <p>(d) the loss or reduction in regulated vegetation is minimised and any residual impacts are offset.</p> <p>Note—A supporting Ecological Assessment Report is prepared in accordance with Planning Scheme Policy 2 – Ecological Assessment Reports.</p>			
<p><b>PO2</b> Development on sites adjacent to areas of 'Regulated vegetation' identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b> protects the environmental significance of regulated vegetation and:</p> <p>(a) does not interrupt, interfere, alter or otherwise impact on underlying natural ecosystem processes such as water quality, hydrology, geomorphology and biophysical processes;</p> <p>(b) does not negatively impact the movement of wildlife at a local or regional scale; and</p> <p>(c) avoids noise, light, vibration or other edge affects, including weed and pest incursion on identified environmental values.</p> <p>Note—A supporting Ecological Assessment Report is prepared in accordance with Planning Scheme Policy 2 – Ecological Assessment Reports.</p>	<p><b>AO2</b> Development (excluding roads, earthworks, drainage infrastructure and underground infrastructure) is not located within 20 metres of 'Regulated vegetation' areas identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b>.</p>	✓	The proposed development is not within 20 metres of mapped regulated vegetation.
<b>Regulated vegetation intersecting a watercourse</b>			
<p><b>PO3</b> Vegetation clearing in areas mapped as 'Regulated vegetation intersecting a watercourse', identified as 'Waterway' and 'Waterway buffer' on the <b>Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b> is avoided unless wildlife</p>	<p><b>Where within a 'Waterway buffer' on Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b></p> <p><b>AO3.1</b> A minimum setback in accordance with <b>Table 8.2.4.3B</b> is provided</p>	n/a	Not applicable.

Performance outcomes	Acceptable outcomes	Complies	Comments
interconnectivity between habitats is maintained or enhanced at a local and regional scale, to the extent that migration or normal movement of significant species between habitats or normal gene flow between populations is not inhibited.  Note—A supporting Ecological Assessment Report is prepared in accordance with Planning Scheme Policy 2 – Ecological Assessment Reports.	between development and the top of the high bank of a 'Waterway' identified on the <b>Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b> .		
	<b>Where within a 'Waterway buffer' on Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b>  <b>AO3.2</b> No clearing of native vegetation is undertaken within the minimum setback identified at <b>AO3.1</b> .	n/a	Not applicable.
<b>Waterways and wetlands</b>			
<b>PO4</b> 'High ecological significance wetlands' identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b> and 'Waterways' on <b>Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b> and are protected by: (a) maintaining adequate separation distances between waterways/wetlands and development; (b) maintaining and enhancing aquatic and terrestrial habitat including vegetated corridors to allow for native fauna (terrestrial and aquatic) movement; (c) maintaining waterway bank stability by minimising bank erosion and slumping; (d) maintaining water quality by providing buffers to allow filtering of sediments, nutrients and other pollutants; and (e) retaining and improving existing riparian vegetation and existing vegetation associated with a wetland.	<b>Where within a 'Waterway buffer' on Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b> <b>AO4.1</b> A minimum setback in accordance with <b>Table 8.2.4.3B</b> is provided between development and the top of the high bank of a 'Waterway' identified on the <b>Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b> .	n/a	Not applicable.
	<b>Where within a 'High ecological significance wetland buffer' on Environmental Significance Overlay Maps (OM-004a-o)</b> <b>AO4.2</b> A minimum buffer of 200 metres is provided between development and the edge of a 'High ecological significance wetland' identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b> .	n/a	Not applicable.
	<b>Where within a 'Waterway buffer' on Environmental Significance - Waterway Overlay Maps (OM-004p-z) or 'High ecological significance wetland buffer' on Environmental Significance Overlay Maps (OM-004a-o)</b>	n/a	Not applicable.

Performance outcomes	Acceptable outcomes	Complies	Comments
<p>Note—A supporting Ecological Assessment Report is prepared in accordance with Planning Scheme Policy 2 – Ecological Assessment Reports.</p>	<p><b>AO4.3</b> No stormwater is discharged to a 'Waterway' on <b>Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b> or 'High ecological significance wetland' identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b>.</p> <p>Note— An alternative outcome is required to demonstrate that the ecological impacts of stormwater discharge to a 'Waterway' or 'High ecological significance wetland' are mitigated in accordance with PO3 through appropriate stormwater management / treatment (where possible).</p>		
	<p><b>Where within a 'Waterway buffer' on Environmental Significance - Waterway Overlay Maps (OM-004p-z) or 'High ecological significance wetland buffer' on Environmental Significance Overlay Maps (OM-004a-o)</b></p> <p><b>AO4.4</b> No wastewater is discharged to a 'Waterway' on <b>Environmental Significance - Waterway Overlay Maps (OM-004p-z)</b> or 'High ecological significance wetland' identified on the <b>Environmental Significance Overlay Map (OM-004a-z)</b>.</p> <p>Note— A alternative outcome is required to demonstrate that the ecological impacts of wastewater discharge to a 'Waterway' or 'High ecological significance wetland' are mitigated in accordance with PO3 through appropriate wastewater management / treatment (where possible).</p>	n/a	Not applicable.
<b>For assessable development</b>			
<b>Wildlife Habitat</b>			
<p><b>PO5</b> Development within a 'Wildlife habitat' area identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b>: (a) protects and enhances the habitat of Endangered, Vulnerable and Near Threatened</p>	<p><b>AO5</b> No acceptable outcome is provided</p>	<p>✓ Complies with PO5</p>	<p>Refer to the submitted Ecological Report 12B Morton St, Kuranda dated</p>

Performance outcomes	Acceptable outcomes	Complies	Comments
<p>(EVNT) species and local species of significance;</p> <p>(b) incorporates siting and design measures to protect and retain identified ecological values and underlying ecosystem processes within or adjacent to the development site;</p> <p>(c) maintains or enhances wildlife interconnectivity at a local and regional scale; and</p> <p>(d) mitigates the impact of other forms of potential disturbance (such as presence of vehicles, pedestrian use, increased exposure to domestic animals, noise and lighting impacts) to protect critical life stage ecological processes (such as feeding, breeding or roosting).</p> <p>Note—Development applications must identify any EVNT species or their habitats that may be affected by the proposal. In particular, applications are to identify and describe how the development avoids adverse impacts on ecological processes within or adjacent to the development area.</p> <p>Note—A supporting Ecological Assessment Report is prepared in accordance with Planning Scheme Policy 2 – Ecological Assessment Reports.</p>			<p>6/5/23 (Attachment 2).</p> <p>Clearing within the mapped wildlife habitat area will be less than 50m2.</p>
<b>Legally secured offset areas</b>			
<p><b>PO6</b> Development within a 'Legally secured offset area' identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b> or other known Legally Secured Offset Area is consistent with the binding requirements of the offset and does not prejudice, undermine, or negatively impact the inherent ecological values, including all naturally occurring native flora, fauna and their habitat within the Legally Secured Offset Area.</p>	<p><b>AO6</b> No acceptable outcome is provided.</p>	n/a	Not applicable.



Performance outcomes	Acceptable outcomes	Complies	Comments
<p>Note—A supporting Ecological Assessment Report is prepared in accordance with Planning Scheme Policy 2 – Ecological Assessment Reports.</p>			
<b>Protected areas</b>			
<p><b>PO7</b> Development within a 'Protected area' identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b> is consistent with the values of the Protected Area and:</p> <ul style="list-style-type: none"> <li>(a) supports the inherent ecological and community values of the Protected Area asset;</li> <li>(b) maintains or enhances wildlife interconnectivity at a local and regional scale; and</li> <li>(c) does not prejudice, undermine, or negatively impact the inherent ecological values, including all naturally occurring native flora, fauna and their habitat within the Protected Area.</li> </ul> <p>Note—A supporting Ecological Assessment Report is prepared in accordance with Planning Scheme Policy 2 – Ecological Assessment Reports.</p>	<p><b>A07</b> No acceptable outcome is provided</p>	n/a	Not applicable.

