

Title of Proposal - Iluka residential subdivision, Hickey Street, Iluka

Section 1 - Summary of your proposed action

Provide a summary of your proposed action, including any consultations undertaken.

1.1 Project Industry Type

Residential Development

1.2 Provide a detailed description of the proposed action, including all proposed activities.

It is proposed to construct a community title residential subdivision, including some 140 residential lots, access streets, pathways, street landscaping, Asset Protection Zones (APZ) and retained bushland occurring along the western and eastern boundaries, and in patches along the southern boundary and in the north-eastern corner of the site. These areas of retained bushland are to occur as one patch of landscaped park, one patch of bushfire trail and four patches of conservation bushland within a residual lot. The reserved areas have been located in order to capture the highest value habitats as well as provide important corridors for the local movement of fauna.

The proposed development will require the removal of regrowth vegetation and small isolated areas of remnant vegetation within the footprint.

The Birrigan Gargle Local Aboriginal Land Council (BGLALC), the owners of Lot 99 DP 823635, have completed the necessary assessments and protocols to enable it to deal with the land. The processes followed by the BGLALC were also considered and approved by the New South Wales Aboriginal Land Council. The BGLALC ability to deal with the land amongst other matters identified the land was not of cultural significance and could be dealt with by way of subdivision development.

The BGLALC has entered into an agreement with Stevens Holdings Pty Ltd to undertake the subdivision development of the land.

The subject land is zoned for the proposed use. It is contained within the Clarence Valley Council Local Environmental Plan 2011 - R2 - Low Density Residential Zone.

The proposed subdivision is not in conflict with the relevant provisions of the Clarence Valley Council Residential Zones Development Control Plan 2011 (DCP).

The proposed subdivision is not out of sequence to appropriately zoned land in Iluka.

The proposed subdivision is serviced by existing infrastructure including roads, water supply, sewerage, telecommunication and electricity.



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1.3 What is the extent and location of your proposed action? Use the polygon tool on the map below to mark the location of your proposed action.

Area	Point	Latitude	Longitude
Lot 99 DP 823635 Lot 99 DP 823635	1 2 3 4 5 6 7	-29.39647107053 -29.401013822242 -29.401499865962 -29.397536672483 -29.395760663025 -29.396489765397	153.35848970397 153.35752410872 153.35711641295 153.35241718276 153.35421962721 153.35848970397
LOI 33 DI 020000	1	20.00041101000	100.000+0010001

1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland).

The Lot 99 DP823635 (subject site) is situated on the corner of Iluka Road, Hickey Street, Riverview Street and Elizabeth Street and adjoins Crown Land, at Iluka, New South Wales, 2466.

The proposed development is located on the northern outskirts of Iluka township, with a golf course immediately to the north, Iluka Nature Reserve to the east on the opposite side of Iluka Road, vegetated Crown Land to the south, and other vegetated lots to the west and north west.

It occurs near the southern end of the Iluka peninsula, a narrow flat coastal sandplain between the coast and the mouth of the Clarence River. Much of the peninsula is vegetated, with the small township of Iluka restricted to its western side.

Historical local land uses were predominantly forestry, farming and fishing until the granting of sand mining leases in 1935 to extract rutile and zircon at Iluka and Yamba. Commercial mining activity began in this area in about 1932 and continued intermittently until 1982 (NSW NPWS 1997). The subject site was sand mined and the property was held from 1958 until 1978 under a mineral lease for the purpose of extraction of Zircon, Rutile, etc. (Cardno 2015). Thus, the vegetation of the site is principally regrowth forest after these activities, with varying degrees of



weed infestation.

1.6 What is the size of the development footprint or work area?

Subject site: 19.41ha; Development footprint: 14.11ha; Area of retained vegetation: 5.30ha

1.7 Is the proposed action a street address or lot?

Lot

1.7.2 Describe the lot number and title.Lot 99 DP 823635, Hickey Street, Iluka NSW 2466 Australia

1.8 Primary Jurisdiction.

New South Wales

1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?

No

1.10 Is the proposed action subject to local government planning approval?

Yes

1.10.1 Is there a local government area and council contact for the proposal?

Yes

1.10.1.0 Council contact officer details

1.10.1.1 Name of relevant council contact officer.

Carmen Landers - Clarence Valley Council, 2 Prince Street, Grafton NSW 2460

1.10.1.2 E-mail

Carmen.Landers@clarence.nsw.gov.au

1.10.1.3 Telephone Number

02 6645 0287

1.11 Provide an estimated start and estimated end date for the proposed action.



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Start date 03/2018

End date 09/2023

1.12 Provide details of the context, planning framework and State and/or Local government requirements.

The activity is to be assessed under Part 4 of the NSW Environmental Protection and Assessment Act (1995). Council is the determining authority.

The planning context for the proposed Community Title subdivision is being dealt with under the provisions of the New South Wales – Environmental Planning and Assessment Act 1979, and NSW Environmental Planning and Assessment Regulation 2000. The key planning instruments include:

- (NSW) State Environmental Planning Policies (SEPP's);
- SEPP No. 26 Littoral Rainforests;
- SEPP No. 44 Koala Habitat Protection;
- SEPP No. 55 Remediation of Land;
- SEPP No. 71 Coastal Protection;

NSW National Parks and Wildlife Act 1974 (particularly Protecting Aboriginal Cultural Heritage);

NSW Rural Fires Act 1997;

The subject land is zoned for the proposed use. It is contained within the Clarence Valley Council Local Environmental Plan 2011 - R2 - Low Density Residential Zone; and

The proposed subdivision is not in conflict with the relevant provisions of the Clarence Valley Council Residential Zones Development Control Plan 2011 (DCP).

1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders.

The proposed development initially underwent public consultation after the original proposal was submitted. Consultations were held with a number of stakeholders including:

Australian Government Department of the Environment and Energy

Indigenous landowner

Local council – Clarence Valley Council

N.S.W. Rural Fire Service – (Referral Agency)

N.S.W. Office of Environment and Heritage – (Referral Agency)

N.S.W. Department of Primary Industries – Lands (Referral Agency)

Local residents

Community groups

Indigenous stakeholders

The consultation period enabled submissions from stakeholders within the public consultation period.

Indigenous land owner: The Birrigan Gargle Aboriginal Land Council (BGLALC), the owners of Lot 99 DP823635, continue to have an opportunity to provide input into the need to identify and assess the aboriginal cultural heritage values for the proposed development site and adjoining lands.

The BGLALC have identified "scar" trees that are of significance to the BGLALC. To date the scar trees have been identified on the ground by BGLALC representatives and the position of the scar trees has been located by survey. The scar trees are located partly within Lot 99 DP823635 and partly within adjoining road reserves. The Trees are not impacted by any proposed works.

It is intended the BGLALC will provide input to a management plan to be prepared prior to construction commencing to guide the management of the construction activities.

Local Council: The matters raised by council officers to the proposed development were focused on the development layout and the possibility of Littoral Rainforest on site.

Referral Agency Responses – The referral agency responses were coordinated through the



Clarence Valley Council.

Local residents: The concerns from local residents were the likely removal of the threatened flora species *Acronychia littoralis* Scented Acronychia, the possible presence of Koalas and Emus and their habitat.

Community groups: Community groups were concerned with the size of the proposal and the removal of vegetation that contained Koala habitat and the threatened flora species *Acronychia littoralis* Scented Acronychia.

Indigenous stakeholders: In addition to the protocols followed by the Birrigan Gargle Local Aboriginal Land Council to enable it to deal with the land, additional aboriginal cultural heritage assessments are being undertaken.

As requested by Clarence Valley Council (CVC) officers and the NSW Office of Environment and Heritage (OEH) to undertake further cultural heritage assessment, the specialist heritage practice – Extent Heritage, has been appointed to conduct an Aboriginal Cultural Heritage Assessment.

The Aboriginal Cultural Heritage Assessment processes have commenced. The final reporting will be provided to Council once the processes, requested by CVC and OEH, are complete.

The processes for the ACHA are being conducted pursuant to the "Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH2011)", "Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW2010)", and "Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW2010)".

These processes are anticipated to continue through July 2017.

Consultation Feedback – input to refinement of subdivision masterplan:



After the feedback from the consultation period, further on-site surveys, planning and engineering analysis for the proposal were conducted to ensure the above matters were addressed.

From these consultations, the proposed layout for the residential subdivision was refined with the proposal showing fewer residential lots and increased areas of retained bushland. These areas of retained bushland protect known aboriginal sites, occurrences of Coastal Cypress Pine Forest (EEC), threatened fauna species and their habitats, and also provide movement corridors across the site.

1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project.

Previous assessments of the proposed site have been carried out with a Flora and Fauna Impact Assessment (Ashby and McTackett 2015) (FFIA), Additional Flora and Fauna Impact Assessment (Ashby and McTackett 2016) (AFFIA), an Addendum Impact Assessment (Ashby and McTackett 2017) (AIA), and an Updated Impact Assessment of Matters of National Environmental Significance (Ashby and McTackett 2017) (UIAMNES).

