



PLAN OF MANAGEMENT

VALLANCES ROAD, MULLUMBIMBY

Prepared for: Byron Shire Council

Prepared by: Planit Consulting



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EXECUTIVE SUMMARY

The purpose of this Operational Plan of Management is to provide a framework for the management and development of Community Land under Council's control. Council has responsibility for two main types of public land; Crown Land whose control is vested in Council under the Crown Lands Act 1989, and Council owned and managed Community Land dedicated under the Local Government Act 1993.

The land included in this Plan of Management is a large parcel of land formed by two lots (cumulatively 111.3 ha) owned by Byron Shire Council (BSC). The site is located within a rural area to the north of the Brunswick River, approximately 1km to the north-east of the Mullumbimby CBD. These lots are classified as Operational Land and Community Land, and are identified as Lot 1 on DP 952598 (125 Vallances Road, Mullumbimby) and Lot 1 on DP 129374 (Valances Road, Mullumbimby) respectively.

The sites are located in Mullumbimby, to north-east of the township and bordered by the Brunswick River to the south. The land is locally known as Vallances Road and includes the Brunswick Valley Sewage Treatment Plant (BVSTP).

The Project Areas, outcomes and actions intended from this Plan of Management include the following:

- **Environmental Land Use Project Areas**
 - Native trees and plants revegetation and rehabilitation.
 - Brunswick River bank stabilisation.
 - Boardwalks & walkways.
 - Irrigation with recycled BVSTP effluent.
 - Fertilising and soil amendment with BVSTP biosolids.
- **Community & Housing Project Areas**
 - Affordable / community housing (subject to rezoning).
 - Use of existing corridors and rights-of-way.
 - Education & interpretation centre.
 - Community gardens.
 - Camping and tourist/visitor accommodation.
- **Brunswick Valley Sewage Treatment Plant (BVSTP) Project Areas**
 - Upgrades to BVSTP in order to accept the flow from the Ocean Shores STP.
 - Effluent storage ponds to buffer flows in order to facilitate effluent reuse and further polishing.
 - Constructed wetlands for effluent polishing.

- Recycled water generation for irrigation and other valuable uses.
- Biomass anaerobic digestion to generate biogas for electricity generation, heating and cooling.
- Digested biomass dewatering for reuse as fertilizer and soil amendment.
- **Biomass Project Areas**
 - Biomass coppice crops cultivated for bioenergy and other valuable uses, e.g. oil crops such as hemp.
 - Use of recycled water for crop irrigation.
 - Land application of dewatered biomass for reuse as fertilizer and soil amendment.
- **Solar Farm Project Areas**
 - Solar photovoltaic arrays for electricity generation
 - Community solar farm
 - Council BVSTP solar farm

Please refer to **Map 1** for the project areas.

The table overleaf summarises these actions in greater detail, and in specific relation to the POM categorisation areas as well as the existing permissible developments under current zoning.

The next phases of work can address screening and prioritizing the POM actions for implementation. In doing so, Council may wish to consider the following issues in greater detail:

- Public review and consultation prior to finalising the Plan of Management Actions.
- Prioritisation of Actions and identification of specific works.
- Statutory instruments, reviews, and approvals that may be required for the Actions and resulting specific works.
- Estimating costs, and funding sources and methods, for the Actions and specific works.
- Estimating timelines for implementation of the Actions and specific works.
- Detailed next steps for implementing the priority Actions and specific works.

In addition to the table below, **Section 5** and **Appendix 1** summarise in detail the strategic actions of these projects, and the strategic objectives of the projects. **Section 6** recommends actions to be implemented in order to achieve the outcomes intended by this Plan of Management.



VALLANCES ROAD, MULLUMBIMBY

PROJECT AREAS

GOV MAPS

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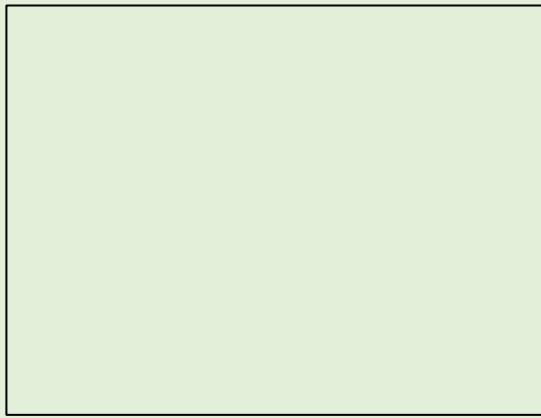
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PLAN OF MANAGEMENT - SUMMARY

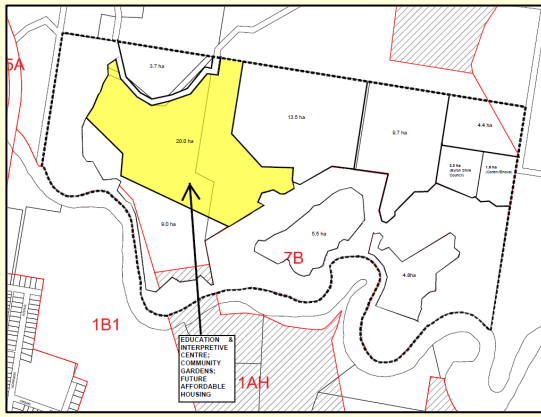
NATURAL AREA (WETLAND)

[Proposes uses include Environmental Land Uses including rehabilitation and wildlife corridors]

ACTION	KEY PROPOSALS	AREA (APPROX.)	ZONING	SUMMARY OF PERMISSIBLE USES
Environmental Land Project Areas 	<ul style="list-style-type: none"> Native trees and plants revegetation and rehabilitation. Brunswick River bank stabilisation. Boardwalks & walkways. Irrigation with recycled BVSTP effluent. Fertilising and soil amendment with BVSTP biosolids. 	49.8 ha	Rural 2 – Rural Landscape Deferred Matter (LEP 2014) Coastal Habitat (LEP 88)	<ul style="list-style-type: none"> Environmental Facility Environmental protection works Information and Education Facility Recreation Area Flood Mitigation Works

PARK USE

[Proposed Uses include Community Gardens, an Education and Interpretive Centre; and future Affordable / Community Housing (Subject to Re-zoning)]

ACTION	KEY PROPOSALS	AREA (APPROX.)	ZONING	SUMMARY OF PERMISSIBLE USES
Community & Housing Project Area 	<ul style="list-style-type: none"> Sustainable community housing (subject to rezoning). Use of existing rail corridor, bridge and Council road right-of-way to access the site Promote low-footprint development via foot traffic, bicycle, and/or e-vehicles Leading-edge, multi-purpose educational facility to highlight innovations in sustainable land management. Provision of community gardens Potential for camping and tourist/visitor accommodation. 	20.0 ha	RU1 – Primary Production RU2 – Rural Landscape	<ul style="list-style-type: none"> Affordable Housing (*Subject to re-zoning of the land) Community Facility Restaurant or Cafe Environmental Facility Information & Education Facility Recreation Area Camping Ground Eco Tourist Facilities Tourist and Visitor Accommodation (ONLY Bed & Breakfast and Farm-Stay Accommodation)

GENERAL COMMUNITY USE

[Proposed uses include: Eco-Pursuits and sustainable technologies such as the Brunswick Valley Sewage Treatment Plant (STP), Biomass Coppice Crops, Land application of Digested Bio-solids; Recycled Water Irrigation; STP Effluent Storage and Wetlands Polishing; and other Bioenergy]

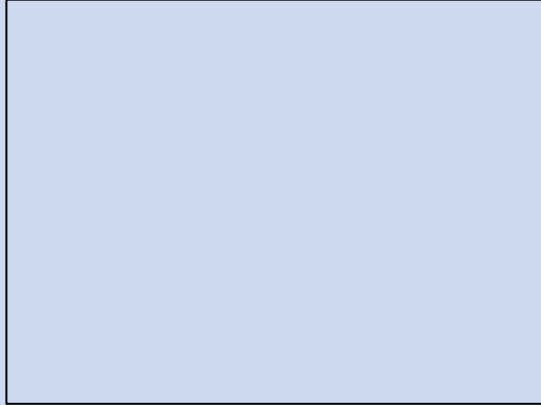

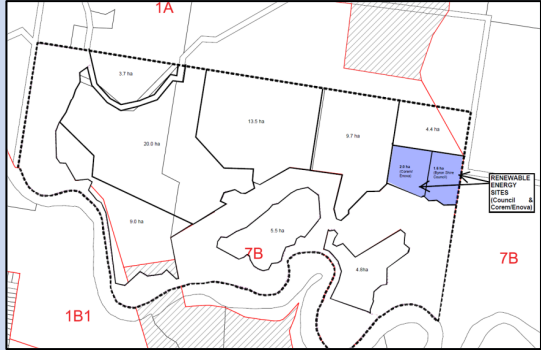
ACTION	KEY PROPOSALS	AREA (APPROX.)	ZONING	SUMMARY OF PERMISSIBLE USES
Biomass Project Areas 	<ul style="list-style-type: none"> Planting of biomass coppice crops for harvesting and use in generation of bioenergy and other valuable use, e.g. oil crops such as hemp. Use of recycled BVSTP effluent for irrigation. Land application of dewatered BVSTP biomass for fertiliser and soil amendment. 	23.8 ha	RU1 – Primary Production RU2 – Rural Landscape	<ul style="list-style-type: none"> Agriculture Extensive Agriculture Intensive Plant Agriculture Horticulture Intensive Livestock Agriculture Farm Building Rural Industry
BVSTP Project Areas 	<ul style="list-style-type: none"> Upgrades to BVSTP to accept Ocean Shores STP flows Effluent storage ponds to buffer flows in order to facilitate effluent reuse and further polishing. Constructed wetlands for effluent polishing. Recycled water generation for irrigation and other valuable uses. Biomass anaerobic digestion to generate biogas for electricity generation, heating and cooling. Digested biomass dewatering for reuse as fertilizer and soil amendment. 	14.1 ha	RU1 – Primary Production RU2 – Rural Landscape	<ul style="list-style-type: none"> Sewerage System Extensive Agriculture Rural Industry Intensive Plant Agriculture Horticulture Intensive Livestock Agriculture Farm Building Rural Industry
Solar Farm Project Areas 	<ul style="list-style-type: none"> Installation of solar photovoltaic arrays for: <ul style="list-style-type: none"> Byron Shire Council for use in the operation of the BVSTP Community (community-owned electricity retailer) Excess electricity to be net-metered and sold to generate a sustainable source of revenue. 	3.6 ha	RU1 – Primary Production RU2 – Rural Landscape	<ul style="list-style-type: none"> Electricity Engineering Solar Energy System Rural Industry



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1. INTRODUCTION

The purpose of this Operational Plan of Management is to provide a framework for the management and development of Community Land under Council's control. Council has responsibility for two main types of public land; Crown Land whose control is vested in Council under the Crown Lands Act 1989, and Council owned and managed Community Land or Operational Land dedicated under the Local Government Act 1993.

A Plan of Management provides Council with an appropriate framework for the future management of public land in accordance with all relevant legislation. The Plan is community driven and provides for the community's vision for the land, including permitted uses and establishes strategies and an action plan for the implementation of the desired outcomes.