Performance outcomes	Acceptable outcomes	Complies	Comments
<b>Ecological corridors and Habitat linkages</b>			
<p><b>PO8</b> Development located:</p> <p>(a) in the Conservation zone, Emerging community zone, Recreation and open space zone, Rural zone or Rural residential zone; and</p> <p>(b) within an 'Ecological corridor' or a 'Habitat linkage' identified on the <b>Environmental Significance Overlay Maps (OM-004a-o)</b></p> <p>does not compromise the provision of habitat connectivity of the corridor/linkage, having regard to:</p> <p>(a) the environmental values of the area of the site identified in the 'Ecological corridor' or 'Habitat linkage';</p> <p>(b) the environmental values of adjoining and nearby land within the 'Ecological corridor' or 'Habitat linkage';</p> <p>(c) the extent of any modification proposed to the natural environment including (but not limited to) vegetation and topography;</p> <p>(d) the location and design of proposed improvements that may impact on the functions of the 'Ecological corridor' or 'Habitat linkage' including (but not limited to) buildings, structures, fences, lighting, vehicle movement areas and infrastructure services; and</p> <p>(e) the ability for the 'Ecological corridor' or 'Habitat linkage' to be enhanced to improve ecological connectivity.</p> <p>Note—A supporting Ecological Assessment Report prepared in accordance with Planning Scheme Policy 2 – Ecological Assessment</p>	<p><b>AO8</b> No acceptable outcome is provided</p>	n/a	Not applicable.

Performance outcomes	Acceptable outcomes	Complies	Comments
Reports may be appropriate to demonstrate compliance with PO8.			

**Table 8.2.4.3B - Setback and buffer distances from waterways**

Stream order	Setback and buffer from waterways
1	10 metres from top of high bank
2-4	25 metres from top of high bank
5 or more	50 metres from top of high bank

Note—The stream order of a 'waterway' is to be determined on a case by case basis.

## 8.2.8 Hill and slope overlay code

### 8.2.8.1 Application

- (1) This code applies to assessing development where:
- land the subject of development is located within a 'Hill and slope area' identified on the **Hill and slope overlay maps (OM-008a-o)**; and
  - it is identified in the assessment benchmarks for assessable development and requirements for accepted development column of an assessment table in Part 5 of the planning scheme.

Note—Natural hazards are appropriately reflected in Overlay Maps 3, 6 and 8 and are required to be mapped by State Government in response to Hazard and Safety State Interests.

### 8.2.8.2 Purpose

- The purpose of the Hill and slope overlay code is to ensure the ongoing stability of land within a hill and slope area to prevent risk to people or property.
- The purpose of the code will be achieved through the following overall outcomes:
  - Development is located to avoid sloping land where practical; and
  - Development on sloping land maintains slope stability and does not increase the potential for erosion or landslide.

### 8.2.8.3 Criteria for assessment

**Table 8.2.8.3 – Hill and slope overlay code - For assessable development**

Performance outcomes	Acceptable outcomes	Complies	Comment
<b>For assessable development</b>			
<b>Slope stability</b>			

Performance outcomes	Acceptable outcomes	Complies	Comment
<p><b>PO1</b> Where clearing of vegetation, building work or filling or excavation occurs on land within a 'Hill and slope area' identified on the <b>Hill and slope overlay maps (OM-008a-o)</b>, a geotechnical report is prepared in accordance with Planning Scheme Policy 5 - Preparation of Geotechnical Reports that demonstrates:</p> <p>(a) the long term stability of the development site;</p> <p>(b) development will not be adversely affected by landslide activity originating on sloping land above the development site; and</p> <p>(c) development will not adversely affect other property outside the development site through landslide activity or alterations to surface or groundwater.</p>	<p><b>AO1</b> No acceptable outcome is provided.</p>	<p>✓ Complies with PO1</p>	<p>Clearing of approximately 345m<sup>2</sup> is proposed to accommodate a dwelling.</p> <p>The proposed clearing is sited proximate to the Morton Street frontage avoiding the need for internal access clearing.</p> <p>The location of the proposed dwelling site is consistent with the neighbouring allotments and restricting clearing to 345m<sup>2</sup> is considered very reasonable.</p> <p>The proposed clearing will comply with PO1.</p>
<p><b>PO2</b> Development is designed and located to ensure that the use can appropriately function in the 'Hill and slope area' identified on the <b>Hill and slope overlay maps (OM-008a-o)</b> having regard to:</p> <p>(a) the nature and scale of the proposed use;</p> <p>(b) the gradient of the land;</p> <p>(c) the extent of land disturbance proposed;</p> <p>(d) stormwater discharge and its potential for erosion.</p>	<p><b>AO2.1</b> Development for a Child care centre or Educational establishment is not located on land in a 'Hill and slope area' identified on the <b>Hill and slope overlay maps (OM-008a-o)</b>.</p>	n/a	Not applicable.
	<p><b>AO2.2</b> Development is not located on land with a gradient of greater than 25%.</p>	✓	Slope is not greater than 25%.
	<p><b>AO2.3</b> No lot less than 2,000m<sup>2</sup> is created in a 'Hill and slope area' identified on the <b>Hill and slope overlay maps (OM-008a-o)</b>.</p> <p>Note – Where a minimum lot size of less than 2,000m<sup>2</sup> applies under the Reconfiguring a lot code, the lot size requirements of the Hill and slope overlay code prevail.</p>	n/a	Not applicable.
<b>Community infrastructure and essential services</b>			

Performance outcomes	Acceptable outcomes	Complies	Comment
<b>PO3</b> Community infrastructure and essential services located within a 'Hill and slope area' identified on the <b>Hill and slope overlay maps (OM-008a-o)</b> are able to function effectively during and immediately after landslide events.	<b>AO3</b> No acceptable outcome is provided.	n/a	Not applicable.  Community infrastructure and essential services are not being proposed.

## OFFICER'S RECOMMENDATION

That in relation to the following:

APPLICATION		PREMISES	
<b>APPLICANT:</b>	K McDowell	<b>ADDRESS:</b>	12B Morton Street, Kuranda
<b>DATE LODGED</b>	9 May 2023	<b>RPD:</b>	Lot 3 on SP213770
<b>TYPE OF APPROVAL</b>	Development Permit		
<b>PROPOSED DEVELOPMENT</b>	Development Permit for Operational Works (Vegetation Clearing) assessable against the Mareeba Shire Council Planning Scheme 2016 - Environmental Significance Overlay and Hill and Slope Overlay		

and in accordance with the Planning Act 2016, as amended, the applicant be notified that the application for operational works is:

Approved subject to the following:

- (A) **APPROVED DEVELOPMENT:** Development Permit for Operational Works (Vegetation Clearing) assessable against the Mareeba Shire Council Planning Scheme 2016 - Environmental Significance Overlay and Hill and Slope Overlay
- (B) **APPROVED PLANS:**

Plan/Document Number	Plan/Document Title	Prepared by	Dated
23009	Site Plan Lot 3 SP213770	Scope Town Planning	May 2023
-	Ecological Report – 12B Morton St, Kuranda	Land Plan	6/5/23

- (C) **ASSESSMENT MANAGER'S CONDITIONS (COUNCIL)**

1. The extent and location of operational works (clearing) carried out on the site must be generally in accordance with that shown on the approved plan/s.
2. All vegetation cleared from the approved area must be either removed from the site, relocated or wood chipped for reuse as mulch on-site.
3. No further assessable clearing can be carried out on the site without prior Council approval.

(E) RELEVANT PERIOD

When approval lapses if development not started (s.85)

- Two (2) years (starting the day the approval takes effect).