The work resulted in intensive flora and fauna surveys and Assessments of Significance pursuant to the NSW Environmental Planning and Assessment Act (1979) and are an integral part of these reports.

The scope of these Impact Assessments was:

Floristic surveys to determine the occurrence and likelihood of any threatened flora species and the vegetation types and their boundaries, particularly:

Coastal Cypress Pine Forest in the NSW North Coast Bioregion; and

Acronychia littoralis Scented Acronychia

Survey for diurnal and nocturnal birds in general, but particularly:



Dromaius novaehollandiae Emu population in the NSW North Coast Bioregion and Port Stephens Local Government Area.

Survey for terrestrial and arboreal fauna in general, but particularly:

Phascolarctos cinereus Koala

Petaurus norfolcensis Squirrel Glider

Pteropus poliocephalus Grey-headed Flying-fox

Microchiropteran bats

Survey data have been collected in accordance with relevant guidelines viz. *NSW Guide to Surveying Threatened Plants (OEH 2016)* and *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities (NSW DECC November 2014).*

Assessments of Significance for the following NSW-listed biota of concern for which the site provides potential or realised habitat are included in the FFIA, AFFIA and AIA :

Endangered Ecological Communities

Coastal Cypress Pine Forest in the NSW North Coast BioregionThreatened

Flora species

Acronychia littoralis Scented Acronychia

Phaius australis Lesser Swamp Orchid

Threatened Fauna species and populations

Dromaius novaehollandiae Emu population in the New South Wales North Coast Bioregion and Port Stephens Local Government Area

Lophoictinia isura Square-tailed Kite

Ptilinopus regina Rose-crowned Fruit-Dove

Calyptorhynchus lathami Glossy Black-Cockatoo



Rhipidura rufifrons Rufous Fantail*

Glossopsitta pusilla Little Lorikeet

Merops ornatus Rainbow Bee-eater*

Coracina lineata Barred Cuckoo-shrike

Carterornis leucotis White-eared Monarch

Daphoenositta chrysoptera Varied Sittella

Ptilinopus superbus Superb Fruit-dove

Ptilinopus magnificus Wompoo Fruit-dove

Dasyurus maculatus Spotted-tailed Quoll

Planigale maculata Common Planigale

Phascogale tapoatafa Brush-tailed Phascogale

Phascolarctos cinereus Koala

Petaurus norfolcensis Squirrel Glider

Pteropus poliocephalus Grey-headed Flying-fox

Syconycteris australis Common Blossom Bat

Mormopterus norfolkensis Eastern Freetail-bat

Nyctophilus bifax Eastern long-eared Bat

Miniopterus australis Little Bentwing-bat

Those entities also listed as threatened under the EPBC Act (1999) are in bold and those species listed as migratory under the EPBC Act (1999) are denoted with an asterisk.

Impact Assessments for Matters of National Environmental Significance detected on site are provided in the FFIA and UIAMNES, being:



Phascolarctos cinereus Koala (Vulnerable)

Merops ornatus Rainbow Bee-eater (Migratory)

Rhipidura rufifrons Rufous Fantail (Migratory)

1.15 Is this action part of a staged development (or a component of a larger project)?

No

1.16 Is the proposed action related to other actions or proposals in the region?

No



Section 2 - Matters of National Environmental Significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The <u>interactive map</u> tool can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest. Consideration of likely impacts should include both direct and indirect impacts.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The following resources can assist you in your assessment of likely impacts:

• <u>Profiles of relevant species/communities</u> (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;

- <u>Significant Impact Guidelines 1.1 Matters of National Environmental Significance;</u>
- <u>Significant Impact Guideline 1.2 Actions on, or impacting upon, Commonwealth land and</u> <u>Actions by Commonwealth Agencies</u>.

2.1 Is the proposed action likely to impact on the values of any World Heritage properties?

No

2.2 Is the proposed action likely to impact on the values of any National Heritage places?

No

2.3 Is the proposed action likely to impact on the ecological character of a Ramsar wetland?

No

2.4 Is the proposed action likely to impact on the members of any listed threatened species (except a conservation dependent species) or any threatened ecological community, or their habitat?

Yes

2.4.1 Impact table

SpeciesImpactPhascolarctos cinereus Koala VulnerableA detailed tre

A detailed treatment of the likely impact on this



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this species is also provided in the UIAMNES. KOALA ON THE SUBJECT SITE This species was recorded on the subject site during survey in 2014. A single image of this species was captured on 14th October 2014 by a camera trap placed on the ground near an existing but overgrown track in the site's western half. The animal was walking along the ground, heading from south to north. As it was not in the canopy, it was likely moving through the site. It is not known if it forages on site, but suitable forage trees are scarce in the area where it was detected (see Figure 1 of UIAMNES). The sighting initiated additional targeted survey for this species on site. All relevant survey activities included: • Incidental searches for scats, tracks and signs; October 2014, November 2014, February 2016, May 2016, June 2016. • Searches for and analysis of predator scats; October 2014, November 2014, February 2016, May 2016, June 2016. Camera traps; 240 camera trap hours October 2014, 12,288 camera trap hours November 2014. • Koala Scat Counts; 14 counts using the Spot Assessment Technique of Phillips and Callaghan (2011). • Call broadcast; 2 occasions October 2104. • Spotlighting; 2 occasions October 2104. • Forage tree mapping; October 2014, November 2014, February 2016, May 2016, June 2016, supplemented by resident survey (date unknown). Other than the initial camera image, the Koala was not detected on site again, and no scats attributable to Koalas were found beneath trees. KOALA IN THE LOCAL AREA Locals have posted recent Koala sightings on social media: • In early January 2017, video was posted of a Koala being relocated by Essential Energy into bushland at the corner of Hogan and Elizabeth Street. This is 300m to the west of the proposed development area. This animal was reportedly chased by dogs when it took refuge up a power pole; • In June 2017, a photograph was posted of a Koala in a tree, reportedly taken in April 2017 in Cypress Close. This is 460m north west of the development area. • In May 2016, video



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was posted of a Koala climbing a tree in bushland, reportedly from "Frazer Reef Iluka". Presumably this is Frazers Reef Road, which is in Iluka Nature Reserve and between 920m and 1.5km north east of the development area. It is unclear if these are multiple sightings of one individual, but the markings of the relocated animal and the one in the photograph are similar. The presence of Koalas in the Iluka area more generally was investigated systematically by Koala experts (Biolink Ecological Consultants 2012) as part of Council's finalization of the Comprehensive Koala Plan of Management for the Ashby, Woombah and Iluka localities in the Clarence Valley LGA (Clarence Valley Council 2015). During that study, no evidence of koala activity was recorded beneath any trees during transect searches, nor were any koalas sighted. However, Koala scats were opportunistically observed beneath food trees in two locations: at the northern end of the golf course (920m north of the development area) and near the Old Ferry Crossing Picnic Area (1.7km north west of the development area). The Biolink report concluded that the peninsula probably only supports a small number of animals (perhaps 5 to 10) that are highly dispersed. Its area of occurrence was defined as being from the southern tip of the peninsula to Shark Bay in the north. It was also reported that anecdotal evidence indicates the presence of at least one breeding female. Presumably, this arises from the 2007 record of Clarence Valley WIRES of a female and joey involved in a vehicle collision near Shark Bay; the joey died but the female was released. Notably, this location is at the northern extremity of the defined area of occurrence and 4km to the north of the development area. The Biolink report concludes that, although Iluka sightings are encouraging, they do not allow for the conclusion that the population has recovered. They also highlight the role of repeated hot fires in suppressing the recovery of the local population of the Koala. Fire was one of the processes identified by



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Lunney et al. (2002) as partially responsible for the demise of the local Koala population, which was considered common in Iluka prior to 1970. Habitat loss and direct mortality from repeated fires, together with clearing, plus vehicle strike, dog attack, and disease have all combined to result in a serious population decline. Most importantly, modelling in that study showed that, without enhanced immigration from the metapopulation, improvements in mortality and fertility are insufficient for recovery of the Iluka population. Thus, the management of surrounding lands in Bundjalung National Park and the Woombah area are critical for the future of the Iluka Koala population. Biolink noted that the pattern of repeated fires in the Woombah area had prevented recovery of that population. Therefore, in the absence of landscape-scale management (particularly of fire) that boosts immigration from the populations to the north, the functional extinction of the Iluka Koala population as predicted by Lunney et al. (2002) is not belied by the presence of a small number of animals in the Iluka area. KOALA HABITAT ON THE SUBJECT SITE Suitable foraging habitat for this species is provided by the following 4 forage tree species scattered across the site: • Eucalyptus tereticornis Forest Red Gum (Primary food tree) 80+ individuals recorded, most in the north eastern corner of the site and along the eastern boundary • Corymbia intermedia Pink Bloodwood (Secondary food tree) 364 individuals recorded, concentrated in the western and eastern boundaries and scattered along in 3 narrow bands in the centre of the site • Eucalyptus propingua Small-fruited Grey Gum (Secondary food tree) 3 individuals noted, one on the north eastern corner • Lophostemon confertus Brush Box (Supplementary food tree) 181 individuals recorded, with a similar distribution to Pink Bloodwood These food tree species occupy approximately 4.1 hectares of the site. No other potential food tree species as listed under State Environmental Planning Policy 44, the Approved Recovery Plan or the Koala Plan of