The purpose of this Plan of Management is to provide a guide for the future use, development and management of the site. The land included in this Plan of Management is Community and Operational Land identified as Lot 1 on DP 952598 (125 Vallances Road, Mullumbimby) and Lot 1 on DP 129374. The sites are located in Mullumbimby, to north-east of the township and bordered by the Brunswick River to the south.

The land is locally known as Vallances Road and includes the Brunswick Valley Sewage Treatment Plant (STP). It is intended to develop the site as a whole for sustainable eco-pursuits, renewable energy technologies and innovative environmental processes.

1.1. Structure of this Plan of Management


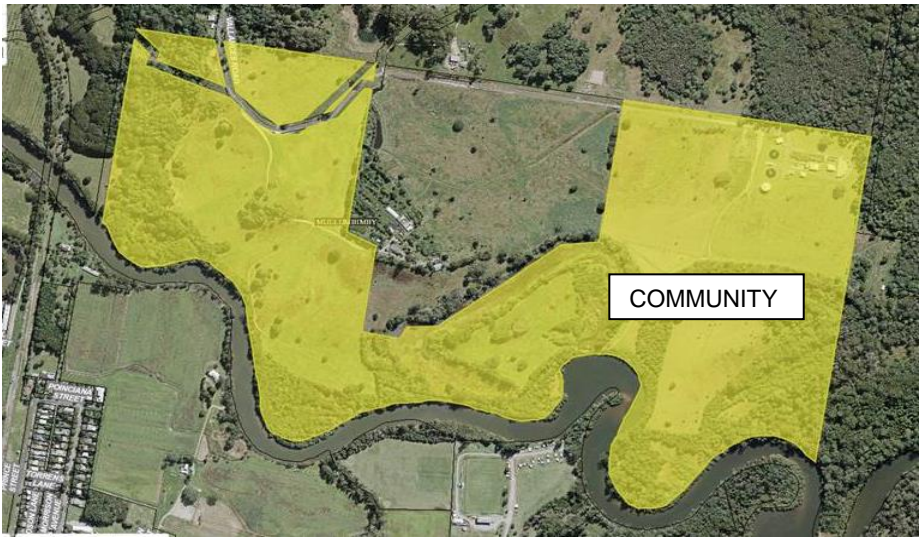
This Plan of Management is divided into the following sections:

1. **Introduction** – provides the purpose of the Plan and the details of the land applicable under this Plan of Management.
2. **Site Details** – Provides a description of the land, current uses and purposes, zoning, vegetation and locational context.
3. **Legislative Framework** – Outlines the statutory framework, the statutory categorisation and core objectives for the land.
4. **Strategic Framework** – this section outlines the strategic actions and policies shaping this Plan of Management.
5. **Future Use and Development of the Land** – provides the authorised (proposed and potential) developments on the land.
6. **Recommendations** – provides recommendations in order to facilitate future use and development of the land
7. **Summary** – provides a synopsis of the Plan of Management and intended outcomes.
8. **Appendices** – provide information applicable to this Plan of Management.

1.2. Land covered by this Plan

This Plan of Management applies to Operational Land identified as Lot 1 on DP 952598 (125 Vallances Road, Mullumbimby) and Community Land identified as Lot 1 on DP 129374 (Sewerage Works- Vallances Rd, Mullumbimby).

The property details are shown below and the complete Plan of Management Area shown overleaf (refer **Map 2**).

	Lot / DP	Physical Address	Area	Classification
1	1/DP952598	125 Vallances Road, Mullumbimby	25.4 ha (254,189.32m ²)	Operational
				Source: Byron Shire Council, 2017
2	1/DP129374	Sewerage Woks – Vallances Road, Mullumbimby	85.9ha (859,015.52m ²)	Community
				Source: Byron Shire Council, 2017

All public land must be classified by council as either “Community” or “Operational” land (as per Section 25 – 26 of the *Local Government Act 1993*). The main effect of classification is to restrict the alienation and use of the land.

Operational Land has no special restrictions other than those that may apply to any piece of land (i.e covenants on title, easements etc). Operational Land is public land that may be sold by Council.

Classification as Community Land reflects the importance of the land to the community because of its use or special features. Generally, it is land intended for public access and use, or where other restrictions applying to the land create some obligation to maintain public access (such as a trust deed, or dedication under section 94 of the *Environmental Planning and Assessment Act 1979*).

This gives rise to the restrictions in the Local Government Act and the requirement for a plan of Management, which are intended to preserve the qualities of the land. Community land:

- cannot be sold;
- cannot be leased, licenced or any other estate granted over the land for more than 21 years; and
- must have a plan of management prepared for it.

Public land is initially classified as either Operational or Community Land by one of the following means:

1. by resolution of Council, prior to or when the land is acquired; or
2. by a Local Environmental Plan prepared under the EP&A Act 1979; or
3. by operation of the Local Government Act –
 - a. applies to certain land controlled by council at 1 July 1993, or
 - b. where council has since acquired land and there is no resolution to classify the land;

The most common way in which to classify or re-classify land is by resolution of Council. Lot 1/DP952598 was reclassified via Amendment 1 to the Byron LEP 2014 on 16 October 2015, for the original intention of selling of this land. Refer to Schedule 4 of the *Byron Local Environmental Plan 2014*.

For the purposes of the Plan of Management, it is noted that as both parcels of land are generally intended for use by the public or by Council on behalf of the public, or by the public, there is no requirement for Council to reclassify the current Community Land to Operational unless the intent is to sell the entirety of the land or enter a lease longer than 21 years. Similarly, there is no requirement for Council to reclassify the existing Operational Land to Community Land, except for the purposes of continuity under this Plan of Management.

Should Council choose to reclassify either parcel, the procedures are set out within the *Local Government Act 1993* and clarified by Practice Note 1: Public land Management, issued by the Department of Local Government.

2. SITE DETAILS

2.1. Condition of the Land

The subject site is a large parcel of land formed by two lots (cumulatively 111.3 ha) owned by Byron Shire Council (BSC). The site is located within a rural area to the north of the Brunswick River, approximately 1km to the north-east of the Mullumbimby CBD.

The north-east portion of the site is currently used for a sewage treatment plant (STP), operated by BSC. The remainder of the site is largely vacant and used for agistment and livestock grazing. The site accommodates two dwellings (one circa 1980's, the other circa 1920's) with other structures and features associated with an old plant nursery, all towards the south eastern corner.

The site's natural features include about 2.4km of river frontage along the Brunswick River, two large oxbow lagoons (or billabongs) about 1 km in length each, and a small stream close to the south-western property boundary.

The landscape is made up of gently undulating slopes and estuarine flood plains. The vegetation is largely disturbed as a result of the historical use of the sites for agistment.



Figure 2 – Portion of Site as viewed from Vallances Road

2.2. Existing Zoning of the Land

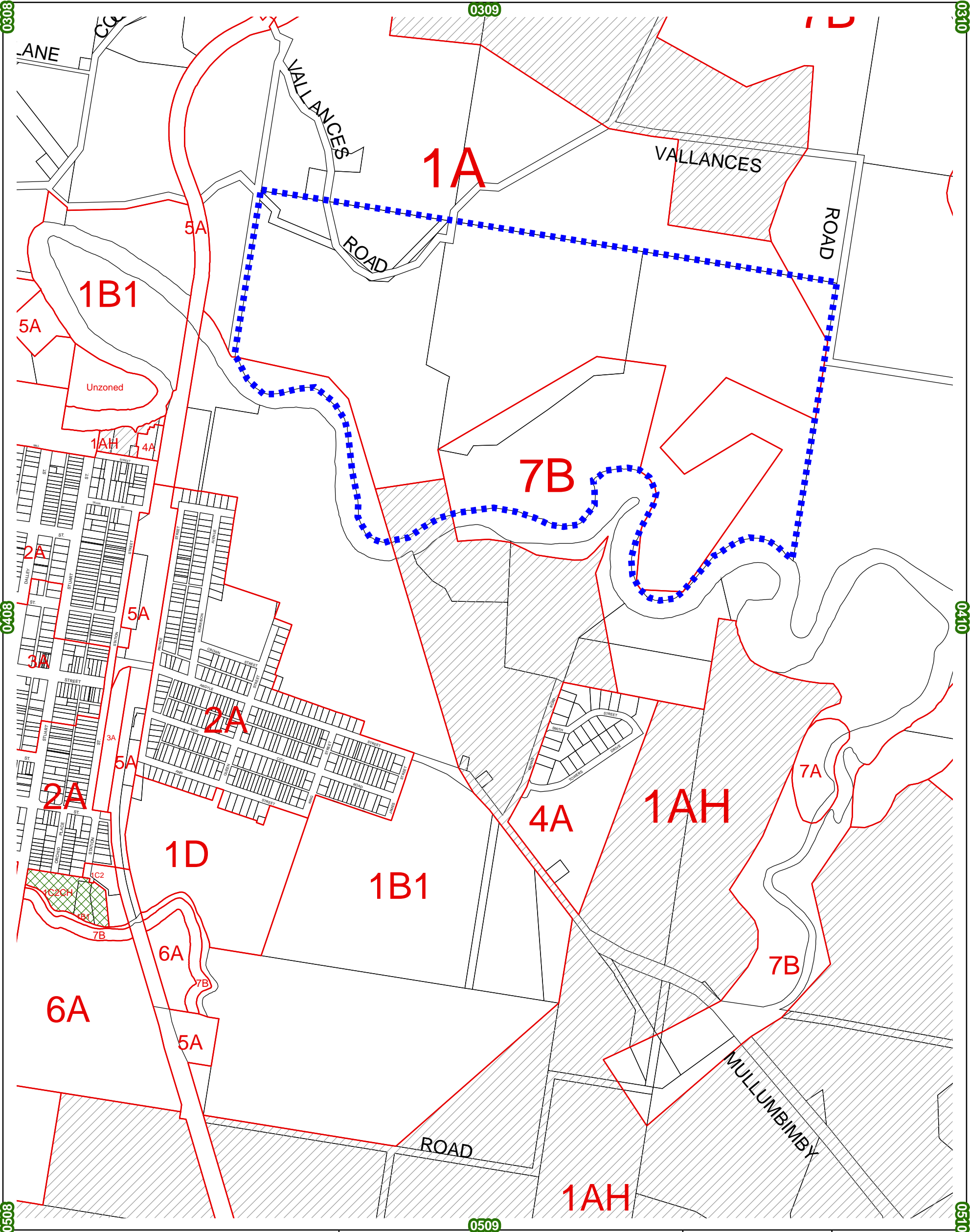
The land is currently zoned RU1 (Primary Production), RU2 (Rural Landscape) and DM (Deferred Matter) under the Byron Local Environmental Plan 2014. The DM-designated land is land that is primarily zoned 7(b) Coastal Habitat Zone under Byron Local Environmental Plan 1988 (LEP 88).

However; it is noted that there are a number of zoning inconsistencies, with several parts of the DM-designated land under LEP 2014 being zoned 1(a) General Rural zone, 1(a)(h) – General Rural (Hatched) and 1(b)(1) – Agricultural Protection under LEP 88. These areas of inconsistencies are subject to the provisions of LEP 88.