(F) OTHER NECESSARY DEVELOPMENT PERMITS AND/OR COMPLIANCE PERMITS

- Nil

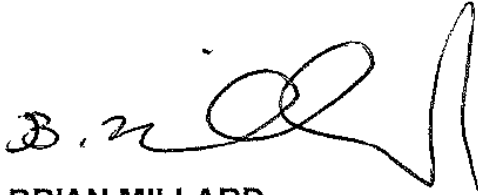
**Date Prepared:** 23 May 2023

## DECISION BY DELEGATE

## DECISION

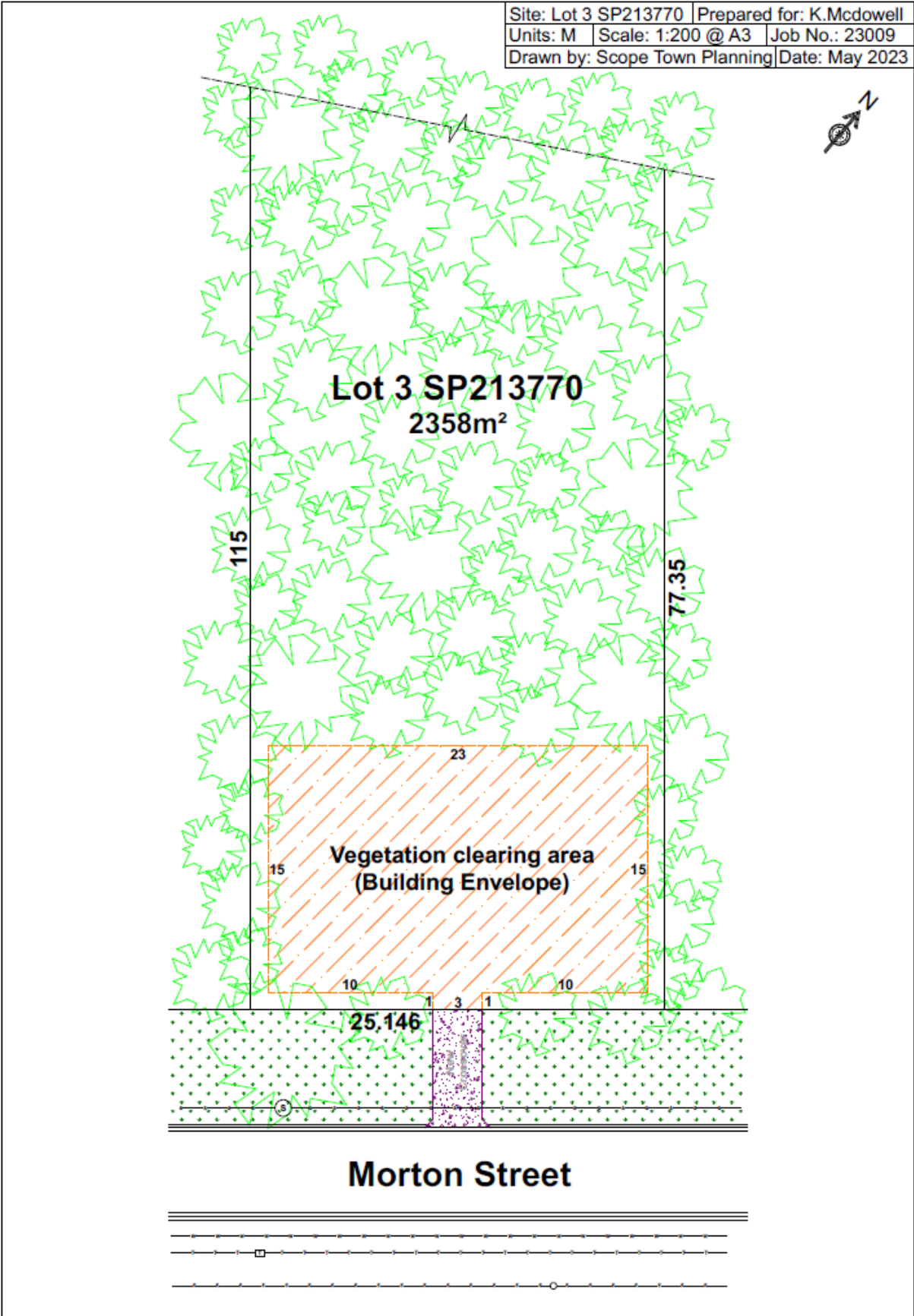
Having considered the Planning Officer's report detailed above, I approve, as a delegate of Council, the application subject to the conditions listed in the report.

Dated the 23<sup>RD</sup> day of MAY 2023

A handwritten signature in black ink, appearing to read 'B. Millard', written over a horizontal line.

**BRIAN MILLARD  
SENIOR PLANNER**

MAREEBA SHIRE  
AS A DELEGATE OF THE COUNCIL





# Ecological Report

12B Morton St, Kuranda, Queensland, Australia 4881



**Land Plan**

*"Plant a Seed and The World Will Grow"*

ABN: 72 486 134 042

Date: 6/5/23

Author: Julian Pitcher

Contact: 0439 722 277

## Ecological Report 2023

12B Morton St, Kuranda, Queensland, Australia 4881

### Front Cover images

Top: Aerial view of rainforest featured SE of site

Bottom right: Endangered *Rhodamnia sessiliflora* in flower

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## 1. Abstract

### Summary points

- Proposed clearance area approximately 385m<sup>2</sup>
- Compliant with PO1, PO2, PO3, PO4, acceptable outcomes as per MSC environmental significance overlay code, and not within a legally secured offset area or protected area (PO6, PO7)
- Proposed clearance area within Essential habitat (PO5) – protects and enhances environment. (CEEVNT flora support, invasive flora removal, short term and small scale clearing, buffers in place, responsible pet ownership and biosecurity considerations).
- CEEVNT flora (*Rhodamnia sessiliflora*) were identified (NCA 1992) and impact management plan required for DES.
- Exemptions may apply (VMA 1999) “to establish necessary built infrastructure” in least concern category b regional ecosystem
- Fauna Spotter catcher recommended prior to/during clearing
- Recommend controlling invasive flora, and supporting diverse regeneration
- Recommend pets be kept as per local government by laws
- Ensure all machinery comes and leaves clean, contact Biosecurity Queensland after works to confirm presence or absence of invasive ants

## 2. Introduction

At the request of the Mareeba Shire Council, to support a proposed development application by the landholder, this report has been produced to assist with a material change in use application for a primary dwelling at 12B Morton Street. This report shall propose mitigation strategies of negative impacts to natural assets, and demonstrate compliance with;

- Mareeba Shire Council Environmental Significance Overlays
- Exempt clearing work, or requiring an ADVCC under the Vegetation Management Act 1999

This property is indigenously vegetated with various natural values and is located in close proximity to the town centre, just a 10-minute walk away. At a little over half an acre (2296m<sup>2</sup>) in size, and largely rectangle in shape, the northern corner is missing with Glenn creek running through it. The longest side runs 115m NW to SE, and is 25m wide.

Various properties of similar dimension and landscape exist on each side of the property, and Morton street runs along the front. The Barron River sits 750m to the North, and further abroad is a network of national parks and housing estates.

A fair NW slope exists across the property, and channelling occurs at around 40m down the parcel in its centre, where a seasonal drainage line exists and flows into Glenn Creek. The Eastern end of the property starts at around 360m ASL and descends to 340m ASL at the Western side (creek line).

Disturbance exists across the front property with various incursions of invasive flora and nursery cultivars from roadside dumping. This section appears to have also been significantly cleared prior to the

1950's but is now comprised of typical rainforest regeneration for the area, and although young it has good structure and diversity, even harbouring a population of one species of endangered flora.

Environmental legislation is relatively simple, with one local government layer of concern, and a high risk protected plant trigger being present across the property.



*Figure 1: Aerial view over the area to be cleared at 12B Morton St, Kuranda, Queensland Australia 4881.*

### 3. Exemptions

#### Local Government (MSC)

Most of the property in question is situated within one or more layers on the Mareeba Shire Councils environmental significance overlay map, as such an ecological report is requested, no exemption identified.

#### Department of Resources (DR)

The freehold land consists of least concern category B vegetation and is described in table 2 on page 6 of the "List of exempt clearing work". It states, clearing on freehold land "To establish necessary built infrastructure<sup>1</sup> (including core airport infrastructure) other than contour banks, fences, roads or vehicular tracks is exempt clearing under the VMA Act 1999 if:

- a. The clearing is not to source timber
- b. The total area cleared is less than 2ha; and
- c. The total area covered by the infrastructure<sup>1</sup> is on less than 2ha

\*Infrastructure, for this exemption, includes a building, or other structure, built or used for any purpose.

This clearing meets the required elements of this exemption.

#### Department of Environment and Science (DES)

Proposed clearing is within the high-risk trigger area and the vegetation matches the definition of wild, or remnant. A flora survey is required, no exemptions apply.

#### 4. Site assessment / methodology

##### Flora

Prior to the commencement of field works, a desktop survey was conducted. This included the use of MSES spatial data, generation of DNR vegetation reports, and review of the Australian Virtual Herbarium (AVH) EVNT records. Historical imagery was also sought to further understand the history of the site in question.

This data demonstrated the presence of numerous CEEVNT flora and fauna in the area and a history of clearing and regeneration.

On the 24/3/2023 a timed meander was carried out to identify flora species present and to confirm the presence or absence of CEEVNT species. Based off personal familiarity and field books/keys, approximately 40 species were identified in situ, the upper canopy consisting largely of *Acacia Celsa*, and *Alstonia muelleriana*. The middle canopy is dominated by these same species but demonstrates more diversity with *Elaeocarpus grandis*, *Acronychia acronychioides*, *Mishocarpus lachnocarpus* and others. Shrub layer is comprised again of these same species with increasing diversity. Here we start to see *Davindsonia pruriens*, *Tabernaemontana pandacaqui*, and *Rhodamnia sesseliflora* emerge, with a range of invasive flora or nursery cultivars coming in. The ground layer is sparse with seedlings from the upper and middle canopy and minor occurrences of invasive flora.