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Management (Clarence Valley Council 2015) were found on site. The distribution of these trees is shown in Figure 1 of the UIAMNES. IMPACT ON KOALA HABITAT The proposal will permanently remove approximately 14.11 hectares of highly modified vegetation that has been subjected to past clearing, sand mining, poor restoration practices, repeated hot fires and continued influence of transformer weeds such as Lantana. Approximately 1.5 hectares of Koala foraging habitat occurs in this development area, within which (mainly) secondary and supplementary food trees are clustered in narrow bands. The remaining 2.6 hectares of Koala foraging habitat will be retained in the 4.8 hectares of parks that will be managed for conservation purposes. Notably, almost all of the primary food trees - Eucalyptus tereticornis Forest Red Gum - occur in the proposed park in the north eastern corner and in the proposed park along the eastern boundary. The proposed parks in the north eastern corner and along the eastern boundary will maintain connectivity from Iluka Nature Reserve to the east with suitable habitat to the north and north west. Similarly, the park of the western boundary will maintain connectivity north to south. The areas to be rehabilitated within the proposed parks offer opportunities for planting of replacement food trees, as well as generally improving the habitat for existing trees by weed control and habitat management. The wide verges along the internal access roads also provide opportunities for planting of Koala food trees at appropriate spacings, as determined by best practice guidelines (e.g. McAlpine et al. 2007). This will facilitate movement of Koala through the developed landscape. OTHER POTENTIAL IMPACTS 1. Fire. Due to the proximity of residences, repeated hot fires will be excluded from the parks. This will prevent direct Koala mortality, and will also allow the existing food trees to mature and thus provide best quality browse. 2. Dogs. Pet dogs and Koalas will be separated by the use of Koala-proof fencing. Dogs will be



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prohibited from the parks. 3. Pools. Although Koala-proof fencing should prevent Koalas from entering yards, it is recommended that tethered rope is provided as a means of escape from backyard pools in case of emergency. 4. Road trauma. It is noted that the major source of road trauma for Koalas is on Iluka Road, which is a busy thoroughfare with a high speed limit. The threat of high speed and high volume traffic in Iluka Road is not within the control of the development. However, the design of the internal road system is Koala-friendly: it separates the development from bushland and minimises the crossing of wildlife corridors. The short distances of the internal roads and the use of road-calming measures (e.g. speed bumps, speed limits), warning signs and a resident education package will serve to improve driver behaviour. 5. Indirect impacts. The quality of habitat in the parks and in the surrounding road reserves will be protected from potential adverse indirect impacts by the perimeter road (separating rear fences from bushland, thus preventing clandestine dumping of garden refuse), the implementation of Water Sensitive Urban Design (minimising hydrological changes), and conservation management of the parks under an Approved Management Plan (which will include inter alia weed management). KOALA HABITAT ASSESSMENT TOOL Each attribute of the Koala Habitat Assessment Tool (EPBC Act Referral Guidelines 2014) is discussed below: Attribute 1: Koala occurrence Result: +1 (medium) Reasoning: A single image of a Koala moving along the ground was captured during survey activities in 2014. Despite expert sampling around the site by Biolink in 2012, intensive follow-up survey in 2014, and vigilant local residents actively sampling the site from 2015 to 2017, there are no other records of Koala or Koala activity from the site. Attribute 2: Vegetation composition Result: +2 (high) or +1 (medium) Reasoning: The site supports forest or woodland, and although it supports 4 species listed as used by Koalas, only one (Forest Red



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Gum) is a preferred food tree species. This led Koala expert Dr Steve Phillips of Biolink Environmental Consultants to assign a score of 1 for this attribute (as quoted in Clarence Environment Centre Submission to Clarence Valley Council, dated 10th February 2016). Nevertheless, the habitat on site has been highly modified and degraded, and the distribution of the 4 food tree species is very uneven. The largest concentrations of the preferred trees (Forest Red Gum) are within the proposed parks in the north eastern corner, and along the eastern boundary. The largest concentrations of secondary and supplementary species occur along the western boundary, also within the proposed park. The development area will remove Koala food trees that occur in a series of narrow widelyseparated bands. Attribute 3: Habitat connectivity Result: +1 (medium) Reasoning: The subject site is separated from vegetation in Iluka Nature Reserve to the east by Iluka Road, a main thoroughfare with high volume, high speed traffic. The records held by WIRES of mortality and injury to Koalas is testament to its deadly nature and absence of effective Koala passage measures. Surrounding habitats in other directions are variously fragmented by open paddocks, residential development, local roads and natural barriers such as unsuitable habitats (wetlands), and water bodies (Clarence River). However, the site is part of a large scale vegetated link from Iluka Nature Reserve on the east to other vegetation in the north west, and eventually to the north. It is estimated that the habitat on site is part of a more or less contiguous landscape between 300 and 500 hectares. Attribute 4: Key existing threats Result: +1 (medium) Reasoning: Lunney et al (2002) investigated the demise of the koala population at Iluka. The study of the Iluka population was conducted via radiotracking individuals over a two-year period. After the twoyear period, 11 koalas were known to have died. After a ten-year period, there were 28 known deaths of koalas on the Iluka peninsula.



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The major causes of death in the area included disease and trauma through motor vehicle accidents. The high mortality rate was concurrent with observed low female fertility in the Iluka area. The study revealed that even with substantial improvements to mortality and fertility, the modelled population fell towards extinction. WIRES records from 1992 to 2015 provided by Council do not demonstrate a diminution in vehicle trauma over that period. There are no publicly-available statistics post-2015. However, if there are fewer vehicle collisions, it would be more likely due to fewer Koalas, rather than a lessening of the threat posed by cars, given that the number of registered vehicles in the Clarence Valley LGA continued to rise from 39,186 in 2015 to 39,905 in 2016 (Australian Bureau of Statistics 2017, available at http://stat.abs.gov.au/itt/r.jsp?Regio nSummary®ion=11730&dataset=ABS REGI ONAL_LGA&geoconcept=REGION&maplayerid =LGA2014&measure=MEASURE&datasetASG S=ABS REGIONAL ASGS&datasetLGA=ABS REGIONAL LGA®ionLGA=REGION®io nASGS=REGION). Evidence posted on social media by local residents demonstrated that dogs continue to pose a current threat. Attribute 5: Recovery value Result: +1 (medium) Reasoning: The relevant interim recovery objectives are to: - Protect and conserve large, connected areas of Koala habitat, particularly large, connected areas that support Koalas that are: - Of sufficient size to be genetically robust / operate as a viable sub-population OR – Free of disease or have a very low incidence of disease OR – Breeding - Maintain corridors and connective habitat that allow movement of Koalas between large areas of habitat The site overall contains relatively meagre Koala habitat, with 80% of the site absent of food trees, and the vegetation generally in poor condition, with large infestations of serious weeds. Locally, other habitat is fragmented by clearing, development and unsuitable habitat. The site is directly connected to suitable habitat only to the west, separated in other directions by cleared



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paddocks, a golf course, fire breaks, and lluka Road. Expert assessment concluded that the site is within an area likely to support only a very small population of Koalas, widely dispersed (Biolink 2012). Modelling has demonstrated that this population is on a downward trajectory to functional extinction, unless there is significant renewed immigration from the surrounding metapopulation, along with significant increase in fertility and decrease in mortality from disease and trauma (Lunney et al. 2002). Expert analysis has also shown that the population to the north from which immigrants would come has itself continued to decline (Biolink 2012). Biolink (2012) relied on a tentative anecdotal record of the presence of a single breeding female as evidence of a breeding population. The unavoidable conclusion therefore is that the Koala population in Iluka is not large or robust. Its disease status is unknown. While there may be breeding occurring, the numbers are very low, and still vulnerable to threats such as dogs and vehicle trauma (e.g. WIRES record of the death of a joey on Iluka Road from a vehicle collision in 2007). Despite the presence of barriers, threats and poor quality habitat, the site is part of a large-scale partially-fragmented vegetated link from east to habitats to the west, north west, and eventually north. The proposal will retain and manage for conservation the areas of best Koala habitat (i.e. the areas of highest concentration of preferred food trees) and the configuration of the reserved areas will maintain connectivity from east to west and north to south. Overall habitat score: 5 or 6 The area of Koala habitat on site comprises approximately 4.1 hectares, and the proposal will remove approximately 1.5 hectares of food trees in scattered narrow bands. Using the decision tree in Figure 2 of the Referral Guidelines, this action therefore does not require referral; it is unlikely to impact on habitat critical to the survival of the Koala. Nevertheless, best practice dictates that this habitat deserves careful consideration of the Koala, so that