The details of the existing zoning of the sites is shown below, and identified in the maps overleaf (refer **Map 3** and **Map 4**).

Lot / DP	Physical Address	Zoning (LEP 88)	Zoning (LEP 2014)
1/DP952598	125 Vallances Road, Mullumbimby	1(a) – General Rural 7(b) – Coastal Habitat Zone	RU1 – Primary Production RU2 – Rural Landscape DM – Deferred Matter
1/DP129374	Sewerage Works – Vallances Road, Mullumbimby	1(a) – General Rural 1(a)(h) – General Rural (Hatched) – subject to Clause 38A 1(b)(1) – Agricultural Protection 7(b) – Coastal Habitat Zone (Part Lot)	RU1 – Primary Production RU2 – Rural Landscape DM – Deferred Matter

The primary development of the eco-pursuits on this land are focused on those areas of land Zoned RU1 (Primary Production) or RU2 (Rural Landscape) under LEP 2014 (refer **Map 5**). All areas of Deferred Matter and subject to LEP 88 have been retained as a wildlife corridor for environmental and conservation purposes.



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Disclaimer : While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no warranty is given that the information contained on this map is free from error or omission. Any reliance placed on such information shall be at the sole risk of the user. Please verify the accuracy of all information prior to using it.
Note : The information shown on this map is a copyright of the Byron Shire Council and the (c) Land Information Centre (1991).

Warning : Amendments to the Byron Local Environmental Plan maps can occur on a regular basis and all users should ensure that their copy is current.
The information contained in these maps should be verified by reference to the original maps (including amendments) held by Byron Shire Council.

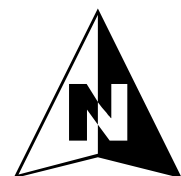
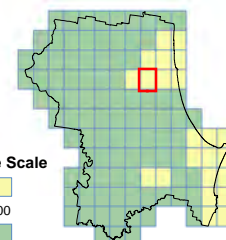
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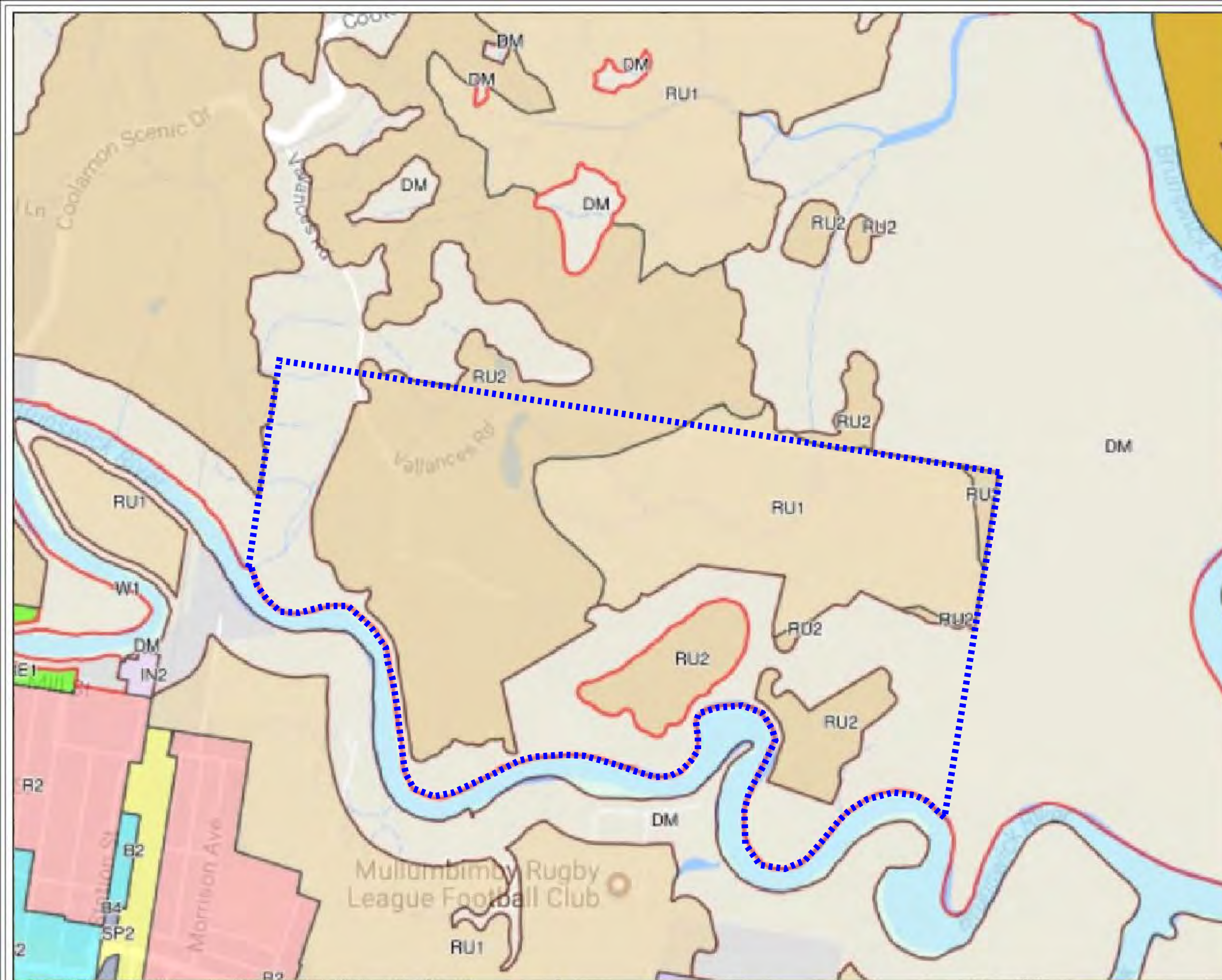
Byron Local Environmental Plan 1988 (as amended)

Tile Scale

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Last Updated.....
Nov 27, 2013





VALLANCES ROAD, MULLUMBIMBY

LEP 88 - LEP 2014 DEFERRED MATTER ZONE

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Below is a summary of the zone objectives and the permissible uses (with /without consent) in each zone. The land uses relevant to the ecological and sustainable development intent of the site have been highlighted in bold where relevant. These uses are discussed further in Section 5.

2.2.1 RU1 – Primary Production

The relevant LEP 2014 objectives for the RU1 – Primary Production zone are:

- *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To encourage diversity in primary industry enterprises and systems appropriate for the area.*
- *To minimise the fragmentation and alienation of resource lands.*
- *To minimise conflict between land uses within this zone and land uses within adjoining zones.*
- *To encourage consolidation of lots for the purposes of primary industry production.*
- *To enable the provision of tourist accommodation, facilities and other small-scale rural tourism uses associated with primary production and environmental conservation consistent with the rural character of the locality.*
- *To protect significant scenic landscapes and to minimise impacts on the scenic quality of the locality.*

Works on this portion of land which would be permissible without development consent include:

- ***Environmental protection works; Extensive agriculture; Home-based child care; Home occupations***

The following land uses, activities and development on this portion of land would be permissible, subject to development consent:

- *Airstrips; Animal boarding or training establishments; Business identification signs; **Camping grounds; Community facilities**; Dual occupancies; Dwelling houses; **Environmental facilities**; Extractive industries; **Farm buildings; Flood mitigation works**; Forestry; Helipads; Home businesses; Home industries; Industrial retail outlets; Industrial training facilities; **Intensive livestock agriculture; Intensive plant agriculture**; Landscaping material supplies; Open cut mining; Places of public worship; Plant nurseries; **Recreation areas; Restaurants or cafes**; Roads; Roadside stalls; **Rural industries**; Rural supplies; Rural workers' dwellings; Secondary dwellings; **Tourist and visitor accommodation**; Veterinary hospitals*

2.2.2 RU2 – Rural Landscape

The relevant LEP 2014 objectives for the RU2 – Rural Landscape zone are:

- *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To maintain the rural landscape character of the land.*
- *To provide for a range of compatible land uses, including extensive agriculture.*
- *To enable the provision of tourist accommodation, facilities and other small-scale rural tourism uses associated with primary production and environmental conservation consistent with the rural character of the locality.*
- *To protect significant scenic landscapes and to minimise impacts on the scenic quality of the locality*

Works on this portion of land which would be permissible without development consent include:

- ***Environmental protection works; Extensive agriculture; Home-based child care; Home occupations***

The following land uses, activities and development on this portion of land would be permissible, subject to development consent:

- **Agricultural produce industries; Agriculture;** Airstrips; Animal boarding or training establishments; Business identification signs; **Camping grounds;** Cemeteries; Child care centres; **Community facilities;** Crematoria; Depots; Dual occupancies; Dwelling houses; **Eco-tourist facilities; Environmental facilities;** Extractive industries; **Farm buildings; Flood mitigation works;** Forestry; Funeral homes; Garden centres; Health consulting rooms; Helipads; Home businesses; Home industries; Hostels; Industrial retail outlets; Industrial training facilities; **Information and education facilities;** Landscaping material supplies; Livestock processing industries; Neighbourhood shops; Places of public worship; Plant nurseries; **Recreation areas;** Recreation facilities (indoor); Recreation facilities (outdoor); Respite day care centres; **Restaurants or cafes;** Roads; Roadside stalls; Rural supplies; Rural workers' dwellings; Secondary dwellings; Stock and sale yards; Storage premises; **Tourist and visitor accommodation;** Transport depots; Truck depots; Veterinary hospitals; Warehouse or distribution centres.

2.2.3 DM - Deferred Matter

The DM - Deferred Matter designation under LEP 2014 consists of the following zonings under LEP 88:

- 1(a) – General Rural;

- 1(a)(h) – General Rural (Hatched);
- 1(b)(1) – Agricultural Protection; and
- 7(b) – Coastal Habitat Zone.

Although each of these areas has specific objectives and land use permissibility under LEP 88 these are not addressed in this plan of management as all works proposed are to take place outside of the DM area.

Any future works on this land will be required to be in accordance with the relevant provisions of LEP 88.

2.3. Existing Uses and Facilities

The primary use of the site is the Brunswick Valley Sewage Treatment Plant (STP), constructed and operated under the Brunswick Valley Sewage Augmentation scheme. The STP requires a 500m radius buffer around the sewerage infrastructure, which extends outside the subject sites' boundaries (refer **Map 6**).

The Brunswick Valley STP has been operating since 2010. The STP was constructed to facilitate better wastewater management practices in the Mullumbimby and Brunswick Heads areas, and improved water quality in the Brunswick River estuary.

The STP facilities include the operation of a physical, chemical and biological treatment plant and off-site recycled water irrigation storage. Treated effluent is available to the Main Arm Irrigation Scheme which currently irrigates treated effluent onto dairy pasture. Biosolids recycling is also available to local farms for use as a soil conditioner.

The remainder of the site is largely vacant and used for agistment and livestock grazing. The site accommodates two dwellings (one circa 1980's, the other circa 1920's) with other structures and features associated with an old plant nursery, all towards the south eastern corner.