Vine elements consist of *Cissus penninervis*, *Tetracera nordtiana*, and *Calamus australis*.

Epiphytes observed include *Drynaria rigida* and *Platyserium hillii*.

The clearance area can best be described as wild and within its late secondary stage of succession. There were considerable exotics present at the roadside front of the property at the time of surveillance, testament to numerous dumping of garden clippings and disturbance from clearing on neighbouring properties.

A number of plants had samples taken for ex situ identification using the ATH rainforest key and Atlas of Living Australia, this then increased the number of identified plants to 44.

Remote Sensing was carried out using remote piloted aircraft and an RGB (camera) sensor, this was used to create current orthomosaic imagery and to overlay the timed meander results. This assisted with the identification of canopy species and any epiphytes that were not detectable from the ground.

The property is mapped as being regional ecosystem 7.11.1 and is described as Simple-complex mesophyll to notophyll vine forest on moderately to poorly drained metamorphics (excluding amphibolites) of moderate fertility of the moist and wet lowlands, foothills and uplands.

Vegetation is of higher quality to the rear of the property where Glenn creek runs. The neighbouring properties have previously cleared their front sections too and so we see a corridor being maintained on this natural drainage line which boasts diverse and intact mature rainforest with minor weed incursions.

Due to the linear nature and slope of these properties, vehicle access to the mature forest is also restricted and such impacts are not observed at this stage.

### Fauna

Prior to the commencement of field works, a desktop survey was again conducted. This too included the use of MSES spatial data, and generation of DNRME vegetation reports.

DNRME vegetation and management reports identify essential habitat as being vegetation that is used permanently or during the life cycle of fauna which is special least concern or EVNT and found within 1.1km of the vegetation. Likely fauna identified in the report for this property includes;

- *Litoria seratta* – Tapping Green-eyed Frog
- *Litoria myola* – Myola Tree Frog
- *Casuarius casuarius* – Southern Cassowary
- *Pteropus conspicillatus* – Spectacled Flying Fox

A visual survey via timed meander did not identify any evidence or presence of CEEVNT fauna. This includes observations of scats, tracks, tree markings, nests or other evidence of presence. The survey was conducted in April 2023 during daylight hours. An acoustic survey is recommended during peak calling times and prior to clearance which should be supervised by a fauna spotter catcher.

Roosting of *Pteropus conspicillatus* has been observed in pine trees of neighbouring properties, as they utilise the nearby flowers of *Alstonia muelleriana* as a food source throughout the wet season. Whilst this plant is present in the proposed clearance area, no roosting has been observed.

The proposed clearance area totals approximately 385m<sup>2</sup> and is due to commence during the dry season in 2023. This will reduce the need for any erosion and sediment control and it is believed there should be no Spectacled flying foxes in the area as food sources are low. Significant fragmentation exists in the broader area with highways, minor roads and fences. The likelihood of Cassowary in this area is low, but CEEVNT frogs may be present as they push out from the streams and as such an acoustic survey and fauna spotter catchers are recommended.



Figure 2: Aerial imagery of Kuranda village from the 1960's. Approximate property location highlighted in red.





*Figure 3: Aerial view (facing West) of approximate clearance area.*

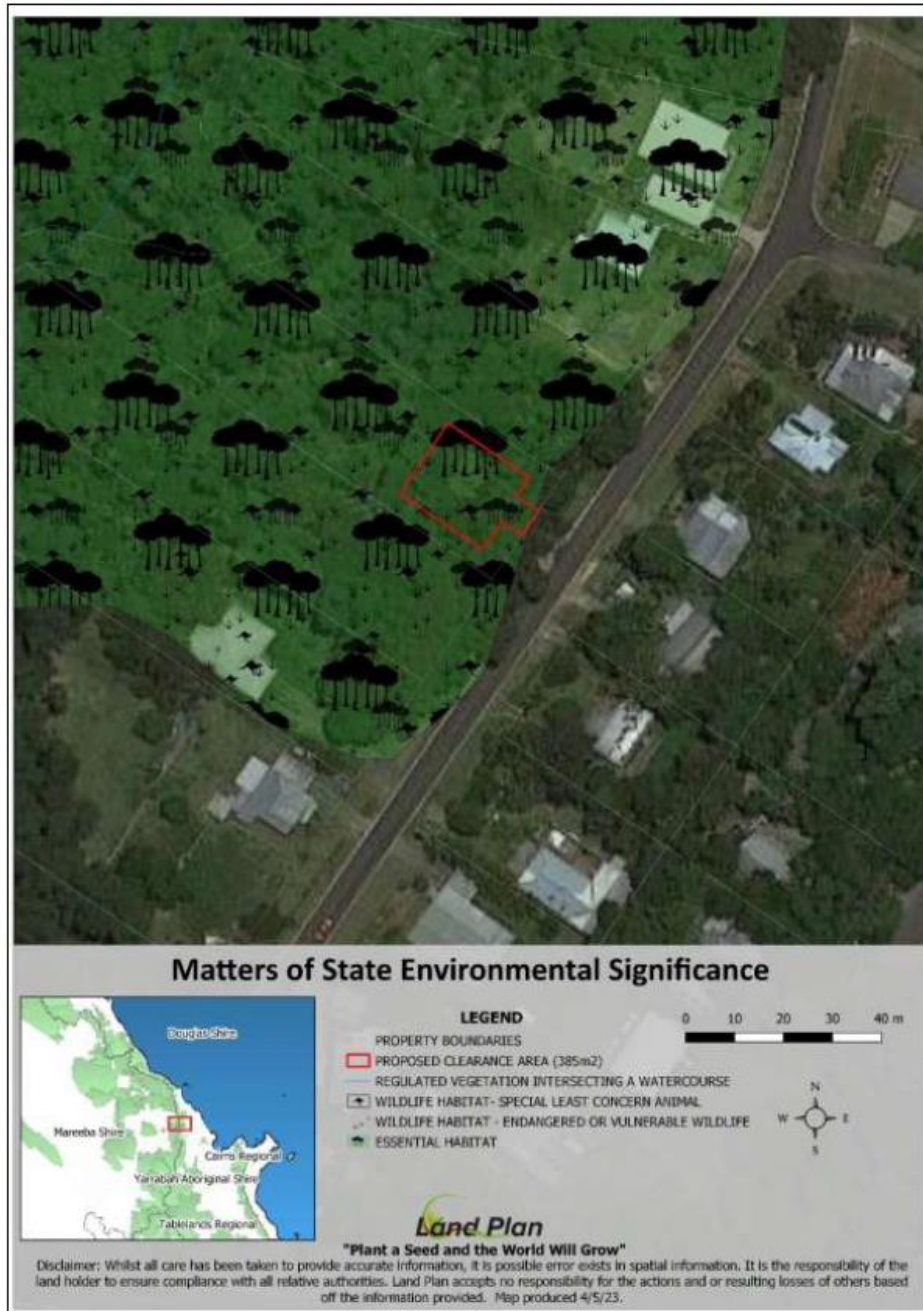


Figure 4: Matters of state environmental Significance map.