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potential adverse impacts are avoided, minimised and ameliorated, and that interference with the recovery of the Koala is avoided. The proposal is consistent with these requirements in a number of ways. The habitat that is suitable for the Koala occurs in widelyseparated bands of forage trees. The proposal will retain the best of these - those in the largest and densest clumps, and those recognised as primary food trees. The configuration of the retained vegetation in the parks on the western and eastern boundary and in the north eastern corner will also serve to retain the general pattern of connectivity available to the Koala in the existing landscape. Moreover, the parks will be subject to conservation management, as part of an Approved Management Plan, to be funded and implemented as part of the Community title. It is important that during all clearing activities and vegetation management, that disease is not spread that could impact on the Koala habitat (i.e. Phytophthora cinnamomi and Myrtle Rust). It is recommended that relevant best practice hygiene protocols are observed. This is considered to be highly effective in control of the accidental introduction of these pathogens. It is also recommended that all planting material is sourced from reputable suppliers, and only material certified free of these pathogens used for revegetation and landscaping. The retained vegetation in the north eastern corner provides a corridor of >100m width, which is considered to be moderately effective as a mitigation measure. The use of Water Sensitive Urban Design Principles are considered here as sufficient to protect the existing hydrological characteristics of the retained surrounding bushland. Moreover, other adverse indirect impacts are to be controlled as part of the Approved Management Plan. In addition, it is recommended that: - In line with Office of Environment and Heritage recommendations, yards are to be fenced so that Koalas are excluded, thus separating pet dogs and Koalas. This is considered by the Referral Guidelines as



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Species

Impact

a highly effective mitigation measure. - Wide verges are to be landscaped to facilitate Koala movement, according to best practice recommendations in McAlpine (2007). This will include planting of primary food tree species at appropriate spacings. - Traffic calming measures to be used, such as a low speed limit, speed bumps, chicanes, and signage. These are considered to have a low effectiveness, as most vehicle strike occurs on high speed main roads, not the short local roads within the proposed subdivision. -Education package to be provided for residents regarding the Koala in their midst. Although this is considered to have low effectiveness as a mitigation tool, responsible driver behaviour and pet ownership are essential standards that can only be achieved by community education.

2.4.2 Do you consider this impact to be significant?

No

2.5 Is the proposed action likely to impact on the members of any listed migratory species, or their habitat?

Yes

2.5.1 Impact table

Species	Impact
Merops ornatus Rainbow Bee-eater Migratory species of bird	A detailed treatment of the likely impact on this this species is provided in the UIAMNES. This species was observed foraging along the open forest edges of the site and entering a breeding burrow in the intact sand dune along the northern boundary. This area is to be retained within retained bushland parks. Its habitat requirements are simply an elevated perch from which to watch for prey and a ground substrate in which to dig their breeding burrow. Because their prey is entirely caught on the wing they are not dependent on any vegetation type: most

Rhipidura rufifrons Rufous Fantail Migratory

Department of the Environment and Energy

Submission #2638 - Iluka residential subdivision, Hickey Street, Iluka



species of bird

Impact

often found in open forests, woodlands and shrublands, and cleared areas, usually near water, but also on farmland with remnant vegetation and in orchards and vineyards. It will use disturbed sites such as quarries, cuttings and mines to build its nesting tunnels. There are over 340 records of this species held in the NSW Wildlife Atlas (BioNet October 2015) from the Clarence Valley LGA. The database contains records from all months. The extent of suitable habitat on site will be retained within conservation bushland and parks. Adequate area of habitat, particularly breeding habitat will be retained.

A detailed treatment of the likely impact on this this species is provided in the UIAMNES. This species was observed foraging across the site in pairs and as individuals. It was also observed nesting in the vegetation at the western end of the site. There are over 600 records of this species held in the NSW Wildlife Atlas (BioNet October 2015) from the Clarence Valley LGA. The database contains records from all months, but it is generally absent May to July and most regularly and reliably recorded during the breeding season. Although usually found in forests, woodlands and other woody vegetation with deep shade, it may be found in more open habitats or urban areas during migration. The proposed development will remove approximately 14.11 hectares of suitable habitat for this species. It is noted these species are highly mobile. The proposal will retain nesting sites and vegetated areas, it is also proposed there will be planting of locally native trees within the street scape verge areas - this will minimise the total loss of foraging habitat with the subject site. Suitable habitat for this highly mobile species is largely available within the local area as protected lands, including Bundjalung National Park and Iluka Nature Reserve. The loss of poor condition vegetation is unlikely to place further significant stress to these migratory species within the locality.

Species



2.5.2 Do you consider this impact to be significant?

No

2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?

No

2.7 Is the proposed action likely to impact on any part of the environment in the Commonwealth land?

No

2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?

No

2.9 Will there be any impact on a water resource related to coal / gas / mining?

No

2.10 Is the proposed action a nuclear action?

No

2.11 Is the proposed action to be taken by the Commonwealth agency?

No

2.12 Is the proposed action to be undertaken in a Commonwealth Heritage Place Overseas?

No

2.13 Is the proposed action likely to impact on any part of the environment in the Commonwealth marine area?

No



Section 3 - Description of the project area

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed in Section 2).

3.1 Describe the flora and fauna relevant to the project area.

Vegetation and Flora

After initial and supplementary site investigations, three vegetation communities are recognised on the subject site:

Coast Banksia woodland and open forest of coastal dunesPink Bloodwood – Brush Box open forest on coastal dunes and sandplainsCoast Cypress Pine shrubby open forest

A map showing their distribution in relation to the proposed development is shown in Figure 1.

COMMUNITY 190: COAST BANKSIA WOODLAND AND OPEN FOREST OF COASTAL

DUNES occurs along the western boundary of the subject site and occupies an area of approximately 0.41 hectares.

Conservation Status (TSC Act):

Not listed.

Conservation Status (EPBC Act):

Not listed

Other Names:

Coast Banksia Woodland and Open Forest on coastal dunes



Recent/Holocene sands, on lower, leeward dune slopes and flats often grading into swamp.

Upper stratum: Banksia integrifolia, Melaleuca quinquenervia and Lophostemon suaveolens.

Middle stratum: Cupaniopsis anacardioides, Pittosporum undulatum, Acronychia imperforata and Glochidion ferdinandi.

Lower stratum: Lomandra longifolia, Schoenus brevifolius and Dianella caerulea.

Vines: Smilax australis, Parsonsia straminea and Austromyrtus dulcis.

Highly degraded regrowth

Large weed infestations concentrated in patches across the site.

Habitat Features:

Potential / realised habitat for migratory birds, Koala

This community occurs as a relatively undisturbed band at the site's western end. It has elements of regenerating Littoral Rainforest (for example, some vines and rainforest tree species), but it is not structurally or floristically well developed.

COMMUNITY 193: PINK BLOODWOOD – BRUSH BOX OPEN FOREST ON COASTAL DUNES AND SANDPLAINS is the most predominant vegetation community occurring on site and is approximately 18.16 hectares.

Conservation Status (TSC Act):

Not listed.

Conservation Status (EPBC Act):



Not listed

Other Names:

Brush Box Open Forest on coastal dunes and sandplains.

Sandy soils on coastal plains and low coastal hills.

Upper stratum: Corymbia intermedia, Lophostemon confertus and Banksia integrifolia.

Middle stratum: Austromyrtus dulcis, Acronychia imperforata and Acrotriche aggregate.

Lower stratum: Lomandra longifolia and Pteridium esculentum.

Patchy condition with areas of high degradation and some areas in good condition.

Weeds occur along the road edges, tracks on site and in isolated patches throughout the site where rubbish dumping is evident.

Habitat Features:

Hollow-bearing trees (particularly *Eucalyptus tereticornis*). Potentially suitable for possums, gliders, small and medium birds, and microbats.

This vegetation community is the most dominant on site and is made up of 5 sub-types, based largely on disturbance:

193a (10.41 hectares): this variant is dominated by a dense low canopy of single age class of *Acacia disparrima*. This may be a naturally occurring result of fire, or a result of rehabilitation efforts post sand-mining, or a combination of both.193b (1.14 hectares): This variant occurs near the northern boundary of the site. It contains a number of mature and semi-mature Eucalyptus tereticornis Forest Red Gum. The area of this variant has been delineated due to the high value of this tree species as a primary food tree for Koalas. This tree species also occurs in small number along Iluka Road in the road reserve and across the road in Iluka Nature Reserve.193c (3.15 hectares): This variant occurs in the site's south-western quadrant.