A table of existing uses is provided below:

Lot / DP	Physical Address	Existing Uses
1/DP952598	125 Vallances Road, Mullumbimby	<ul style="list-style-type: none"> • Extensive Agriculture (Agistment/Grazing) • Dwelling (x 2) • Farm Building
1/DP129374	Sewerage Woks – Vallances Road, Mullumbimby	<ul style="list-style-type: none"> • Sewerage System • Extensive Agriculture (Agistment/Grazing) • Environmental protection Works



Figure 5 - Historical Grazing Areas

Source: Byron Shire Council



Figure 6 – Existing Sewage Treatment Plant

Source: SIXmaps, 2017

2.4. Existing Vegetation

With approximately 2.5km of frontage to the Brunswick River and associated riparian riverbank vegetation, the site is a significant ecological zone and provides an important fish habitat leading into the Cape Byron Marine Reserve.

About 80% of the site consists of cleared land that supports exotic pasture and has been used for cattle grazing since the 1940s. The remaining 20% consists of heavily vegetated areas of mangrove forest and woodland, saltmarsh, swamp sclerophyll forest and woodland, wet sclerophyll forest, rainforest (some dominated by Camphor Laurel), and Brushbox forest (refer **Map 7**).

Endangered Ecological Communities represented on the site include Coastal Saltmarsh, Swamp Oak Floodplain Forest, Swamp Sclerophyll Forest on Coastal Floodplains, Subtropical Coastal Floodplain Forest, Lowland Rainforest on Floodplain and Freshwater Wetlands. These areas are designated as High Value Conservation Vegetation and form part of the wildlife corridor through the site (refer **Map 8**).

Eight threatened flora species have been recorded: Hairy Joint Grass (*Arthraxon hispidus* – V), Marblewood (*Acacia bakeri*-V), White Lace Flower (*Archidendron hendersonii* – V), Giant Ironwood (*Choicarpa subargentea* – E), Davidson's Plum (*Davidsonia jersyana* - E), Rough Shelled Queensland Nut (*Macadamia tetraphylla* – V) and Spiny Gardenia (*Randia moorei* – E).

Three threatened fauna species have been recorded in native vegetation at the site. The Koala (*Phascolarctos cinereus* - V), the Bush Hen (*Amauornis olivaceus* - V), and the Rose-Crowned Fruit Dove (*Ptilinopus regina* –V).

Native vegetation on the site is severely fragmented and occurs in narrow corridors along riparian zones. The site has historically suffered from edge effects and was moderately to severely infested with over 40 species of environmental weeds. However; the subject site has undergone extensive regeneration and revegetation projects between 2006 and 2009 (*Bush Generation Outcomes for Vallances Road 2007-2009*, Byron Shire Council 2009).

Revegetated areas focused on the Camphor Laurel Forest; Swamp Sclerophyll Forest and Woodland; Swamp Sclerophyll Forest; Grey Mangrove/River Mangrove Forest and Woodland; Salt marsh, with the removal of Weeds including Camphor Laurel, Groundsel, Grasses, Coastal Morning Glory, Winter Senna, and Lantana.

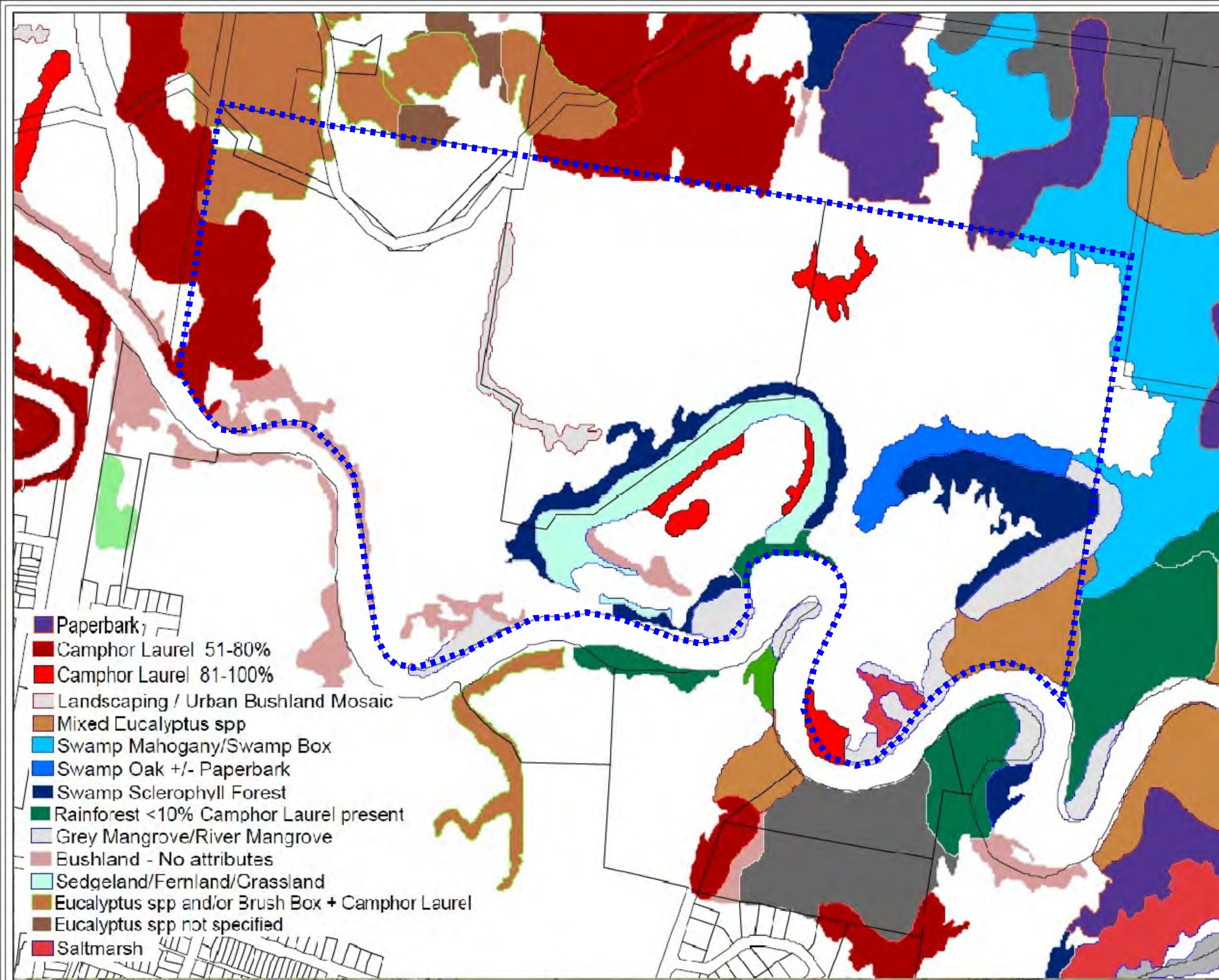




Figure 10 – River Mangroves/ Brunswick River



Figure 11- Heavily Modified Agistment Areas



Figure 12 –Swamp Mahogany/Swamp Box



Figure 13 – Camphor Laurel

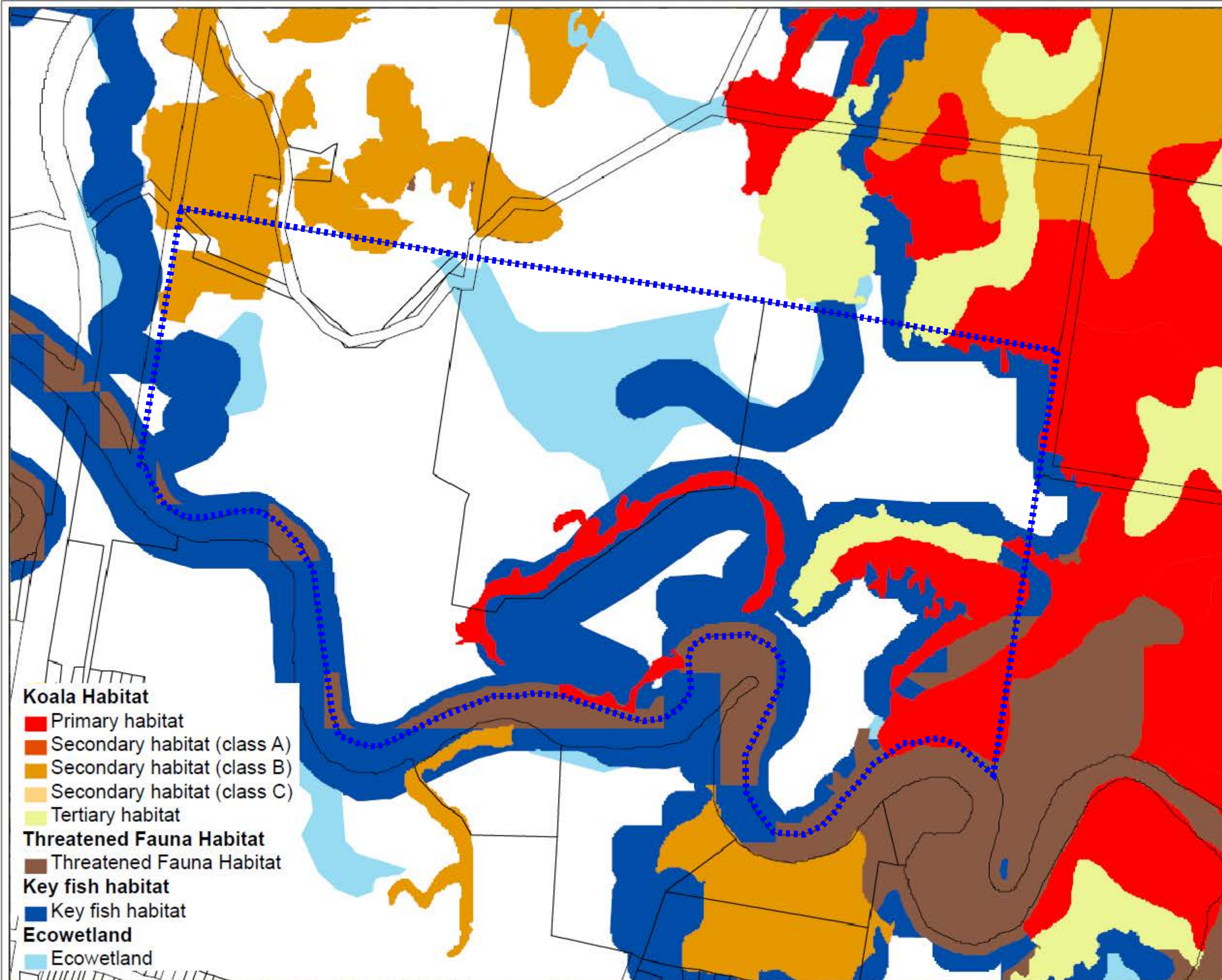
2.5. Existing Fauna

The subject site plays an important ecological role in the Brunswick Valley, forming part of an important wildlife corridor that connected the coastal floodplains with the sub-coastal hinterland.