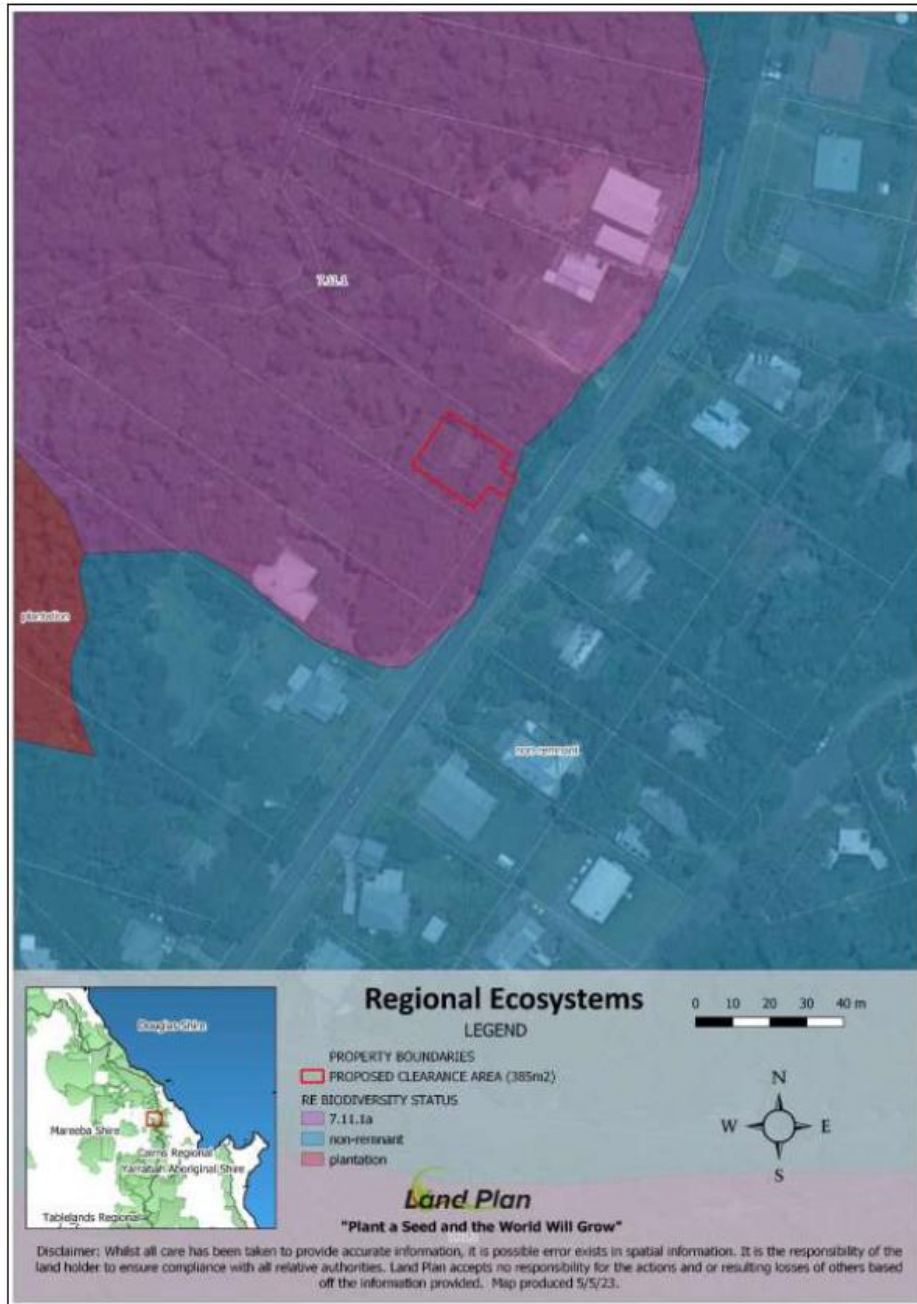


Figure 5: A map of surrounding regional ecosystems and their status.

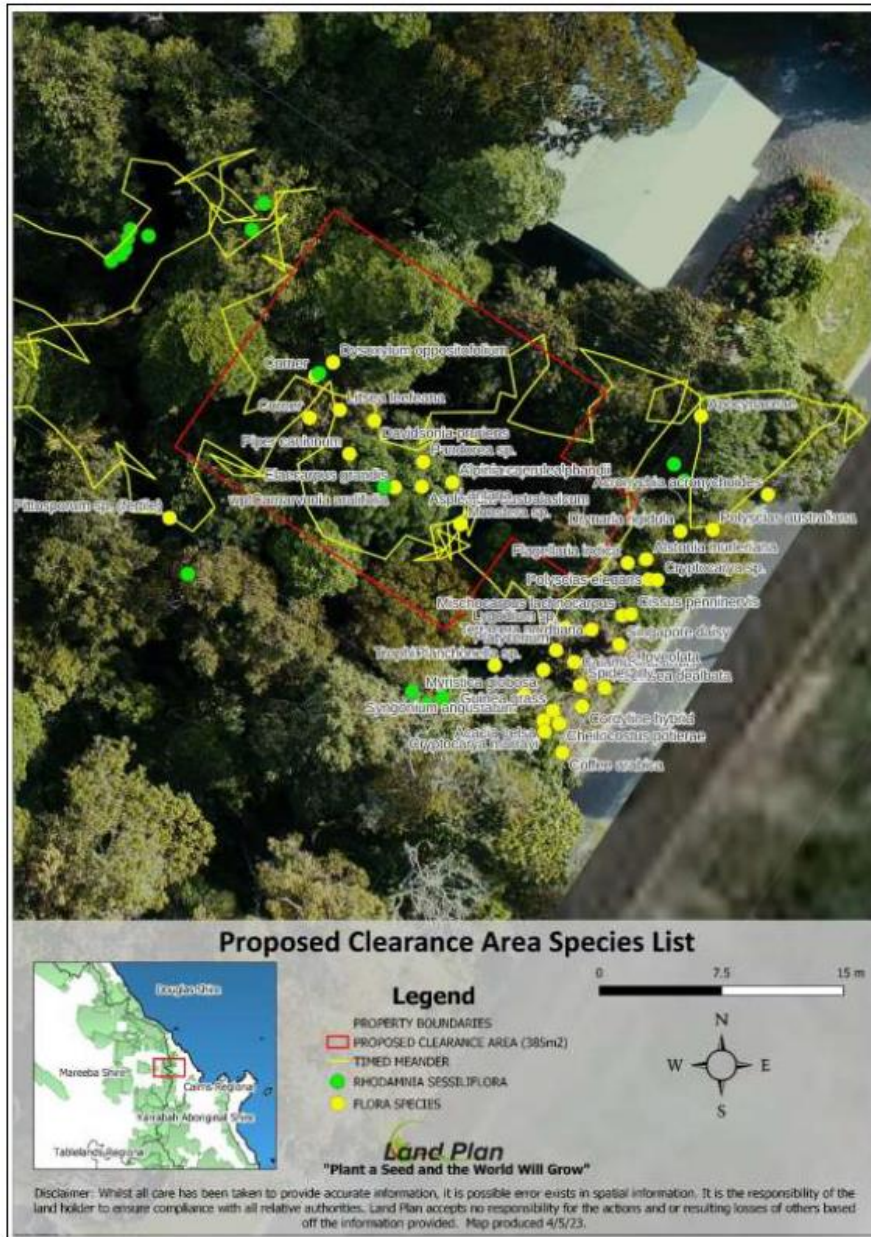


Figure 6: Aerial view showing original GPS data from timed meander overlaid with current property boundaries. Note names are the result of initial field based identification and may have changed after desktop analysis (See Table 1).

Table 1: Species list of indigenous and exotic flora (in red) within the clearance area.