^{*} Department of the Environment and Energy

Although *Acacia disparrima* comprises a large component of the canopy, this area has more mixed canopy, including *Corymbia intermedia* Pink Bloodwood, *Lophostemon confertus* Brush Box, *Banksia integrifolia* Coast Banksia, occasional rainforest trees and *Callitris columellaris* Coastal Cypress Pine. This area contains important secondary and supplementary food trees for Koalas, including *Corymbia intermedia* Pink Bloodwood (Secondary) and *Lophostemon confertus* Brush Box (supplementary).193d (2.66 hectares): This variant occurs in the centre of the subject site. This is characteristically very open and dominated by weed infestations, typically *Lantana camara* Lantana.193e (0.80 hectares): This variant occurs near the northeastern corner of the subject site. This form of the vegetation community has a very open canopy and is highly modified with dense infestations of weeds however, this variant does contain some elements of regenerating Littoral Rainforest.

COMMUITY 187: COAST CYPRESS PINE SHRUBBY OPEN FOREST is restricted on site to a dense patch of adult trees near the site's southern boundary, occupying 0.25 hectares.

Conservation Status (TSC Act):

Endangered Ecological Community

Conservation Status (EPBC Act):

Not listed

Other Names:

Coastal Cypress Pine Forest in the New South Wales North Coast Bioregion (OEH 2008)

Holocene and Pleistocene ridges and dunes, in areas of dry closed or open forest.

Upper stratum: Callitris columellaris Coast Cypress Pine

Middle stratum: Acacia disparrima subsp. disparrima, Monotoca scoparia, Acacia ulicifolia and Leucopogon margarodes.

Lower stratum: Ottochloea gracillima, Cyperus stradbrokensis, Oplismenus aemulus, Desmodium gunnii, Eragrostis brownii and Imperata cylindrica.

Highly degraded regrowth

Weeds concentrated at track edge where rubbish dump is also evident.

Habitat Features:

Foraging habitat within the Lantana

An additional patch of 0.20 hectares occurs in the centre of the site and may also qualify as this community, based on the floristic composition of quadrats located in that area. However, few adult trees of Coastal Cypress occur.

In the crown land, directly to the south of the site, this vegetation type occurs in two large patches of 1.15 hectares and 1.16 hectares. In Iluka Nature Reserve to the east, a patch with the same aerial photo pattern occupies a further 1.10 hectares.

Individual trees of Coastal Cypress on site were not considered to qualify as part of this Endangered Ecological Community, as they are scattered individual trees absent of other definitional elements, and in areas where they represent new growth, not regrowth or disturbed vegetation.

Faunal Assemblage

Fauna survey established the presence of 124 vertebrate species:

6 species of reptiles95 species of birds23 species of mammals

Reptiles. Six common species of reptiles were observed on the subject site during survey, including 5 lizards and one snake. *Vermicella annulata* Bandy Bandy Snake was found dead on Iluka Road, immediately adjacent to the site.



The avifauna of the project area is diverse, representing a number of foraging guilds which reflects the types of habitats available. Notable observations of federally-listed species include:

Dromaius novaehollandiae Emu – multiple scats observed within the eastern portion of the site. *Merops ornatus* Rainbow Bee-eater – observed foraging and entering a nest along the northern boundary of the site in the area of vegetation to be retained. *Rhipidura rufifrons* Rufous Fantail – a pair were observed foraging across the site and a nest was observed along the western section of the site where vegetation is to be retained.

Mammals. The mammals detected during survey included small and medium terrestrial species, arboreal mammals and volant species. Of the mammals recorded, a total of 5 are listed as threatened under the NSW Threatened Species Conservation Act (1995). These include, *Phascolarctos cinereus* Koala, *Nyctophilus bifax* Eastern Long-eared Bat, *Saccolaimus flaviventris* Yellow-bellied Sheathtail-bat, *Mormopterus norfolkensis* Eastern Freetail-bat and *Miniopterus australis* Little Bentwing-bat.

3.2 Describe the hydrology relevant to the project area (including water flows).

The project area is part of the Iluka spit with the Clarence River to the west and the South Pacific Ocean to the east. It is part of a larger area of vegetation that has been impacted by numerous anthropogenic activities over the years but acts to buffer Iluka Nature Reserve and Bundjalung National Park to the east of Iluka Road. Iluka Nature Reserve represents the only area of intact vegetation along the coast in the Iluka area.

No wetlands occur on the subject site within the immediate surroundings. The closest wetland is located 500 metres to the west of the site. The project area does not contain areas of wetland however, the project area is likely to assist in maintaining water quality through the pervious sands.

The subject site is characterised by a series of low mounds and swales, but these are closed drainage systems. No open drainage systems occur on site and no standing or flowing water was observed on the subject site.

3.3 Describe the soil and vegetation characteristics relevant to the project area.

The subject site is within the Bundjalung Dunefield physiographic region which occupies the coastal plain where it is underlain by Quaternary aeolian and marine sands. Within this region on the Iluka peninsula, the Iluka soil landscape is dominant on the landward side of the beach dunes. It is an aeolian soil landscape with two sub-types; the subject site is within variant 'a'.



Iluka soil landscape (9539ila) occurs on extremely low, level to undulating Quaternary sand sheets. Variant "a" is of made up of low beach ridges of Holocene age. Importantly, this Holocene ridge system consist of distinct longitudinal dune-swale ridges, parallel to the coast. Drainage generally consists of sub-surface flow and water tables are high. It is protected by onshore weather by the frontal dune system.

The vegetation of the subject site is comprised of Coast Cypress Pine Forest, Coast Banksia Woodland and Brush Box open Forest.

Historical sand mining activities that occurred on site from 1935 up until 1982 (NSW NPWS 1997) completely stripped away vegetation, soil structure and the natural seedbank when the minerals were extracted from the soil. Sand mining caused some of the most environmentally damaging activities undertaken along the NSW coast.

3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area.

The site is located opposite Iluka Nature Reserve which is listed as an area of the World Heritage Site of Gondwana Rainforests of Australia. Iluka Road divides the subject site from the Iluka Nature Reserve and Bundjalung National Park which occur to the east of the site.

The local area is also known to support a number of other important features, including:

Acronychia littoralis Scented Acronychia Phascolarctos cinereus KoalaLittoral Rainforest in the NSW North Coast, Sydney Basin and South-East Corner Bioregions EEC

3.5 Describe the status of native vegetation relevant to the project area.

The vegetation within the project area is made up of three vegetation communities:

COMMUNITY 190: COAST BANKSIA WOODLAND AND OPEN FOREST OF COASTAL DUNES.

This vegetation community is characterised by the presence of *Banksia integrifolia*, *Melaleuca quinquenervia* and *Lophostemon confertus*. It is not a listed vegetation community at the state



or commonwealth levels. It occurs as a relatively undisturbed band of vegetation along the site's western end and occupies 0.41 hectares.

COMMUNITY 187: COASTAL CYPRESS PINE SHRUBBY OPEN FOREST.

This vegetation type is dominated by the occurrence of *Callitris columellaris* Coastal Cypress and *Acacia disparrima*. It is listed as an Endangered Ecological Community under the NSW Threatened Species Conservation Act (1995). It is not a listed community at the commonwealth level. It is restricted on site to a dense patch of adult trees near the site's southern boundary, occupying 0.25 hectares.

An additional patch of 0.20 hectares occurs in the centre of the site and may also qualify as this community, based on the floristic composition of quadrats located in that area. However, few adult trees of Coastal Cypress occur.

COMMUNITY 193: PINK BLOODWOOD – BRUSH BOX OPEN FOREST ON COASTAL DUNES AND SANDPLAINS.

This vegetation community is the most dominant on site and occupies an area of 18.15 hectares. It is dominated by *Corymbia intermedia* Pink Bloodwood, *Lophostemon confertus* Brush Box and *Banksia integrifolia* Coast Banksia. It is not a listed community at the state or commonwealth levels. This vegetation community occurs on site as 5 sub-types, largely based on disturbance.

3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The site is not situated in a marine area. The site is terrestrial only. The existing ground surface levels of the site based on Australian Height Datum (AHD) range from RL3m AHD to RL7m AHD.

The site generally slopes down from east to west very gradual with small north / south longitudinal mounds and swales through the surface profile average level of the land approximately RL 5m AHD.



3.7 Describe the current condition of the environment relevant to the project area.

Most of the project area is in poor to average condition with the site's history of activities impacting on the condition of the vegetation that now occurs across the site. The site is unfenced and crisscrossed by tracks. Such unfettered access has resulted in unauthorised dumping of cars, furniture, building materials (including asbestos), oil drums and other rubbish as well as garden refuse. The latter has resulted in many extensive patches of escaped garden weeds. The composition of the vegetation on site also indicated that it has experienced at least one very hot fire in the recent past.

The disturbed and modified places on site are largely associated with the numerous tracks through the site and neighbouring roads, and are affected by rubbish that has been dumped, vehicles being dumped, weed growth from garden refuse that has been dumped along tracks and previous clearing, sand mining and fire history.