Fauna Surveys conducted in 2009 revealed the site had at least 133 terrestrial invertebrate species inhabiting the site. This included 104 bird species (two threatened), 13 mammal species (three threatened), nine frog species and seven reptile species (refer **Map 9**).

There is evidence that the rehabilitation of native vegetation has improved the habitat for threatened fauna species previously recorded at Vallances Road. While bush regeneration works were underway at the site, Bush Hens and Rose-Crowned Fruit Doves have been heard calling in the surrounding vegetation.

Prior to bush regeneration activities commencing, repeated and targeted searches failed to locate any Koalas in the vegetation of the eastern oxbow. In 2009, Koalas have been sighted on two separate occasions feeding and resting in Tallowwoods in the eastern oxbow. The removal of Lantana from the understory may have facilitated the return of koalas to this forested area (*Bush Regeneration Outcomes for Vallances Road 2007-2009, Byron Shire Council*).



3. LEGISLATIVE FRAMEWORK

Under the legislative requirements of the Local Government Act 1993, Council is required to prepare and adopt Plans of Management for all public land. A Plan of Management is not statutorily required for land classified as Operational land, however for the purpose of continuity across the site and future land uses, a single Plan of Management has been prepared across both the Community and Operational Land.

The minimum requirements under the Act state that a Plan of Management must:

- Categorise the land in accordance with Clause 36(4) and (5);
- Contain objectives for the management of the land;
- Contain performance targets;
- Specify the means of achieving the objectives and performance targets; and
- Specify how achievement of the objectives and performance targets is to be assessed (s.36 (3)).

It is important to note that Plans of Management cannot override legislation. Council must comply with all relevant laws that apply to the use of the land, in addition to the Plan of Management. This includes other parts of the Local Government Act 1993, the Environmental Planning and Assessment Act and planning instruments such as Local Environmental Plans (LEP).

In relation to the Byron Local Environmental Plan 1988 (LEP 88) and the Byron Local Environmental Plan 2014 (LEP 2014), the Plan of Management must be consistent with the permissible uses for the land detailed in the LEP.

3.1. Objectives

This section of the Plan of Management addresses the following objectives:

- To identify land categories;
- To establish core objectives for each of the community land categories;
- To develop a list of practical steps that will be taken to achieve the objectives;
- To develop a list of practical measures of assessment to measure the success of the strategies

3.2. Land Affected by Threatened Species

The Local Government Act was amended in 1999 to integrate the management of Community Land with threatened species laws. Council therefore must comply with the full range of threatened species laws.

Reference to the Byron Biodiversity Conservation Strategy for Lot 1 DP 952598 and Lot 1 DP 129374 indicates some vegetation with significant floristic value and includes areas of land deemed to be of a High Conservation Value. As such, it is recommended that further

environmental surveys be undertaken to assess whether a threatened community or threatened plant species occur on site, as listed under the schedules of the Threatened Species Conservation (TSC) Act 1995.

The site contains the following fauna and fauna significance:

- High Conservation Value Vegetation;
- Wildlife Corridors;
- Primary Kola Habitat;
- Threatened Fauna Habitat;
- Key Fish Habitat; and
- Ecowetland.

The land subject to these significant habitats has been classified accordingly, in accordance with the classification below.

3.3. The Categorisation of Community Land

Section 36 of the Local Government Act 1993, states that Council must categorise community land as one or more of the following:

- *Natural area, further categorised as (bushland, wetland, escarpment, watercourse, foreshore, a category prescribed by the regulations)*
- *Sportsground;*
- *Park;*
- *Area of cultural significance; or*
- *General community use*

This Plan of Management categorises the land subject to this Plan into the following:

Categorisation	Indicative Land uses	Mapped	Area (Approx.)
Natural Area (Wetland)	Environmental Land Uses including rehabilitation and wildlife corridors	Green	45ha
Park	Community Gardens, Education & Interpretive Centre, future Affordable Housing.	Yellow	20ha
General Community Use	Eco-Pursuits and sustainable technologies such as the Brunswick Valley Sewage Treatment Plant, Biomass Coppice Crops, Land application of Digested Bio-solids; Recycled Water irrigation; STP Effluent Storage and Wetlands Polishing; Solar PV Farm; and Biomass Digestion & Cogen	Blue	46.3ha

Refer to the Concept Land Use Plan (**Map 10**) below.



VALLANCES ROAD, MULLUMBIMBY

LAND CATEGORIES

GOV MAPS

NTS

ZP

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3.4. Guidelines for Categorisation

The Local Government Regulations (General) provides guidelines for each of the above categories. Under the Local Government Regulations 2005, these categories are defined as follows:

3.4.1 Natural Area

Natural Area: *Land should be categorised as a natural area under section 36 (4) of the Act if the land, whether or not in an undisturbed state, possesses a significant geological feature, geomorphological feature, landform, representative system or other natural feature or attribute that would be sufficient to further categorise the land as bushland, wetland, escarpment, watercourse or foreshore under section 36 (5) of the Act.*

Note.

Section 36A of the Act provides that community land that has been declared a critical habitat under the Threatened Species Conservation Act 1995 or the Fisheries Management Act 1994 must be categorised as a natural area.

Section 36B of the Act provides that community land all or part of which is directly affected by a recovery plan or threat abatement plan under the Threatened Species Conservation Act 1995 or the Fisheries Management Act 1994 must be categorised as a natural area.

Section 36C of the Act provides that community land that is the site of a known natural, geological, geomorphological, scenic or other feature that is considered by the council to warrant protection or special management considerations, or that is the site of a wildlife corridor, must be categorised as a natural area.
(Underlined for emphasis)

Natural Area (Wetland): *Land that is categorised as a natural area should be further categorised as wetland under section 36 (5) of the Act if the land includes marshes, mangroves, backwaters, billabongs, swamps, sedgelands, wet meadows or wet heathlands that form a waterbody that is inundated cyclically, intermittently or permanently with fresh, brackish or salt water, whether slow moving or stationary.*

3.4.2 Park

Park: *Land should be categorised as a park under section 36 (4) of the Act if the land is, or is proposed to be, improved by landscaping, gardens or the provision of non-sporting equipment and facilities, for use mainly for passive or active recreational, social, educational and cultural pursuits that do not unduly intrude on the peaceful enjoyment of the land by others.*

3.4.3 General Community Use

General Community Use: *Land should be categorised as general community use under section 36 (4) of the Act if the land:*

- (a) *may be made available for use for any purpose for which community land may be used, whether by the public at large or by specific sections of the public, and*
- (b) *is not required to be categorised as a natural area under section 36A, 36B or 36C of the Act and does not satisfy the guidelines under clauses 102–105 for categorisation as a natural area, a sportsground, a park or an area of cultural significance.* (Underlined for emphasis).

3.5. Core Objectives for Community Land

The core objectives for community land categories outlined in the Local Government Act 1993 assist in determining the way that the land may be used and managed. While it is noted that the subject site contains both operational and community land, categories have been applied to the site as a whole, to allow for future reclassifications to Operational or Community as required.

The following objectives are applicable to the land categories:

Section 36K of the Act states that the core objectives for management of community land categorised as a natural area and further categorised as a **Wetland** are:

- (a) *to protect the biodiversity and ecological values of wetlands, with particular reference to their hydrological environment (including water quality and water flow), and to the flora, fauna and habitat values of the wetlands, and*
- (b) *to restore and regenerate degraded wetlands, and*
- (c) *to facilitate community education in relation to wetlands, and the community use of wetlands, without compromising the ecological values of wetlands.*

Section 36G of the Act states that the core objectives for community land categorized as a **Park** are:

- (a) *to encourage, promote and facilitate recreational, cultural, social and educational pastimes and activities, and*
- (b) *to provide for passive recreational activities or pastimes and for the casual playing of games, and*
- (c) *to improve the land in such a way as to promote and facilitate its use to achieve the other core objectives for its management.*

Section 36I of the Act states that the core objectives for management of community land categorised as a **General Community Use** are:

- To promote, encourage and provide for the use of the land, and to provide facilities on the land, to meet the current and future needs of the local community and of the wider public:*
- (a) *in relation to public recreation and the physical, cultural, social and intellectual welfare or development of individual members of the public, and*

- (b) in relation to purposes for which a lease, licence or other estate may be granted in respect of the land (other than the provision of public utilities and works associated with or ancillary to public utilities).*

3.6. Granting a lease or licence on Community Land

A lease, licence or other estate may be granted, in accordance with an express authorisation by this plan of management, providing the lease, licence or other estate is for a purpose prescribed in Section 46 of the Local Government Act 1993. The purpose must be consistent with core objectives for the category of the community land.

The Local Government Act 1993 allows Council to grant leases or licences over all or part of community land. The use of land under a lease or licence must be compatible with the Local Environmental Plan or Council requirements and provide benefits and services or facilities for the users of the land. Terms and conditions of a lease should reflect the interests of Council and the public and ensure proper management and maintenance.

The following conditions must be met when granting a lease or licence over community land:

- (a) The lease, licence or other estate must not be granted for a period (including any period for which the lease could be renewed by the exercise of an option) exceeding 21 years;
- (b) A lease, licence or other estate may be granted only by tender in accordance with s.46A of the Local Government Act 1993 (as amended) and cannot exceed a term of 5 years (including any period for which the lease could be renewed by the exercise of an option), unless it satisfies the requirements as scheduled in s.47, or is otherwise granted to a non – profit organisation.
- (c) The Plan of Management must expressly authorise a lease or licence.

Council must:

- Give public notice of the proposal;
- Exhibit notice of the proposal on the land to which the proposal relates;
- Give notice of the proposal to such persons who appear to own or occupy land adjoining community land; and
- Give notice of the proposal to any other person (owner or occupier of land in the vicinity of the community land), if in the opinion of the Council the subject to the proposal is likely to form the primary focus of the person's enjoyment of community land.

4. STRATEGIC FRAMEWORK

4.1. STRATEGIC OBJECTIVES

The objective of this Plan of Management is to provide for a range of community and sustainable land use initiatives that meet Council's sustainability strategies and environmental intents in the following general areas:

- Environmental Initiatives
- Community & Housing Initiatives
- Sewerage Treatment Plant Initiatives
- Biomass Initiatives
- Solar Initiatives

Byron Shire Council's applicable sustainability and environmental policies are summarized below.

4.2. Biodiversity Conservation Strategy

The Byron Biodiversity Conservation Strategy (BCS) is a long term, on-going project that is intended to provide a range of biodiversity conservation directions, on-ground actions and funding options that will work toward improving biodiversity management and practices across the Shire.

The Byron Biodiversity Conservation Strategy aims to:

- Protect, restore and maintain ecosystems and ecological processes through the delivery of on-ground works and planning controls;

The Vallances Road site can deliver on the aims and objectives of the Strategy through:

- Improvement of the condition of ecosystems and increase the extent of native vegetation cover through targeted ecological restoration works;
- Rehabilitate riparian zone along the Brunswick River;
- Establish environmental corridor through the site; and
- Community education and engagement opportunities.

Refer to the Key Project Areas in **Section 5** and **Appendix 1** for further details.

4.3. Sustainable Agriculture Strategy

- A range of agricultural opportunities are able to be conducted.
- The intensity, scale and mix of these land uses will be driven by the community and provides the opportunity to deliver a Food Empowerment Project (FEP).