Flora species list					
Scientific name	Common name	Family	Lifeform	EVNT (NCA)	Wons / Restricted
<i>Acacia celsa</i>	Wattle	Fabaceae	Tree/Shrub	No	No
<i>Acronychia acronychioides</i>	White Aspen	Rutaceae	Tree	No	No
<i>Alpinia caerulea</i>	Wild ginger	Zingiberaceae	Herb	No	No
<i>Alstonia muelleriana</i>	Milkwood	Apocynaceae	Tree/Shrub	No	No
<i>Asplenium australasicum</i>	Birds Nest Fern	Aspleniaceae	Epiphyte	No	No
<i>Calamus australis</i>	Hairy Mary	Arecaceae	Vine	No	No
<i>Carnarvonia araliifolia</i> var. <i>araliifolia</i>	Red Oak	Proteaceae	Tree/Shrub	No	No
<i>Castanopora alphandii</i>	Brown tamarind	Sapindaceae	Tree/Shrub	No	No
<i>Chelocostus potierae</i> (cultivar)	Spiral ginger	Zingiberaceae	Herb	Yes	No
<i>Cissus penninervis</i>		Vitaceae	Vine	No	No
<i>Coffea arabica</i>	Coffee	Rubiaceae	Tree/Shrub	No	No
<i>Cardyline</i> sp.	Red sister	Asparagaceae	Shrub	No	No
<i>Cryptocarya murrayi</i>	Murrays laurel	Lauraceae	Tree/Shrub	No	No
<i>Cryptocarya</i> sp.		Lauraceae	Tree/Shrub	No	No
<i>Cupaniopsis foveolata</i>	Toothed Tuckeroo	Sapindaceae	Tree	No	No
<i>Davidsonia pruriens</i>	Davidson's Plum	Cunoniaceae	Tree/Shrub	No	No
<i>Drynaria rigidula</i>	Basket Fern	Polypodiaceae	Epiphyte	No	No
<i>Duranta erecta</i>	Duranta	Verbenaceae	Shrub/Vine	No	No
<i>Dysoxylum oppositifolium</i>	Pink Mahogany	Meliaceae	Tree	No	No
<i>Elaeocarpus grandis</i>	Blue Quandong	Elaeocarpaceae	Tree	No	No
<i>Flagellaria indica</i>	Supplejack	Flagellariaceae	Tree/Shrub	No	No
<i>Lantana camara</i>	Lantana	Verbenaceae	Vine	No	Yes
<i>Litsea lefeana</i>		Lauraceae	Tree/Shrub	No	No
<i>Lygodium reticulatum</i>	Wire vine	Lygodiaceae	Vine	No	No
<i>Megathyrsus maximus</i>	Guinea grass	Poaceae	Large graminoid	No	No
<i>Mischocarpus lachnocarpus</i>	Woolly Brush	Sapindaceae	Tree/Shrub	No	No
<i>Monstera deliciosa</i>	Fruit salad plant	Araceae	Vine	No	No
<i>Myristica insipida</i>	Nutmeg	Myristicaceae	Shrub	No	No
<i>Neolitsea dealbata</i>	Bollywood	Lauraceae	Tree/Shrub	No	No
<i>Pandorea</i> sp.	Wonga Vine	Bignoniaceae	Vine	No	No
<i>Piper caninum</i>	Common Piper	Piperaceae	Vine	No	No
<i>Pittosporum rubiginosum</i>	Hairy Red Pittosporum	Pittosporaceae	Tree/Shrub	No	No
<i>Planchonella</i> sp.		Sapotaceae	Tree/shrub	No	No
<i>Platyserium hillii</i>	Elkhorn fern	Polypodiaceae	Epiphyte	No	No
<i>Polyscias australiana</i>	Basswood	Araliaceae	Tree/Shrub	No	No
<i>Polyscias elegans</i>	Celerywood	Araliaceae	Tree/Shrub	No	No
<i>Rhodamnia sessiliflora</i>	Iron Malletwood	Myrtaceae	Shrub	Yes	No
<i>Sphagneticola trilobata</i>	Singapore daisy	Asteraceae	Scrambler	No	Yes
<i>Hymenocallis littoralis</i>	Spider lilly	Amaryllidaceae	Herb	No	No
<i>Syngonium angustatum</i>	Arrowhead vine	Araceae	Vine	No	No
<i>Tabernaemontana pandacaqui</i>	banana bush	Apocynaceae	Shrub	No	No
<i>Tetracera nordtiana</i>	Small-leaved Fire Vine	Dilleniaceae	Vine	No	No
<i>Trophis scandens</i>	Burney vine	Moraceae	Vine	No	No
<i>Tabernaemontana pandacaqui</i>	Banana bush	Apocynaceae	Shrub	No	No

## 5. Primary Environmental Compliance

### Performance Outcomes (MSC) – potential impacts and mitigation

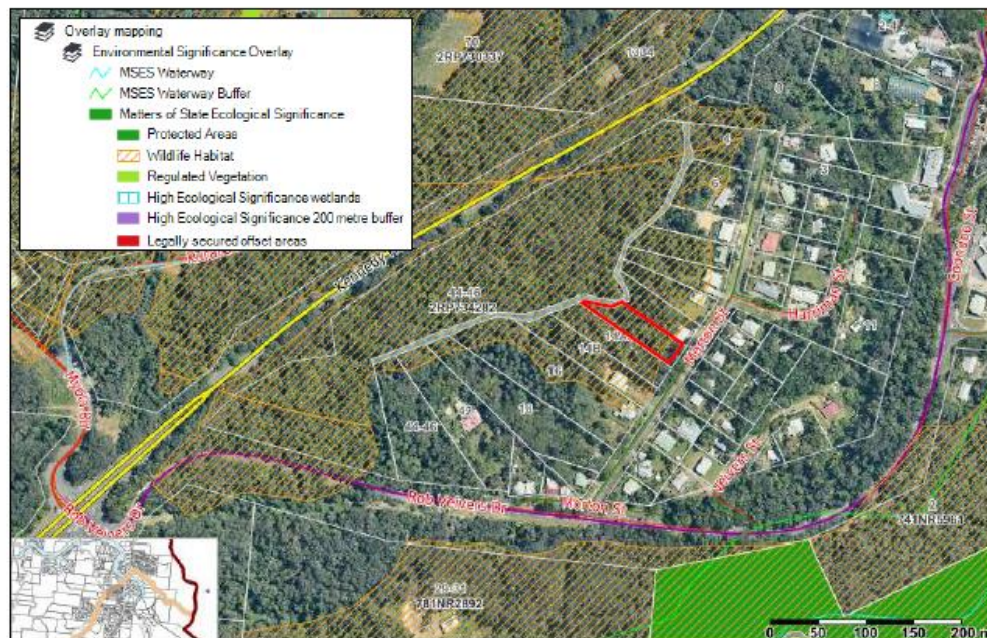


Figure 7: Overlay Map 4 (Environmental Significance) and legend from MSC. 12B Morton St is highlighted in red.

#### POS

#### Development within a 'Wildlife habitat' area identified on the Environmental Significance Overlay Maps (OM-004a-o):

- protects and enhances the habitat of Endangered, Vulnerable and Near Threatened (EVNT) species and local species of significance;
- incorporates siting and design measures to protect and retain identified ecological values and underlying ecosystem processes within or adjacent to the development site;
- maintains or enhances wildlife interconnectivity at a local and regional scale; and
- mitigates the impact of other forms of potential disturbance (such as presence of vehicles, pedestrian use, increased exposure to domestic animals, noise and lighting impacts) to protect critical life stage ecological processes (such as feeding, breeding or roosting).

Where possible, the siting of the proposed clearance area in essential habitat has been avoided, as per figure 7, a small section of the property in question is outside of the essential habitat layer and this is where most of the clearing is restricted to. This minimises impacts to the highest quality essential

habitat, the mature forest and sloping land to the rear of the property, and will also aid the construction of a dwelling with this area being the most usable part of the parcel.

The proposed clearance area may protrude into the essential habitat layer minimally and as such various strategies will assist in meeting the requirements of POS.

In an effort of enhancing and protecting CEEVNT habitat and flora, the endangered *Rhodamnia sessiliflora* which is within the clearance area and surrounding it, an impact management plan needs to be developed and submitted to DES. It is likely this will include the planting of twice as many *Rhodamnia sessiliflora* as are removed, and ongoing monitoring of the planted flora, and the ones that remain outside of the clearance area.

*Casuarius casuarius johnsonii* generally occupy a large territory of about 12km square each. Adult Cassowaries are solitary (live alone) and are territorial, except during breeding season where they may congregate to take advantage of food resources at times of seasonal abundance and scarcity.

Typical threats to the Cassowary are animal attacks (domestic and feral), vehicle strikes, and habitat fragmentation due to clearing. Fragmentation can disrupt cassowary movement patterns and can separate parts of an individual bird's territory, and reduce habitat resources associated with feeding and breeding activities. Habitat fragmentation can also separate birds from each other, resulting in genetic isolation and local extinctions. Habitat degradation caused changed fire regimes and invasion of weed species also affects cassowaries by reducing the quality of habitat and food sources.

*Litoria serrata* and *Litoria myola* males are generally found among low hanging vegetation and rocks along streams, while females can be found in or around streams or farther away from the water in the forest canopy. They breed in streams during the wet summer months of September to March. A fauna spotter catcher is recommended, to supervise and relocate vertebrate species during clearing activities.

*Pteropus conspicillatus* are typically observed in this area during the wet season when primarily foraging on Myrtaceae flowers and Moraceae fruits in riparian area. Breeding occurs from January to June with young being born October to December. Juveniles will venture out at night (at about 5 months age) for as far as they can, and return in the morning when adults do (Atlas of Living Australia, 2023). Roosts are present seasonally in the neighbouring properties but this has not been observed in the proposed clearance area, nor are the significant roosting trees within it. They are expected to not be present on site during clearance in the dry season of 2023, if they are, clearing activities may not commence until they have moved on.

The timing, scale, and location of the clearing is believed to be favourable to reduce impact to these species in that during the dry season minimal fruit and flowers will be present to attract such fauna to the site. Significant fragmentation exists surrounding this property and the likelihood of Cassowary being present is very low. Glenn creek is 51m away and within the typical 100m frog habitable range from creeks. Acoustic surveys prior to clearing and a fauna spotter catcher during clearing are recommended.