The areas of Pink Bloodwood – Brush Box open forest (variant 'd' and variant 'e'), opposite the Iluka Golf Course and in the centre of the subject site were severely impacted by weed infestations of *Lantana camara* Lantana making them impenetrable in parts.

3.8 Describe any Commonwealth Heritage Places or other places recognised as having heritage values relevant to the project area.

The subject site is located opposite the Iluka Nature Reserve which is listed under the National Heritage list and as part of the World Heritage listed Gondwana Rainforests of Australia.

The proposed development retains a significant buffer of vegetation between residential development footprints and Iluka Nature Reserve. Therefore, the proposal will not impact on the extent or any values of this World Heritage Property.

3.9 Describe any Indigenous heritage values relevant to the project area.

As requested by Clarence Valley Council (CVC) officers and the NSW Office of Environment and Heritage (OEH) to undertake further cultural heritage assessment, the specialist heritage practice – Extent Heritage, has been appointed to conduct an Aboriginal Cultural Heritage Assessment.



The Aboriginal Cultural Heritage Assessment processes have commenced. The final reporting will be provided to Council once the processes, requested by CVC and OEH, are complete.

The processes for the ACHA are being conducted pursuant to the "Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH2011)", "Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW2010)", and "Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW2010)".

These processes are anticipated to continue through to July 2017.

It is noted vegetation along the western boundary of the subject site will be retained and will not be impacted on by the proposal.

3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area.

Lot 99 DP823635 is freehold land owned by the Birrigan Gargle Local Aboriginal Land Council.

3.11 Describe any existing or any proposed uses relevant to the project area.

Lot 99 DP823635 is existing vacant land.

The proposed development is to create a Community Title residential subdivision.



Section 4 - Measures to avoid or reduce impacts

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action.

Impacts have been avoided, minimised and ameliorated.

The proposed development has been part of a multidisciplinary iterative site analysis and design process and has undergone several changes to avoid and minimise impacts. The proposal was initially not supported in full by the Council officers of the Clarence Valley Council and refinements have been made to now satisfy the initial concerns of the Council officers of the Clarence Valley Council.

The proposal Masterplan refinements were undertaken to:

Avoid impacts to aboriginal heritage areas

Avoid impacts to fauna movements from the site to Bundjalung National Park and Iluka Nature Reserve to the east

Avoid impacts to fauna movements in general

Avoid impacts on large and mature trees where possible

Avoid impacts to the Coast Cypress Pine Forest (EEC) occurring on site

Avoid impacts on hollow-bearing trees in general

Avoid breaking important connectivity



Some areas of vegetation were not suitable to construct residential development, with factors including occurrences of the Endangered Ecological Community Coast Cypress Pine Forest, large trees, habitat for threatened species *Phascolarctos cinereus Koala* and migratory species *Merops ornatus* Rainbow Bee-eater and *Rhipidura rufifrons* Rufous Fantail. Within such areas, the only solution to avoid impacts to these important features was to avoid development within these areas all together.

The proposed layout was produced to provide large open streets (generally with 8m wide street sealed pavement and two (2) 6m wide verge areas either side of the pavement) with open areas for street trees that would act as a movement corridor and continue to provide foraging resources for fauna.

Ongoing weed management in the areas of retained vegetation will also control new weed incursions, and also provide the opportunity to control weeds not otherwise addressed currently.

Through the Clarence Valley Council officer input, statutory referral agency input and having regard to the submissions by stakeholders and to avoid and reduce the impact of the proposed subdivision, its form and characteristics have been modified as indicated in the following:

- Allotments - originally 162 lots proposed, current proposal 140 lots, reduction of 22 lots

- **Development footprint** - originally 16.57ha proposed, current proposal 14.11ha, reduction of 2.46ha

- **Vegetation retention** - originally 2.84ha proposed, current proposal 5.30ha, increase of 2.16ha

- Length of new street or existing road adjoining park - originally 975m proposed, current proposal 2,185m, increase of 1,210m

The proposed development has been refined to avoid and reduce impacts to vegetation and habitats on site



by:

- Reducing the total number of allotments and the extent of the development footprint, in turn reducing the extent of vegetation to be removed;

- Increasing the area of vegetation to be retained as conservation bushland and parks;

- Increase in the number of required smaller lots to comply with the Clarence Valley Council "Affordable Housing" policy;

- Increase in retaining vegetation in adjoining road reserves;

- Maintain wide verges (6m) width for replanting vegetation and fauna movement;

- Incorporating part of the existing bushfire trail zone - provides linkage and fauna movement;

- Remove reliance on Lot 7020 to be transferred from Crown Land to Hickey Street road reserve;

- Increase street cul-de-sacs diameter and removed access ways to satisfy Council officers;

- The areas of highest ecological value are retained in the system of parks. These include areas with a natural landform (Park A), the area of greatest concentration of Forest Red Gums (Park B), the best developed patch of Coastal Cypress Forest EEC in a dense stand of large mature trees (Park C), and the area of best potential habitat for Acronychia littoralis Park D).

- All Asset Protection Zones are now external to the proposed reserve areas.

- Biodiversity corridors: Parks B and D will now serve as an uninterrupted wildlife corridor from north to south of up, retaining the existing link from Iluka Nature Reserve to the habitats to the north west. Park A will continue to provide a north south linkage. The landscaping of the wide verges will be sympathetic to and driven by species selection and spacing of trees that favours Koala movement.

- Maintained protection to indigenous owner identified scar trees;

- Maintained street configuration for water quality treatment (WSUD), landscaping and to reduce vehicle speeds. Less impact for fauna movement;

- Maintained Community Title Subdivision format. Where by the future Body Corporate will be trusted with the ongoing implementation of the following plans for the future allotment owners in the subdivision:

Conservation Zone Management Plan;



Australian Government Department of the Environment and Energy

Bushfire Management Plan;

Street Verges and Landscape Plan;

Infrastructure Management Plan – where infrastructure is under the Body Corporate jurisdiction.

- The subject land is zoned for the proposed use. It is contained within the Clarence Valley Council Local Environmental Plan 2011 - R2 - Low Density Residential Zone.

- The proposed subdivision is not in conflict with the relevant provisions of the Clarence Valley Council Residential Zones Development Control Plan 2011 (DCP).

- The proposed subdivision is not out of sequence to appropriately zoned land in Iluka.

- The proposed subdivision is serviced by existing infrastructure including roads, water supply, sewerage, telecommunication and electricity.

4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved.

These issues are explored in detail in the Impact Table at Section 2.4 and in the attached IAMNES.

Phascolarctos cinereus Koala

This species was recorded on the subject site during survey in 2014 and suitable foraging habitat has been mapped, comprising 1 primary food tree species (*Eucalyptus tereticornis* Forest Red Gum), 2 secondary food tree species (*Corymbia intermedia* Pink Bloodwood and *Eucalyptus propinqua* Small-fruited Grey Gum), and 1 supplementary food tree species (*Lophostemon confertus* Brush Box). A detailed map of known Koala food trees occurring on the subject site is shown in Figure 2.

The best areas of habitat will be retained in large reserved bushland parks, the configuration of which will retain habitat connectivity and local movement corridors across the landscape. These parks will be managed for conservation under an Approved Management Plan.

The direct loss of habitat for this species will be minimal, comprising approximately 1.5 hectares of trees scattered across the site in widely-separated narrow bands. The area of retained Koala food trees comprises 2.3 hectares, within 5.3ha of reserved parks, which will be subject to weed control and other management activities.



The local population of this species is small and wide; ly dispersed.

The proposal will:

- Retain and manage the areas of best foraging habitat
- Provide linkages to habitat in all directions
- Impose effective mitigation mewasures for vehicle strike
- Impose effective mitigation mewasures for dog attack

- Facilitate movement through the development by best practice Koala-friendly landsacpe design

Merops ornatus Rainbow Bee-eater and Rhipidura rufifrons Rufous Fantail

These species were observed foraging and nesting on site during survey. The *Merops ornatus* Rainbow Bee-eater was observed foraging along the edges of the open forest and was also observed entering a breeding burrow in the intact sand dune along the northern boundary. *Rhipidura rufifrons* Rufous Fantail was observed foraging across the site on multiple occasions as a pair and as individuals. A nest of this species was also observed in the vegetation at the western end of the site.

These areas of realised breeding habitat will be retained within the park system.

Suitable habitat for these highly mobile species is largely available within the local area as protected lands, including Bundjalung National Park and Iluka Nature Reserve. The loss of 14.11 hectares of poor condition vegetation is unlikely to place further stress to these migratory species within the locality.



Section 5 – Conclusion on the likelihood of significant impacts

A checkbox tick identifies each of the matters of National Environmental Significance you identified in section 2 of this application as likely to be a significant impact.

Review the matters you have identified below. If a matter ticked below has been incorrectly identified you will need to return to Section 2 to edit.