- By integrating and valuing by-products from the STP such as heat and biosolids, a closed loop system can be developed.
- Through this closed loop system recovery, re-use or recycling, this project can reduce emissions, waste and raw materials requirements.

Refer to the Key Project Areas in **Section 5** and **Appendix 1** for further details.

4.4. Low Carbon Strategy 2014

- Minimum 30% reduction in greenhouse gas emissions below 2003/04 levels by 2020.
- As part of achieving this target Council is investigating all potentials to utilise sources of organic waste materials, termed “biomass”, produced in the Shire. Biomass is organic matter, typically from commercial or farming activities, which could be put to its highest available reuse value as feedstock to a bioenergy plant.
- Municipal STPs produce biosolids as a waste, which is a source of biomass that can be anaerobically digested to produce biogas that, in turn, has high energy value.
- A review of the relevant scheme and legislative controls does enable the use of the site for a bioenergy facility

Refer to the Key Project Areas in **Section 5** and **Appendix 1** for further details.

4.5. Climate Change Strategic Planning Policy

The Climate Change Strategic Planning Policy provides climate change flood planning scenarios for the years 2050 and 2100. The 2050 flood planning scenario is to be used for any Council strategic, infrastructure and operational planning document or designs that may be affected by climate change. The 2050 flood planning scenario will apply to most development for land use planning

The Vallances Road site is affected by flooding and consistent with this policy land uses decisions are informed by flooding and ecosystem buffering. The Conceptual land use plan identifies an environmental zone which seeks to protect/restore the riparian zone of the Brunswick River.

This area also incorporates land which is flood affected. The passive land use area also contains land which is flood affected but removed from desired ecological corridor.

Changes to landform may extend the range of uses permitted.

Refer to the Key Project Areas in **Section 5** and **Appendix 1** for further details.

4.6. Community Gardens Policy

Council recognises community gardens as social assets that enhance local food security and provide opportunities for recreational, cultural, economic, health and educational pursuits.

The Vallances Road site is able to fulfil a number of the objectives of this policy through:

- Provision of new community gardens on Council owned and managed land.
- Promote knowledge and access in relation to nutritious, organic and locally produced foods to enhance regional food security within the context of climate change and peak oil
- Provide opportunities for outdoor learning that support Council's sustainability education Initiatives
- Position Byron Shire Council as a leader in advancing sustainability within the community
- Community gardens may be able to be established in the passive or active land use area of the site.

Refer to the Key Project Areas in **Section 5** and **Appendix 1** for further details.

4.7. Corporate Sustainability Policy

The policy objectives include:

- Continually improve the sustainability performance of Council.
- Support the efforts of the wider Byron Shire community in the transition to a low carbon community
- Acknowledge the inter-relationships between social, economic and environmental considerations in all decision-making.
- Support efforts to reduce Council's ecological footprint, including corporate energy consumption, potable water consumption, greenhouse emissions and waste generation across all programs, assets and services.

Vallances Road provides the opportunity to integrate a range of complementary and interrelated land uses and management actions that can achieve the sustainability objectives.

Refer to the Key Project Areas in **Section 5** and **Appendix 1** for further details.

5. FUTURE USE AND DEVELOPMENT OF THE LAND

In accordance with the Section 36 (3A)(b) of the Local Government Act 1993, a Plan of Management must expressly authorise any proposed or potential developments on community land. The following authorisation is provided in general terms only, and any specific works will require some level of further detail and investigation.

The following table details the developments that this Plan of Management expressly authorised for Vallances Road, Mullumbimby. The definitions of these uses are as per the Byron Local Environmental Plan 2014, except where otherwise noted.

Note:

LEGEND	
O	Permitted Without Consent [Assessment under Part 5 of the EP&A Act (Review of Environmental Factors) still required]
C	Permitted With Consent [Assessment under Part 4 of the EP&A Act (Development Consent) required]
X	Prohibited

1. ENVIRONMENTAL LAND USE PROJECT AREA

Action	Environmental Land Use & Wildlife Corridor
Land Classification	Natural Area (Wetland)
Area	49.8 ha total
Detailed Description	<ul style="list-style-type: none"> • Revegetation / Rehabilitation: Revegetation of wetland areas disturbed by historical grazing; removal of weed species; replanting of wildlife corridors with native species. This will include ongoing follow-up maintenance of already worked areas and expansion into new areas as time and resources permit. • Bank Stabilisation: Brunswick River bank stabilisation works to occur in specific locations, and sediment and erosion control measures implemented. Use of log treatment method, whereby large logs are driven vertically into the river bed at approximately 2-4 metre spacing at various angles to the river bank. By angling the poles, the waters energy is dissipated, slowing the flow thereby reducing the impact on the river bank. In addition, debris

	<p>is slowed and settles behind the logs providing valuable real estate for trees and mangroves to gain a foothold and stabilise the river bank.</p> <ul style="list-style-type: none">● Boardwalks & Walkways: A series of connected walkways winding around the wetlands and raised boardwalks through the billabongs as not to impact on the billabong sensitive habitat, is envisaged for this site. These walkways and raised boardwalks would ultimately enhance the access and enjoyment for people with disabilities, older people, their families and carers.					
Zoning (LEP 2014)	<ul style="list-style-type: none">● RU2● DM - Deferred Matter* <p>*Deferred Matter under LEP 2014 relates to land zoned 1(a) General Rural; 1(a)(h) General Rural (Hatched); 1(b)(1) Agricultural; and 7(b) Coastal Habitat under LEP 88.</p>					
Authorised Scale of Development	<p>Development and/or works permitted on the land include, but are not limited to:</p> <ul style="list-style-type: none">● Environmental Facility (1)● Environmental Protection Works (2)● Information and Education Facility (3)● Recreation Area (4)● Flood Mitigation Works (5)					
Existing Permissibility		(1)	(2)	(3)	(4)	(5)
	RU2	C	O	C	C	C
	DM	Subject to provisions of LEP 88				
Possible exemptions under SEPP Infrastructure?	<p>Possible SEPP exemptions for Environmental Protection Works (2) and Flood Mitigation Works (5). Further planning investigations to be undertaken</p>					

2. COMMUNITY & HOUSING PROJECT AREA

Action	Affordable Housing, Community Gardens, and Education & Interpretive Centre
Land Classification	Park

Area	20.0 ha total										
Detailed Description	<ul style="list-style-type: none">• Affordable / Community Housing: It is intended to work towards innovative sustainable community housing provision, there may be the potential, subject to re-zoning, to create affordable housing on the land.• Use of Existing Rail Corridor: It is intended to utilise the existing rail corridor, bridge and Council road right-of-way to allow for pedestrian access to the site. The innovative use of these existing corridors will allow ease of access to the community land from Mullumbimby Town Centre. This will result in a low-footprint development, with an emphasis on foot traffic, bicycle, and/or e-vehicles.• Education and Interpretation Centre: There is the potential to create a leading-edge educational facility to highlights innovations found in the nexus between sewage treatment innovations, bioenergy and biomass management, native plant replanting, and many other aspects of sustainable land management.• Community Gardens: Provision of community gardens that serve the local community. The gardens could be used as educational and information centres promoting sustainable living initiatives, job-creation, and to increase the provision of fresh and affordable produce to the local community. This facility could host school groups, drop-ins from the general public, residential caretakers, and on-site experts-in-residence programmes.										
Zoning (LEP 2014)	<ul style="list-style-type: none">• RU1• RU2										
Authorised Scale of Development	Development and/or works permitted on the land include, but are not limited to: <ul style="list-style-type: none">• Community Facility (1)• Community Garden (2) (defined under Community Gardens Policy)• Restaurant or Café (3)• Environmental Facility (4)• Information and Education Facility (5)• Recreation Area (6)• Camping Ground (7)• Eco Tourist Facilities (8)• Tourist and Visitor Accommodation (ONLY Bed & Breakfast and Farm Stay Accommodation) (9)• Affordable / Community Housing (10)										
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

Existing Permissibility	RU1	C	N/A	C	C	X	C	C	X	C	X
	RU2	C	N/A	C	C	C	C	C	C	C	X
Possible exemptions under SEPP Infrastructure?	No exemptions permissible.										

3. BVSTP PROJECTS AREA

Action	Brunswick Valley Sewage Treatment Plant and associated by product technologies										
Land Classification	General Community Use										
Area	14.1 ha total										
Detailed Description	<ul style="list-style-type: none"> • Upgrades to BVSTP: Upgrades to the BVSTP to include capacity from the Ocean Shores STP. • Effluent storage ponds & Wetlands Effluent polishing: wetlands and an effluent storage pond will create a community resource that not only further “polishes” already high quality treated effluent but also achieves an innovative and integrated range of environmental and social objectives. These objectives included: <ul style="list-style-type: none"> • Maximise the resource value of recycled water. • Further polish and limit the nutrient input to the sensitive waters of the Brunswick River. • Create a natural and effective assimilation pathway to return surplus flows to the water cycle. • Restore an area of pre-disturbance vegetation and habitat. • Integrate operational objectives with broad regional environmental objectives including the creation of an extended and extensive wildlife corridor. • Preserve, protect and encourage threatened species and associated habitat areas. • Buffer and protect billabong and wetland areas. • Achieve sustainable constructed wetlands that are reliable and flexible. 										

	<ul style="list-style-type: none"> • Incorporate innovative water management approaches and technology. • Deliver an asset that the Byron Shire community is proud of and recognised as a model for environmental protection and sustainable water management. • Recycled water: Innovative recycling of tertiary-treated STP effluent as irrigation water for use on coppice crops on the site, as well as for re-establishment and expansion of native plants. This recycled water also has nutrient value to the crops, providing nitrogen and phosphorous, which are required for plant growth. • Biomass Anaerobic Digestion: Advanced sustainable bioenergy technologies exist which can produce electricity, heating, cooling, biofuels, and other valuable by-products for reclamation and reuse. These technologies divert wastes from landfill, displace the use of fossil fuels. It is intended to use Biomass Anaerobic digestion for biogas generation. • Dewatered biomass: Biosolids represent a sustainable supply of high-value soil amendment and fertilizer for coppice crops and native plants. Utilising this STP by-product results in the diversion of what would otherwise be a waste stream, and savings of the disposals costs. 						
Zoning (LEP 2014)	<ul style="list-style-type: none"> • RU1 • RU2 						
Authorised Scale of Development	<p>Development and/or works permitted on the land include, but are not limited to:</p> <ul style="list-style-type: none"> • Sewerage System (1) • Extensive Agriculture (2) • Rural Industry (3) • Environmental Protection Works (4) • Intensive Plant Agriculture (5) • Horticulture (6) 						
Existing Permissibility		(1)	(2)	(3)	(4)	(5)	(6)
	RU1	See below	O	C	O	C	C
	RU2	See below	O	X	O	C	C
Possible exemptions under SEPP Infrastructure?	SEPP exemptions for Sewerage System (1) .						