A buffer of indigenous flora is to be established around the clearance area by managing natural regeneration. This will maintain site specific connectivity, increase diversity and is to result in the removal of several high-risk weeds such as Lantana and Singapore daisy. OM004C identifies the area as not being an ecological corridor, and so it is expected that the proposed clearance area will not affect

local or regional connectivity in a negative manner, and the primary corridor of mature vegetation along Glenn creek to the rear will be retained.

Any fencing to be erected should be done so in a manner that does not create “dead ends” or blocks local wildlife from moving. Fencing the clearance area only, and leaving the native buffers open will achieve this. Lighting at night is to be minimised where possible to avoid negative impacts to frogs and spectacled flying foxes and protect them during critical life stage ecological processes such as feeding and breeding.

Overall the clearing is expected to be small scale and brief, which further minimises negative impacts, domestic animals are to be kept in accordance with local by laws as per section 6.

Species relevant to the clearance area (using the essential habitat) as identified in the DNRME vegetation management property report, have been identified below and relevant recommendations summarised.

Table 2. Fauna impact management strategies summarised.

Species using essential habitat	NCA status	Risks from development	Avoid and minimise impact principles
<i>Litoria myola</i> – Myola Tree Frog	E	Reduced ability to breed through disrupted communication and loss of habitat. Risk of fatality during clearing.	No outside lights after 6PM when near waterlines, no clearing within 100m of permanent waterways, no alterations to natural water flow. Audio survey prior to adjacent clearing. FSC during clearing. Manage invasive species. Time project accordingly to seasonal fauna requirements. Pets kept according to LG by laws.
<i>Litoria seratta</i> – Tapping Green-eyed Frog	V		
<i>Casuarus casuarus johnsonii</i> – Southern Cassowary	E	Risk of fatality from vehicle strikes and dog attacks.	No dogs or cats, unless they are confined appropriately. No “dead ends” created by fences, movement must be supported. No feeding Cassowary’s. Manage invasive species. Time project accordingly to seasonal fauna requirements.
<i>Pteropus conspicillatus</i> - Spectacled Flying Fox	E	Loss of roost trees and food sources, general disturbance.	No roost trees to be removed, minimal clearing in general, No outside lighting on during night time. Seasonally appropriate clearing, no clearing if present in clearance area.



## 6. Additional Environmental Compliance

### Biosecurity Act 2014

Under the Biosecurity Act 2014, every Queensland resident has a “General Biosecurity Obligation” (GBO).

The Act states (S24) that a person has “an obligation (a *general biosecurity obligation*) to take all reasonable and practical measures to prevent or minimise the biosecurity risk.”

In short, this means that landholders are legally obliged to manage biosecurity risks such as invasive flora and fauna to prevent negative impacts to biosecurity considerations such health, agriculture and the environment. Suitable measures include controlling weeds, cleaning construction/garden equipment before entering and leaving site and engaging various biosecurity programs to survey and control pests on the property.

- Property exists within National Electric Ant Eradication Program Biosecurity Zone. Category 1 listed pest, notify authorised inspector within 24 hrs of suspected identification.
- Property may exist within Yellow Crazy Ant Eradication Program Biosecurity Zone. Category 2 listed pest, notify authorised officer within 24 hrs of suspected identification.
- Property may exist within National Tropical Weeds Eradication Program Biosecurity Zone, NTWEP notify authorised officer within 24 hrs of suspected identification.



Figure 8: Electric ants (*Wasmannia auropunctata*). Figure 9: Yellow Crazy ants (*Solenopsis gracilipes*)



Figure 10: Several species controlled by the NTWEP and a native Melastome look alike.

## Local Government (MSC)

### Pet By-laws

#### Cats

Mareeba Shire Council has laws and regulations (Local Law 2) regarding pets.

It is an offence to;

- Keep more than two cats on any property
- To allow cats to wander onto public or other private property
- Or to keep cats without a microchip

Failure to comply with these laws and regulations may lead to your cat being impounded, fines, and can cause significant loss of life to native wildlife by either direct attack or disturbance.

Microchipping and desexing your cat is important, it can help find your pet if lost and also prevent unwanted breeding which often puts further pressure on local wildlife.

- Cats born after 1 July 2009 must be microchipped before three months old
- Cats born before 1 July 2009 need to be microchipped if they are being sold or given away
- De-sexing is encouraged, but not compulsory

It is possible that without a microchip to identify that it has an owner it may be considered to be a stray or feral cat.

#### Dogs

Any dog residing on urban residential, rural residential, rural properties must be registered annually.

Dogs must be kept in a sufficient enclosure that prevents them from interfering with local wildlife. There are minimum standards for keeping dogs;

- enclosures must be cleaned regularly and waste disposed of so as not to create a nuisance or health hazard
- adequate food and water must be provided
- adequate space must be provided for each dog
- not permitting any dog to be kept in such a manner as to be a nuisance, likely to cause an injury or health hazard.

Dogs are required to be leashed at all times when outside of private property, and must be under continuous supervision. This helps avoid distress and fatalities to wildlife such as wallabies and Cassowaries, which is a significant problem in the Mareeba Shire / Wet Tropics region. Several community groups are actively working to protect local rare and threatened fauna, as such compliance from landholders is a great service to both the community and its natural ecosystems.

## 7. Conclusion

Based on the findings of this ecological report, it can be concluded that the proposed development at 12B Morton Street will have minimal impact on the natural environment and is compliant with the relevant LG environmental legislation.

The development is small scale, brief, and will accommodate CEEVNT flora such as *Rhodamnia sesilliflora*, and with ongoing management has the potential to be positive impact to CEEVNT flora on site and in the broader community. Additionally, the proposed development will result in the removal of environmental weeds from the property. This will enhance the natural values of the site and contribute positively to the local ecosystem.

Lastly, it is believed that this the report should provide the Mareeba Shire Council with the information necessary to make an informed decision regarding the material change in use application.

## 8. Errors

Error may exist in maps due to spatial reliability, please ensure all works are ground truthed and relevant authorities consulted prior to works.

Plant names may appear incorrect on timed meander map, however have been corrected within the species list.

Unidentified plants in Table 1 may be inconsistently ordered due to some later being identified during desktop analysis.

Surveys were carried out within the best possible times regarding project requirements and seasonal characteristics displayed by significant flora. None the less, some plants may be incorrectly identified.

## 9. Bibliography

*Atlas of Living Australia*. (2022, 9 7).

*Atlas of Living Australia*. (2023, 5 6). Retrieved from <https://bie.ala.org.au/species/https://biodiversity.org.au/afd/taxa/27d443cb-290b-4d53-8010-5e230f840d67>

Pitcher, J. (2022, September 28). *Mareeba Shire Council - Planning interactive map*. Retrieved from Mareeba Shire Council: <https://enterprise.mapimage.net/IntraMaps22A/?configId=ae5ad943-f724-432f-981b-94422b00b2fc&project=Public&module=Planning>