5.1.1 World Heritage Properties
No
5.1.2 National Heritage Places
No
5.1.3 Wetlands of International Importance (declared Ramsar Wetlands)
No
5.1.4 Listed threatened species or any threatened ecological community
No
5.1.5 Listed migratory species
No
5.1.6 Commonwealth marine environment
No
5.1.7 Protection of the environment from actions involving Commonwealth land
No
5.1.8 Great Barrier Reef Marine Park
No
5.1.9 A water resource, in relation to coal/gas/mining
No



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5.1.10 Protection of the environment from nuclear actions

No

5.1.11 Protection of the environment from Commonwealth actions

No

5.1.12 Commonwealth Heritage places overseas

No

5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action.

Scale: The area of vegetation to be removed by the proposal (14.11 hectares) is poor quality, having undergone profound disturbances in recent history, including forestry, clearing, sand mining activities, repeated hot fires and invasion by transformer weeds. The extent of vegetation to be removed by the proposal is considered to provide the least ecological importance to a number of fauna species, including only 1.5 hectares of Koala habitat. The proposed clearing is considered small in regard to what will remain available in the local area, the majority of which is protected within reserved lands.

The vegetation to be retained on site (5.30 hectares) is considered to have the greatest ecological value, with majority of food trees for Koala occurring within the proposed network of parks.

Connectivity: Connectivity will be maintained for the species and communities of concern. An approximate 45-metre wide vegetated area will be retained along the western boundary of the site and approximately a variable 30 to 35 metre wide vegetated strip will be retained along the eastern boundary. This adjoins a 15-metre wide strip of vegetation in the road reserve of Iluka Road. The park of the north eastern corner is over 100 metres wide, and retains the best Koala foraging habitat.

A patch of vegetation to be retained along the southern boundary will continue to allow the movement of propagules of the plants that make up Coast Cypress Pine Forest (EEC) and a large vegetated area in the north-eastern corner of the site to be retained will continue to allow pollinators of *Eucalyptus tereticornis* Forest Red Gum or movement of rainforest fruits, the movement of migratory birds and terrestrial mammals and birds through the landscape.



Management: The areas of vegetation to be retained that are in poor condition are to be rehabilitated and managed, by the Community Association, under an Approved Management Plan. This will control new and existing weeds, reduce impacts of weed invasion to adjoining vegetation (such as Iluka Nature Reserve), and provide an opportunity to revegetate with the next generation of Koala food trees.



Section 6 – Environmental record of the person proposing to take the action

Provide details of any proceedings under Commonwealth, State or Territory law against the person proposing to take the action that pertain to the protection of the environment or the conservation and sustainable use of natural resources.

6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Please explain in further detail.

Yes.

The Stevens Group have an exceptional record in regard to responsible environmental management. They have successfully developed a wide range of projects throughout NSW, including:

- · Residential subdivisions;
- Commercial developments;
- Tourism facilities;
- · Retirement villages; and
- Memorial parks

Approvals from NSW State and local authorities, including the Office of Water, Department of Primary Industries, Roads and Maritime Services and Rural Fire Services have been required; all of which have been satisfied with the Stevens Group environmental management record.

Currently, Stevens Group has a number of residential based subdivisions under construction within NSW. Examples of current residential projects are:

Kings Estate, Terrigal, NSW: This is a 136 lot residential subdivision that is subject to a



number of management procedures and plans, including:

- an Ecological Site Management Plan;
- a Vegetation Management Plan; and
- a Vegetation Management Plan for land that was transferred to the local Council;
- a Controlled Activity Approval from the Office of Water; and
- a Bushfire Management Plan;

• The Vintage, Pokolbin: The Vintage is an integrated tourism residential development consisting of an international standard gold course and clubhouse, resort hotel, tourist accommodation facilities and residential allotments. The development involved revegetating denuded cattle grazing land by the planting of 165,000 trees and shrubs. The water courses were rehabilitated by extensive macrophyte planting and form part of the project's water quality control system. A project Vegetation Management Plan is in place for the management of the site.

The Stevens Group has a proud record of environmental management, having never been the subject of proceeding or defaulting on a performance or maintenance bond. The practices of the Stevens Group maintain high standards of responsible environmental management.

6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application.

The Stevens Group has no past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources.

6.3 Will the action be taken in accordance with the corporation's environmental policy and planning framework?

Yes

6.3.1 If the person taking the action is a corporation, please provide details of the corporation's environmental policy and planning framework.



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The action is proposed to be undertaken by an organisation i.e. Stevens Holdings Pty Limited being one of the Stevens Group's companies. The Stevens Group has a single owner being its Director/Secretary, John Stevens. The Stevens Group does not have an environmental policy nor planning framework, but rather prepares environmental plans on a project specific basis.

6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?

No



Section 7 – Information sources

You are required to provide the references used in preparing the referral including the reliability of the source.

7.1 List references used in preparing the referral (please provide the reference source reliability and any uncertainties of source).

Reference Source	Reliability	Uncertainties
NSW National Parks and Wildlife Service (1997) Broadwater National Park, Bundjalung National Park and Iluka Nature Reserve Plan of Management. NSW Government.	Reliable	NA
Cardno (2015) Report on PCA and Preliminary Geotechnical Investigation, Iluka Subdivision, prepared for Stevens Holdings Pty Ltd. Cardno, Edgeworth NSW.	Reliable	NA
Office of Environment and Heritage (2011) Guide to investigating, assessing and reporting on aboriginal cultural heritage in NSW. NSW Government, Sydney.	Reliable	NA
Department of Environment, Climate Change and Water (2010) Code of Practice for Archaeological investigations of aboriginal objects in NSW. Part 6 National Parks and Wildlife Act 1974. NSW Government, Sydney.	Reliable	NA
Department of Environment, Climate Change and Water (2010) Aboriginal cultural heritage consultation requirements for proponents, Part 6 National Parks and Wildlife Act 1974. NSW Government, Sydney.	Reliable	NA

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Reference Source	Reliability	Uncertainties
Office of Environment and Heritage (2004) Final Determination: Littoral Rainforest in the NSW North Coast, Sydney Basin and South East Corner bioregions. Endangered Ecological Community listing. NSW Government, Sydney.	Reliable	NA
Ashby, E and McTackett, A. (2015) Flora and Fauna Impact Assessment, Hickey Street, Iluka, Clarence Valley LGA. Unpublished report, Keystone Ecological.	Reliable – experienced professionals	Unpublished data
Ashby, E and McTackett, A. (2016) Additional Flora and Fauna Impact Assessment, Hickey Street, Iluka, Clarence Valley LGA. Unpublished report, Keystone Ecological.	Reliable – experienced professionals	Unpublished data
Ashby, E and McTackett, A (2017) Addendum Flora and Fauna Impact Assessment, Hickey Street, Iluka, Clarence Valley LGA. Unpublished report, Keystone Ecological.	Reliable – experienced professionals	Unpublished data
McAlpine, C., Rhodes, J., Peterson, A., Possingham, H., Callaghan, J., Curran, T., Mitchell, D., and Lunney, D. (2007) Planning guidelines for koala conservation and recovery: A guide to best planning practice. Australian Koala Foundation / University o Queensland	Reliable f	NA
NSW Environmental Planning and Assessment Act (1979). NSW Government, Sydney.	Reliable	NA
Environmental Protection and Biodiversity Conservation Act (1999). Australian Government, Canberra.	Reliable	NA
NSW Threatened Species Conservation Act (1995). NSW	Reliable	NA

Submission #2638 - Iluka residential subdivision, Hickey Street, Iluka



Australian Government Department of the Environment and Energy

Reference Source	Reliability	Uncertainties
Government, Sydney.		
Department of the Environment	Reliable	NA
and Energy (2017) EPBC		
Protected Matters Report.		
Australian Government,		
Canberra.		
Office of Environment and	Reliable	NA
Heritage (2016) NSVV Guide to		
surveying threatened plants.		
NSW Government, Sydney.	Paliabla	NA
Concernation (2004)	IReliable	NA
Threatened Biodiversity survey		
and assessment: Guidelines for		
development and activities		
working draft November 2004		
NSW Government, Svdnev,		
Clarence Valley Council (2015)	Reliable	NA
Comprehensive Koala Plan of		
Management for the Ashby,		
Woombah and Iluka localities in	1	
the Clarence Valley LGA.		
Clarence Valley Council.		
NSW State Environmental	Reliable	NA
Planning Policy No. 44 – Koala		
Habitat Protection (2016). NSW	,	
Government, Sydney.		
Department of the Environment	Reliable	NA
(2014). EPBC Act referral		
guidelines for the vulnerable		
Koala (combined populations of		
Queensiand, New South Wales		
Covernment Canberra		
Database searches - BioNet	Variously reliable	Locations and identifications of
Atlas of Living Australia and		biota from contributors of
Australia's Virtual Herbarium		varving degrees of expertise
Office of Environment and	Reliable	NA
Heritage. Threatened species		
profile database searches.		
Office of Environment and	Reliable	NA
Heritage (2008) Coastal		
Cypress Pine Forest in the		
NSW North Coast Bioregion –		
endangered ecological		



Department of the Environment and Energy

Reference Source	Reliability	Uncertainties
community listing. NSW Government, Sydney.		
Clarence Valley Council (2011) Residential zones Development Control Plan. Clarence Valley LGA.	Reliable	NA
Clarence Valley Local Environmental Plan (2011). NSW Government, Sydney.	Reliable	NA
Soil landscapes	Reliable	NA
Lunney, D. O'Neill, L. Matthews, A and Sherwin, W.B. (2002). Modelling mammalian extinction and forecasting recovery: Koalas at Iluka (NSW Australia). Biological conservation 106 (2002), 101-113. Elsevier Science Ltd.	Reliable – Peer reviewed scientific paper.	NA
NSW National Parks and Wildlife Service and Royal Botanic Gardens, Personal communication, via email and phone call	Reliable - experienced professional	Unpublished data



Section 8 – Proposed alternatives

You are required to complete this section if you have any feasible alternatives to taking the proposed action (including not taking the action) that were considered but not proposed.