4. BIOMASS PROJECTS AREA

Action	Biomass Coppice Crops and associated bio-projects							
Land Classification	General Community Use							
Area	23.8 ha total							
Detailed Description	<ul style="list-style-type: none"> • Biomass Coppice Crops: Planting of coppice crops for harvesting and use in generation of bioenergy and other sustainable uses/products to occur across the project area. This may include other valuable uses, such as the growth of oil crops like hemp. This will be the primary source of bioenergy across the site, and will utilize recycled water for irrigation. Byron Council is currently conducting a Bioenergy feasibility study that will determine what coppice crops and biomass will be most suitable for a bioenergy facility. Biosolids application for beneficial agricultural use will continue on site for the time being. • Recycled Water: Innovative recycling of tertiary-treated STP effluent as irrigation water for use on coppice crops on the site, as well as for re-establishment and expansion of native plants. This recycled water also has nutrient value to the crops, providing nitrogen and phosphorous, which are required for plant growth. • Land Application of Biomass: Biosolids represent a sustainable supply of high-value soil amendment and fertilizer for coppice crops and native plants. 							
Zoning (LEP 2014)	<ul style="list-style-type: none"> • RU1 • RU2 							
Authorised Scale of Development	Development and/or works permitted on the land include, but are not limited to: <ul style="list-style-type: none"> • Agriculture (1) • Extensive Agriculture (2) • Intensive Plant Agriculture (3) • Horticulture (4) • Intensive Livestock Agriculture (5) • Farm Building (6) • Rural Industry(7) 							
Existing Permissibility		(1)	(2)	(3)	(4)	(5)	(6)	(7)
	RU1	X	O	C	C	C	C	C
	RU2	C	O	C	C	C	C	X

Possible exemptions under SEPP Infrastructure?	No exemptions permissible.
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5. SOLAR PROJECTS AREA

Action	Renewable Solar PV Energy farms			
Land Classification	General Community Use			
Area	3.6 ha total			
Detailed Description	<ul style="list-style-type: none"> • Solar photovoltaic arrays: Solar photovoltaic arrays are intended to be installed in proximity to the STP and the electricity produced can be used in many fashions, including: to power the many electric motors in the STP treatment process; heating and cooling of STP or other nearby buildings; and drying biomass crops, if necessary. • BVSTP Solar Farm: 1.6 ha of land adjacent to the BVSTP to be used by Byron Shire Council for solar electricity generation and use in the operation of the BVSTP • Community Solar Farm: 2.0 ha of land adjacent to the BVSTP to be used by a community organisation for solar electricity generation. • Electricity Generation: Excess electricity to be net metered and sold to generate a sustainable source of revenue. 			
Zoning (LEP 2014)	<ul style="list-style-type: none"> • RU1 • RU2 			
Authorised Scale of Development	Development and/or works permitted on the land include, but are not limited to: <ul style="list-style-type: none"> • Electricity Generating Works (1) • Solar Energy System (2) • Rural Industry (3) 			
Existing Permissibility		(1)	(2)	(3)
	RU1	See below	See below	C



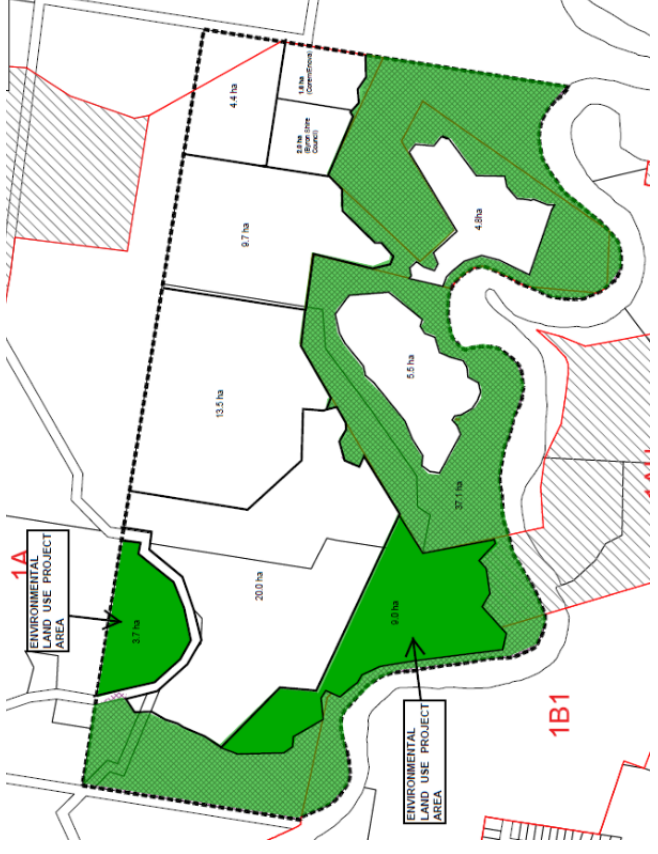
	RU2	See Below	See Below	X
Possible exemptions under SEPP Infrastructure?	SEPP exemptions for Electricity Generating Works (1) and Solar Energy System (2) , subject to conditions. Further planning investigations to be undertaken			

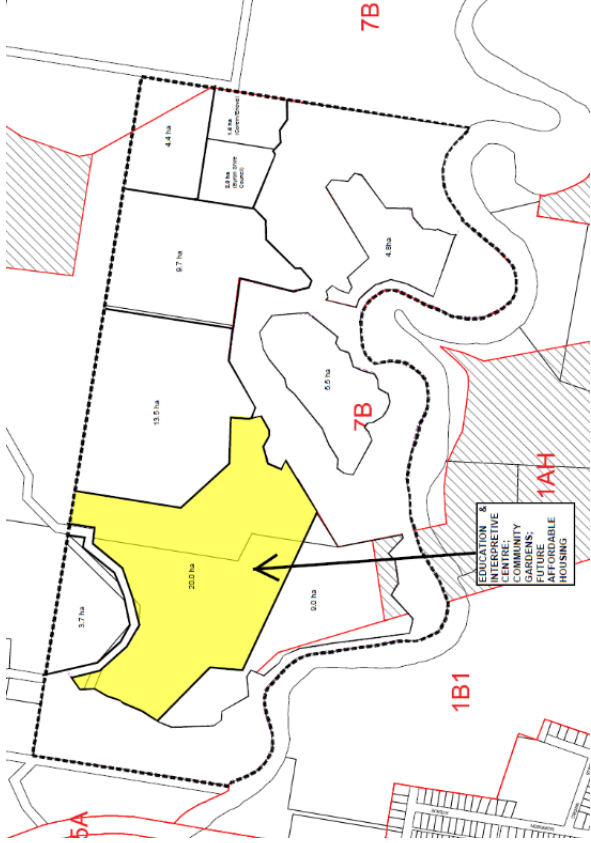
6. RECOMMENDATIONS

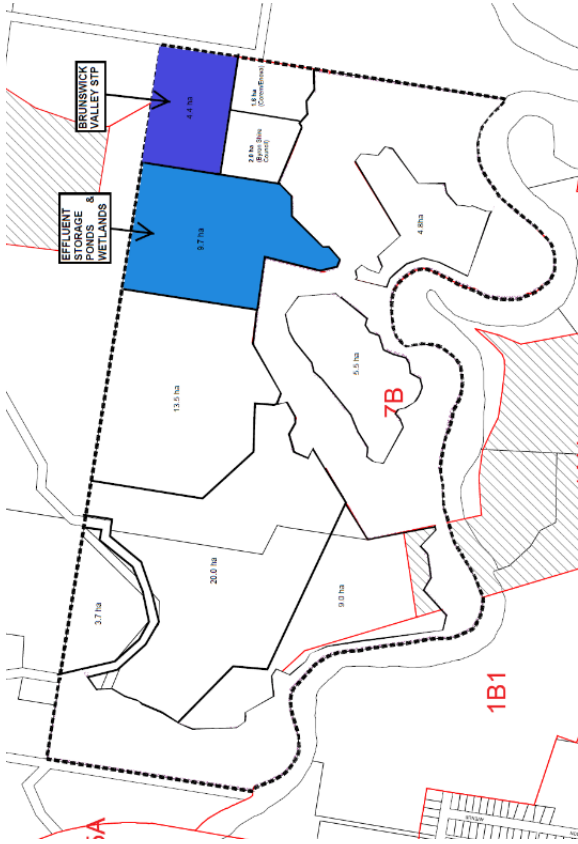
In the next phases of follow-on work regarding implementing the Actions from this Plan of Management, Council may wish to consider the following issues in greater detail:

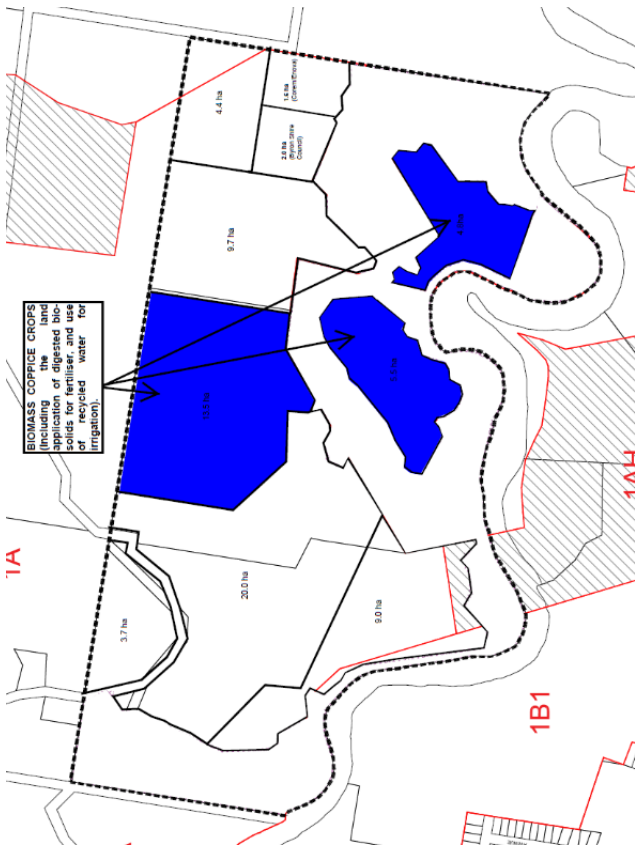
- Public review and consultation requirements of the Plan of Management process prior to finalising the document.
- Prioritisation of potential Actions in the final Plan of Management, and identification of specific works.
- Statutory instruments, reviews, and approvals that may be required for the Actions and resulting specific works.
- Detailed Ecological Assessment to confirm extent of threatened Species areas within the site.
- Rezoning and planning processes required to facilitate the affordable housing Project Area.
- Estimating costs, and funding sources and methods, for the Actions and specific works.
- Estimating timelines for implementation of the Plan of Management Actions and specific works.
- Detailed next steps for implementing the priority Actions and specific works from the Plan of Management.