## 10. Appendix

## Appendix 1: RE details

## Regional ecosystem details for 7.11.1

<b>Regional ecosystem</b>	7.11.1
<b>Vegetation Management Act class</b>	Least concern
<b>Wetlands</b>	Contains palustrine wetland (e.g. in swales).
<b>Biodiversity status</b>	No concern at present
<b>Subregion</b>	9, 8, 7, 3, (4), (2)
<b>Estimated extent'</b>	Pre-clearing 146000 ha; Remnant 2015 130000 ha
<b>Extent in reserves</b>	High
<b>Short description</b>	Simple-complex mesophyll to notophyll vine forest on moderately to poorly drained metamorphics (excluding amphibolites) of moderate fertility of the moist and wet lowlands, foothills and uplands
<b>Structure category</b>	Dense
<b>Description</b>	<p>Simple-complex mesophyll to notophyll vine forest on moderately to poorly drained metamorphics (excluding amphibolites) of moderate fertility of the moist and wet lowlands, foothills and uplands. Lowlands and foothills on xanthozems and red and yellow podzolic soils of metamorphic origin. Very wet and wet rainfall zones. (BVG1M: 2a)</p> <p>Vegetation communities in this regional ecosystem include:</p> <p>7.11.1a: Mesophyll vine forest. Lowlands and foothills on metamorphics. Very wet and wet rainfall zones. (BVG1M: 2a)</p> <p>7.11.1b: Mesophyll vine forest recovering from disturbance, with <i>Acacia</i> spp. canopy or emergents. Lowlands and foothills on metamorphics, of the very wet and wet rainfall zones. (BVG1M: 5d)</p> <p>7.11.1c: Mesophyll vine forest. Lowlands and foothills on greenstone, of the very wet and wet rainfall zones. (BVG1M: 2a)</p> <p>7.11.1d: Mesophyll vine forest. Foothills on Tertiary duricrust (ferricrete) of the very wet and wet rainfall zones. (BVG1M: 2a)</p> <p>7.11.1e: Mesophyll vine forest of steep rocky slopes, and valleys. Canopy frequently broken by fern covered rock faces. Sheltered areas of deeper soil support vine forests allied to Types 1b and 2a, while the most rock-strewn areas support <i>Ficus</i> spp. and <i>Schefflera actinophylla</i>. Foothills and uplands on metamorphics, of the moist and wet rainfall zones. (BVG1M: 2a)</p> <p>7.11.1f: Mosaic of fernland and low vine forest with <i>Chionanthus ramiflorus</i>. Steep rocky slopes and scree slopes on metamorphics. (BVG1M: 2a)</p> <p>7.11.1g: Mesophyll vine forest with scattered feather palms (<i>Archontophoenix alexandrae</i>) in the sub-canopy. Seasonally inundated lowland areas on metamorphics. Floodplain (other than floodplain wetlands). (BVG1M: 4a)</p>
<b>Supplementary description</b>	Stanton and Stanton (2005), Q2a, M2a, M2a(a), M2a(b), M2a(c), CM2a, Z2a, M100, M154, M72, L2a; Tracey and Webb (1975), 2a
<b>Protected areas</b>	Daintree NP, Wooroonooran NP, Japoon NP, Kuranda NP, Ngalba Bulal NP, Dinden NP, Mowbray NP, Little Mulgrave NP, Basilisk Range NP, Mount Lewis NP, Ella Bay NP, Djiru NP, Barron Gorge NP, Macalister Range NP, Kuranda West FR, Mount Mackay NP, Moresby Range NP, Gadgarra NP, Danbulla NP, Eubenangee Swamp NP, Tully Gorge NP, Russell River NP, Barron Gorge FR, Walter Hill Range CP, Family Islands NP, Mount Whitfield CP, Grey Peaks NP, Warrubullen CP, Jumrum Creek CP, Kuranda FR, Smithfield CP, Speewah CP, Hull River NP, Japoon FR, Macalister Range FR, ETTY Bay Road CP
<b>Special values</b>	Habitat for threatened plant species of 7.11.1a include: <i>Archidendron kanisii</i> , <i>Archidendropsis xanthoxylon</i> , <i>Asplenium wildii</i> , <i>Austromuellera trinervia</i> , <i>Beilschmiedia castrisensis</i> , <i>Cyclophyllum costatum</i> , <i>Dioclea hexandra</i> , <i>Endiandra grayi</i> , <i>Endiandra microneura</i> , <i>Euodia hylandii</i> , <i>Euodia pubifolia</i> , <i>Freycinetia marginata</i> , <i>Gardenia actinocarpa</i> , <i>Phlegmariurus</i> spp., <i>Lepiderema hirsuta</i> , <i>Megahertzia amplexicaulis</i> , <i>Microsorium membranifolium</i> , <i>Mitranthia bilocularis</i> , <i>Neostreana fleckeri</i> , <i>Noahdendron nicholasii</i> , <i>Peripentadenia phelpsii</i> , <i>Samadera baileyana</i> , <i>Randia audasii</i> , <i>Ryparosa kurangii</i> , <i>Sankowskya stipularis</i> , <i>Symplocos crassiramifera</i> , <i>Vrydagzynea grayi</i> , <i>Whyanbeelia terrae-reginae</i> and <i>Xanthophyllum fragrans</i> . Also there are many locally restricted regional endemics and unusual species such as: <i>Callerya</i> sp. (Barratt Creek G.Sankowsky 428), <i>Coelospermum dasylobum</i> , <i>Cupaniopsis diploglottoides</i> , <i>Mischarytera megaphylla</i> , <i>Storckiella australiensis</i> , <i>Tainia trinervis</i> and <i>Idiospermum australiense</i> . Other species of local significance are <i>Argyrodendron</i> sp. (Whyanbeel B.P.Hyland RFK1106), <i>Monoon patinatum</i> and <i>Rhodomyrus effusa</i> .
<b>Fire management guidelines</b>	SEASON: Do not burn deliberately. f Oct-Dec (occasionally Sep). INTENSITY: Do not burn deliberately. f Variable, depending on fuel. INTERVAL: Do not burn deliberately. f 10-20 years. There will be practical difficulties in attempting to burn grassland and sedgeland at different intervals. STRATEGY: Do not burn deliberately. Mosaic burning in surrounding fire-adapted ecosystems will minimise spread and

	<p>severity of wildfire during severe weather events. f Entire continuous areas are likely to burn at any one time. Burn 25-30% of these communities in WET in any one year. Attempt to time burning when water level is high enough to cover both peat and sedge bases. Protect from wildfire or manage surrounding country to reduce the potential of fire incursion. ISSUES: Typically unlikely to burn owing to lack of flammable grasses. Occasional high intensity fires along fringes, particularly on hillslopes, may lead to loss of rainforest at edges. Low intensity burns away from rainforest edge can be used to protect margins, when humidity and soil moisture are high. Where appropriate, use revegetation of rainforest species to provide buffer to cleared areas. Occasional high intensity fires in adjoining communities may be required to prevent expansion of rainforest elements. f A planned burn is likely to be over 100% of the planned burn area; so while mosaic burning is desirable to maintain structure and protect animal habitat and food, it will rarely be achievable. Under dry conditions, with little soil moisture, peat may burn as it is highly flammable in such circumstances. Sedges are disadvantaged by repeated high intensity fires.</p>
<b>Comments</b>	<p>7.11.1: Occurs on more poorly-drained and lower fertility soils than 7.11.23. Many accessible areas have been subjected to extensive logging in the past. Widespread over central and eastern parts of the bioregion north of Tully.</p>

#### Appendix 2: Example of vegetation on site.



Figure 11: RE 7.11.1 within proposed clearance area.

### Appendix 3: Acronyms

ADVCC – Accepted development clearing codes  
 ANPC – Australian Network for Plant Conservation  
 AVH – Australian Virtual Herbarium  
 BA – Biosecurity Act 2014  
 CIA – Clearance Impact Area  
 EPBC – Environmental Protection and Biodiversity Conservation Act 1999  
 CEEVNT – Critically Endangered, Endangered, Vulnerable, Near Threatened  
 DES – Department of Environment and Science  
 DR – Department of Resources  
 DSC – Douglas Shire Council  
 LG – Local Government  
 MSC – Mareeba Shire Council  
 NCA – Nature conservation Act 1992  
 RE – Regional Ecosystem  
 VMA – Vegetation Management Act 1999

### Appendix 4: About the Author

#### Julian Pitcher (SQP)

Julian completed his Diploma in Conservation and Land Management in 2008 and has since been actively engaged in the environmental industry as both a professional and citizen scientist. As a result, he possesses a diverse range of skills in land management, film production, flying remote piloted aircraft, digital data collection, and writing development applications/ecological reports

He has developed resources and delivered accredited training under various RTO's which covered CLM units such as identify plants, develop a management plan, control weeds, and workplace health and safety. His DIY site management planner has been taken on by Land Care groups and assisted with the training of local land officers.

After spending several years in training and conducting restoration works, Julian commenced work for Biosecurity Queensland as an authorised officer surveying for invasive species in the National Tropical Weeds Eradication Program. During this time, he identified and collected additional data on various orchids and saprophytes (*Anoetochilus papuanus*, *Aphyllorchis anomala*, *Vrydagzynea albostrata*, *Sciaphilla sp.*, and *Gymnosyphon sp.*, among others) which assisted the Australian Tropical Herbarium, and also international botanists. He continues these relationships today by contributing data to ongoing projects. His training has also been furthered with short plant identification courses conducted by the ATH, along with venomous snake handling qualifications and remote sensing licences.

A keen orchid enthusiast, Julian has been successful in attaining funding from the Australian Orchid Foundation and producing a series of films promoting native orchids, their conservation issues and the stakeholders supporting them. In addition to this, Julian has been mapping native orchids for over ten years and recorded data on more than 2000 populations. This information is again assisting the ATH and other citizen science projects such as Wild Orchid Watch.

#### Disclaimer

Whilst all care has been taken to present the necessary information to the most accurate degree it should be noted that the surveys conducted upon the property in question are not fully comprehensive and unidentified flora and fauna may exist. Spatial data is based upon the reliability of data sources and some error may exist as a result. Care should be taken by the landholders to ensure compliance is met with all relevant agencies and authorities. Approval of applications and alike cannot be guaranteed by Land Plan.