8.0 Provide a description of the feasible alternative?

No feasible alternatives to the proposal are available.

As described previously, the final development layout has been determined through an iterative site analysis and design process that has focused on avoiding and minimising impacts on biodiversity.

Not taking the action is not an option.

The landowner, the Birrigan Gargle Local Aboriginal Land Council, has the ability to deal with the land. The proposal once completed provides the opportunity to generate funds for the Birrigan Gargle Local Aboriginal Land Council to move towards being self-sufficient for its future purposes and endeavours.

The subject land is zoned for the proposed use. It is contained within the Clarence Valley Council Local Environmental Plan 2011 - R2 - Low Density Residential Zone.

The proposed subdivision is not in conflict with the relevant provisions of the Clarence Valley Council Residential Zones Development Control Plan 2011 (DCP).

The proposed subdivision is not out of sequence to appropriately zoned land in Iluka.

The proposed subdivision is serviced by existing infrastructure including roads, water supply, sewerage, telecommunication and electricity.

8.1 Select the relevant alternatives related to your proposed action.

8.27 Do you have another alternative?

No



Section 9 – Contacts, signatures and declarations

Where applicable, you must provide the contact details of each of the following entities: Person Proposing the Action; Proposed Designated Proponent and; Person Preparing the Referral. You will also be required to provide signed declarations from each of the identified entities.

9.0 Is the person proposing to take the action an Organisation or an Individual?

Organisation

9.2 Organisation

9.2.1 Job Title

Development Manager

9.2.2 First Name

Ben

9.2.3 Last Name

Johnson

9.2.4 E-mail

benjohnson@stevensgroup.com.au

9.2.5 Postal Address

PO Box 3171 Erina NSW 2250 Australia

9.2.6 ABN/ACN

ABN

14002386450 - STEVENS HOLDINGS PTY LIMITED

9.2.7 Organisation Telephone

02 4365 8641



Department of the Environment and Energy

9.2.8 Organisation E-mail

benjohnson@stevensgroup.com.au

9.2.9 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

Not applicable

Small Business Declaration

I have read the Department of the Environment and Energy's guidance in the online form concerning the definition of a small a business entity and confirm that I qualify for a small business exemption.

Signature:..... Date:

9.2.9.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations

No

9.2.9.3 Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made

Person proposing the action - Declaration

I, ______, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature:..... Date:

I,,	the person proposing the action, consent to the
designation of	as the proponent of the purposes of
the action describe in this EPBC Act Referral	

Signature:..... Date:

9.3 Is the Proposed Designated Proponent an Organisation or Individual?



Australian Government Department of the Environment and Energy

9.2.8 Organisation E-mail

benjohnson@stevensgroup.com.au

9.2.9 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

Not applicable

Small Business Declaration

I have read the Department of the Environment and Energy's guidance in the online form concerning the definition of a small a business entity and confirm that I qualify for a small business exemption.

Signature: Date

9.2.9.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations

No

9.2.9.3 Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made

Person proposing the action - Declaration

I. DEN DHALSON declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

J Date 7/08/17 Signature:

I. ______, the person proposing the action, consent to the designation of _______as the proponent of the purposes of the action describe in this EPBC Act Referral.

Signature: Date:

9.3 Is the Proposed Designated Proponent an Organisation or Individual?



" Department of the Environment and Energy

Organisation

9.5 Organisation

9.5.1 Job Title

Development Manager

9.5.2 First Name

Ben

9.5.3 Last Name

Johnson

9.5.4 E-mail

benjohnson@stevensgroup.com.au

9.5.5 Postal Address

PO Box 3171 Erina NSW 2250 Australia

9.5.6 ABN/ACN

ABN

14002386450 - STEVENS HOLDINGS PTY LIMITED

9.5.7 Organisation Telephone

02 4365 8641

9.5.8 Organisation E-mail

benjohnson@stevensgroup.com.au

Proposed designated proponent - Declaration

I. DEN JOHN SON, the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.

Submission #2638 - Iluka residential subdivision, Hickey Street, Iluka



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Signature Ben shulan Date 7/08/2017

9.6 Is the Referring Party an Organisation or Individual?

Organisation

9.8 Organisation

9.8.1 Job Title

Principal Consultant

9.8.2 First Name

Elizabeth

9.8.3 Last Name

Ashby

9.8.4 E-mail

e.ashby@keystone-ecological.com.au

9.8.5 Postal Address

PO Box 5095 Empire Bay NSW 2257 Australia

9.8.6 ABN/ACN

ACN

099456149 - KEYSTONE ECOLOGICAL PTY LTD

9.8.7 Organisation Telephone

0243681106

9.8.8 Organisation E-mail

e.ashby@keystone-ecological.com.au

Referring Party - Declaration



Department of the Environment and Energy

Organisation

9.5 Organisation

9.5.1 Job Title

Development Manager

9.5.2 First Name

Ben

9.5.3 Last Name

Johnson

9.5.4 E-mail

benjohnson@stevensgroup.com.au

9.5.5 Postal Address

PO Box 3171 Erina NSW 2250 Australia

9.5.6 ABN/ACN

ABN

14002386450 - STEVENS HOLDINGS PTY LIMITED

9.5.7 Organisation Telephone

02 4365 8641

9.5.8 Organisation E-mail

benjohnson@stevensgroup.com.au

Proposed designated proponent - Declaration

I, _____, the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.



Department of the Environment and Energy

Signature:..... Date:

9.6 Is the Referring Party an Organisation or Individual?

Organisation

9.8 Organisation

9.8.1 Job Title

Principal Consultant

9.8.2 First Name

Elizabeth

9.8.3 Last Name

Ashby

9.8.4 E-mail

e.ashby@keystone-ecological.com.au

9.8.5 Postal Address

PO Box 5095 Empire Bay NSW 2257 Australia

9.8.6 ABN/ACN

ACN

099456149 - KEYSTONE ECOLOGICAL PTY LTD

9.8.7 Organisation Telephone

0243681106

9.8.8 Organisation E-mail

e.ashby@keystone-ecological.com.au

Referring Party - Declaration

Department of the Environment and Energy

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I, <u>ELIZABETH ASHBY</u>, I declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence.

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Signature: Chiguball and Date: 7th august 2017



* Department of the Environment and Energy

Appendix A - Attachments

The following attachments have been supplied with this EPBC Act Referral:

- 1. affia_2016_part_a_additional_ff_-_iluka_31_oct_2016.pdf
- 2. affia_2016_part_b_additional_ff_-_iluka_31_oct_2016.pdf
- 3. aia_2017_cvc_14-695_-_iluka.pdf
- 4. boundary.kml
- 5. epbc_protected_matters_report.pdf
- 6. ffia_2015_part_1_text_cvc_14-iluka_695_-_stevens_group.pdf
- 7. ffia_2015_part_2_figures_cvc_14-iluka_695_-_stevens_group.pdf
- 8. ffia_2015_part_3a_photographs_cvc_14-iluka_695_-_stevens_group.pdf
- 9. ffia_2015_part_3b_photographs_cvc_14-iluka_695_-_stevens_group.pdf
- 10. ffia_2015_part_4_app_1_and_2_cvc_14-iluka_695_-_stevens_group.pdf
- 11. ffia_2015_part_5_app_3_cvc_14-iluka_695_-_stevens_group.pdf
- 12. figures_1_and_2_epbc.pdf
- 13. iluka_master_plan_8th_june.pdf
- 14. iluka_staging_plan_8th_june.pdf
- 15. iluka_vegetation_zones_plan_8th_june.pdf
- 16. uiamnes_2017_epbc_assessments_cvc_14-695_iluka_-_stevens.pdf