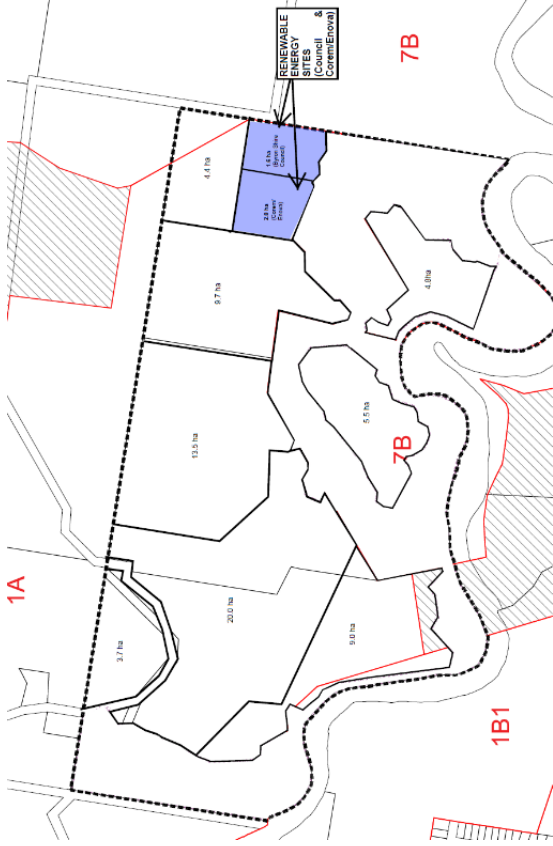
APPENDIX 1 SUMMARY AND STRATEGIC GUIDANCE

PROJECT AREA	PROJECT DESCRIPTION/ ACTIONS	POTENTIAL PARTNERS	POTENTIAL FUNDING SOURCES	TIMELINE	ESTIMATED COST
Environmental Land Project Area					
	<ul style="list-style-type: none"> • Revegetation / Rehabilitation: Revegetation of wetland areas disturbed by historical grazing; removal of weed species; replanting of wildlife corridors with native species. This will include ongoing follow-up maintenance of already worked areas and expansion into new areas as time and resources permit. 	<ul style="list-style-type: none"> • Brunswick Valley Land Care • Mudgha Magolgen • Community NGOs • Other departments in Byron Shire Council (Biodiversity Regeneration crew) 	<ul style="list-style-type: none"> • Sewer fund • Grant funding 	<ul style="list-style-type: none"> • Can commence immediately 	<ul style="list-style-type: none"> • TBA
	<ul style="list-style-type: none"> • Bank Stabilisation: Brunswick River bank stabilisation works to occur in specific locations, and sediment and erosion control measures implemented. Use of log treatment method, whereby large logs are driven vertically into the river bed at approximately 2-4 metre spacing at various angles to the river bank. By angling the poles, the waters energy is dissipated, slowing the flow thereby reducing the impact on the river bank. In addition, debris is slowed and settles behind the logs providing valuable real estate for trees and mangroves to gain a foothold and stabilise the river bank. 	<ul style="list-style-type: none"> • Australian Wetlands • Other departments in Byron Shire Council • DPI Fisheries • Local fishing clubs 	<ul style="list-style-type: none"> • Sewer fund • Grant funding 	<ul style="list-style-type: none"> • Can commence immediately 	<ul style="list-style-type: none"> • \$300K
	<ul style="list-style-type: none"> • Boardwalks & Walkways: A series of connected walkways winding around the wetlands and raised boardwalks through the billabongs as not to impact on the billabong sensitive habitat, is envisaged for this site. These walkways and raised boardwalks would ultimately enhance the access and enjoyment for people with disabilities, older people, their families and carers. 	<ul style="list-style-type: none"> • Brunswick Valley Land Care 	<ul style="list-style-type: none"> • Sewer fund • Grant funding 	<ul style="list-style-type: none"> • Can commence immediately 	<ul style="list-style-type: none"> • \$200K
	<ul style="list-style-type: none"> • Constructed Wetlands: The construction of wetlands will create a community resource that not only further “polishes” already high quality treated effluent but also achieves an innovative and integrated range of environmental and social objectives, including restoration of areas of pre-disturbed vegetation; creation of an extended and extensive wildlife corridor; and preserve, protect and encourage threatened species and associated habitat areas. 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Sewer fund 	<ul style="list-style-type: none"> • Can commence immediately 	<ul style="list-style-type: none"> • \$2,000K

PROJECT AREA	PROJECT DESCRIPTION/ ACTIONS	POTENTIAL PARTNERS	POTENTIAL FUNDING SOURCES	TIMELINE	ESTIMATED COST
Community & Housing Project Area					
	<ul style="list-style-type: none"> • Affordable / Community Housing: It is intended to work towards innovative sustainable community housing provision, there may be the potential, subject to re-zoning, to create affordable housing on the land. • Use of Existing Rail Corridor: It is intended to utilise the existing rail corridor, bridge and Council road right-of-way to allow for pedestrian access to the site. The innovative use of these existing corridors will allow ease of access to the community land from Mullumbimby Town Centre. This will result in a low development footprint, with an emphasis on foot traffic, bicycle, and/or e-vehicles. • Education and Interpretation Centre: There is the potential to create a leading-edge educational facility to highlights innovations found in the nexus between sewage treatment innovations, bioenergy and biomass management, native plant replanting, and many other aspects of sustainable land management. There is also the potential to add tourist / visitor accommodation to this centre. • Community gardens: Provision of community gardens that serve the local community. The gardens could be used as educational and information centres promoting sustainable living initiatives, job-creation, and to increase the provision of fresh and affordable produce to the local community. This facility could host school groups, drop-ins from the general public, residential caretakers, and on-site experts-in-residence programmes. 	<p>Affordable Housing</p> <ul style="list-style-type: none"> • Third party developers • Community development and housing agencies • Community NGOs <p>Education Centre</p> <ul style="list-style-type: none"> • Primary and secondary schools • Tertiary education users • Community groups 	<p>Affordable Housing</p> <ul style="list-style-type: none"> • Third party developers • Grant funding <p>Education Centre</p> <ul style="list-style-type: none"> • BSC Sewer funds • Grant funding 	Community consultation to be undertaken first	<ul style="list-style-type: none"> • TBA • \$1,000K

PROJECT AREA	PROJECT DESCRIPTION/ ACTIONS	POTENTIAL PARTNERS	POTENTIAL FUNDING SOURCES	TIMELINE	ESTIMATED COST
Brunswick Valley Sewage Treatment Plant Project Areas					
	<ul style="list-style-type: none"> • Upgrades to BVSTP: Upgrades to the BVSTP to include capacity for flows from the Ocean Shores STP. • Effluent storage ponds & Wetlands Effluent polishing: wetlands and an effluent storage pond will create a community resource that not only further “polishes” already high quality treated effluent but also achieves an innovative and integrated range of environmental and social objectives. These objectives included: <ul style="list-style-type: none"> • Buffering to maximise the resource value of recycled water. • Further polish and limit the nutrient input to the sensitive waters of the Brunswick River. • Create a natural and effective assimilation pathway to return surplus flows to the water cycle. • Integrate operational objectives with broad regional environmental objectives including the creation of an extended and extensive wildlife corridor. • Preserve, protect and encourage threatened species and associated habitat areas. • Restore areas of pre-disturbance vegetation and habitat; protect billabong and wetland areas. • Achieve sustainable constructed wetlands that are reliable and flexible. • Incorporate innovative water management approaches and technology. • Deliver an asset that the Byron Shire community is proud of and recognised as a model for environmental protection and sustainable water management. • Recycled water: Innovative recycling of tertiary-treated STP effluent as irrigation water for use on biomass coppice crops on the site, as well as for re-establishment and expansion of native plants. This recycled water also has nutrient value to the crops, providing nitrogen and phosphorous, which are required for plant growth. • Biomass Anaerobic Digestion: Advanced sustainable bioenergy technologies exist which can produce electricity, heating, cooling, biofuels, and other valuable by-products for reclamation and reuse. These technologies divert wastes from landfill, displace the use of fossil fuels. It is intended to use Biomass Anaerobic Digestion for biogas generation. • Dewatering Biomass: Biosolids represent a sustainable supply of high-value soil amendment and fertilizer for 	<ul style="list-style-type: none"> • Other Council department • Wildlife groups • Farmers for agistment and irrigation • Technology companies for R&D purposes 	<ul style="list-style-type: none"> • BSC Sewer Fund • Grant funding 	<ul style="list-style-type: none"> • 2020 subject to Council Approval • Can commence immediately 	<ul style="list-style-type: none"> • \$10,000K • \$3,000K

PROJECT AREA	PROJECT DESCRIPTION/ ACTIONS	POTENTIAL PARTNERS	POTENTIAL FUNDING SOURCES	TIMELINE	ESTIMATED COST
	coppice crops and native plants. Utilising this STP by-product results in the diversion of what would otherwise be a waste stream, and savings of the disposals costs.				
Biomass Project Areas					
	<ul style="list-style-type: none"> • Biomass Coppice Crops: Planting of coppice crops for harvesting and use in generation of bioenergy and other sustainable uses/products to occur across the project area. This will be the primary source of bioenergy across the site, and will utilize recycled water for irrigation. Byron Council is currently conducting a Bioenergy feasibility study that will determine what coppice crops and biomass will be most suitable for a bioenergy facility. Biosolids application for beneficial agricultural use will continue on site for the time being. • Recycled Water: Innovative recycling of tertiary-treated STP effluent as irrigation water for use on coppice crops on the site, as well as for re-establishment and expansion of native plants. This recycled water also has nutrient value to the crops, providing nitrogen and phosphorous, which are required for plant growth. • Application of Dewatered Biomass: Dewatered biosolids represent a sustainable supply of soil amendments and fertilizer for coppice crops and native plants. Utilising this STP by-product results in the diversion of what would otherwise be a waste stream, and savings of the disposals costs. 	<ul style="list-style-type: none"> • Universities • Private third parties for R&D 	<ul style="list-style-type: none"> • BSC Sewer Fund • grant funding • Third party R&D programmes 	Dependent on Biomass pre feasibility project – possible start 2020	<ul style="list-style-type: none"> • \$3,000K

PROJECT AREA	PROJECT DESCRIPTION/ ACTIONS	POTENTIAL PARTNERS	POTENTIAL FUNDING SOURCES	TIMELINE	ESTIMATED COST
Solar Farm Project Areas					
	<ul style="list-style-type: none"> • Solar Photovoltaic Arrays: Solar photovoltaic arrays are intended to be installed in proximity to the STP and the electricity produced can be used in many fashions, including: to power the many electric motors in the STP treatment process; heating and cooling of STP or other nearby buildings; and drying biomass crops, if necessary. • BVSTP Solar Farm: 1.6 ha of land adjacent to the BVSTP to be used by Byron Shire Council for solar electricity generation and use in the operation of the BVSTP • Community Solar Farm: 2.0 ha of land adjacent to the BVSTP to be used by a community organisation for solar electricity generation. • Electricity Generation: Excess electricity to be net metered and sold to generate a sustainable source of revenue. 	<ul style="list-style-type: none"> • Council • Other departments in Byron Shire Council • 	<ul style="list-style-type: none"> • Council • BSC Sewer Fund • Other departments in Byron Shire Council • Community • Byron Shire Council (in-kind funding) 	<p>Immediately</p> <p>Immediately</p>	<p>\$200 K</p> <p>In kind funds (land rental income)</p>