23 October 2015

Gold Coral Pty Ltd
C/- Adam Smith – Planit Consulting Pty Ltd
Po Box 558
Surfers Paradise QLD 4217

Attn: Adam Smith

RESPONSE TO RICHMOND VALLEY COUNCIL REQUEST FOR FURTHER INFORMATION (RFI)
DEVELOPMENT APPLICATION NO. 2015.096
LOT 163 DP 831, LOTS 276 & 277 DP 755624 – 240 IRON GATES DRIVE, EVANS HEAD

Dear Adam Smith,

We refer to the Information Request issued by Richmond Valley Council dated 18th November 2014 as well as issues raised by the Office of Environment and Heritage and the Department of Primary Industries dated 22nd December 2014 and 18th February respectively for the abovementioned development.

In addition to the above, a response to public submissions has also been provided in regards to the environmental issues raised. It is considered that the detailed response to David Milledge's submission dated 4th December 2014 (provided below) covers all the key environmental issues raised by other public submissions.

The following is our response to the abovementioned request for further information and/or issues raised:

Richmond Valley Council's RFI dated 18/11/14 – points 8-17.

8. Provide the CV of the author/s of the Flora and Fauna assessment and advise if a peer review has been undertaken of the methods, assessment, conclusions and recommendations of the report.

Comment - Please refer to Attachment 1 for the Flora and Fauna Assessment author's CV.

A peer review of the Flora and Fauna Assessment has been undertaken when the report was displayed for public information.

9. The impacts on existing vegetation from the discharge of untreated stormwater (northern corner) into the identified EEC (Lot 179) and the construction of the retaining wall along the southern boundary which will limit the drainage from the EEC has not been satisfactory addressed. Please have your Flora & Fauna Report consider this and make recommendations so the EEC is not detrimentally affected by the proposed works. The drain running adjacent the EEC (Lot 179), is to be filled, the impacts on the EEC of the filling needs to be considered in relation to current stormwater movement across the site.

Comment - The proposed stormwater system contains appropriate stormwater quality devices which ensures that urban runoff is treated before discharge.

We note these changes will ensure existing overland flows to the EEC are maintained. We note a constructed drain exists adjacent to the littoral rainforest EEC presently and captures overland flow from the north.

Additionally, 300mm twin culverts are proposed between chainage 20 and 140 of MC1004 which will allow stormwater movement from the central EEC (Lot 179) into external areas (e.g. Lot 178), which will help prevent potential ponding from occurring.

Please refer to the Engineering Services and Civil Infrastructure Report prepared by Hyder Consulting for information regarding the site's filling and stormwater information.

10. The Flora & Fauna report does not appear to have considered the impacts of site filling or the impacts of overall site drainage. What are the limits to be placed on the source of fill so it is suitable for use on site? How will species composition be affected?

Comment – The proposal involves minor filling, but no excavation works within areas immediately adjacent to the EEC which is not considered to significantly impact the drainage of these areas.

The proposed stormwater system contains appropriate stormwater quality devices which ensures that urban runoff is treated before discharge.

We note these changes will ensure existing overland flows to the EEC are maintained. We note a constructed drain exists adjacent to the littoral rainforest EEC exists presently and captures overland flow from the north.

We also note a constructed drain and drainage system occurs in the northern portion of the site which captures stormwater.

In addition, twin 300mm culverts are proposed between chainage 20 and 140 of MC1004 at four regular intervals. These culverts will ensure that connectivity is retained between the EECs on site and ensure that non-volant fauna species are able to safely traverse between the EECs. Additionally, the proposed culverts will ensure that no ponding will occur within the central EEC and will ensure that runoff is able to occur into external areas (e.g. Lot 178).

All fill material placed on site must comprise only natural earth and rock, and is to be free of contaminants, be free draining, and be in accordance with AS1289.

Please refer to the Engineering Services and Civil Infrastructure Report prepared by Hyder Consulting for information regarding filling of the site, the source of fill and stormwater information.

11. Provide details on the extent of vegetation to be trimmed within the edges of the EEC to allow access for the adjoining road (Iron Gates Drive Extension).

Comment - It is currently proposed that no vegetation is to be trimmed within the edges of the EEC to allow access for the adjoining road (Iron Gates Drive Extension).

12. Please confirm if the following are typographical errors in the SEE;

- Page 46 of the Flora and Fauna report references Port Stephens Council
- P95 "it is considered unlikely that the proposed development **will not** disrupt the lifecycle of the recorded Lesser Swamp Orchid/Greater Swamp Orchid population to the point that it is at risk of extinction in the locality"
- Page 98 references the 'Fishermans Co-Op'

Comment - In regards to the first dot point which references Port Stephens Council, it is noted that this is not a typographical error and is referencing the endangered population 'Emu population in the New South Wales North Coast Bioregion and Port Stephens local government area' under the *Threatened Species Conservation Act 1995*.

In regards to the remaining two dot points, it is confirmed that these are typographical errors.

13. The following proposed mitigation measures in the Fauna assessment for koalas is not accepted as they are considered impracticable:
a. Restricting the speed limit within entire subdivision to 20km/h; and
b. Requiring all domestic pools to have an anchored rope that will allow Koalas to drag themselves out of pool.
Council requires the impacts on Koala and other similar native animals be reassessed without reliance of these measures to achieve an acceptable impact result. Please note its likely all roads within the subdivision will be limited to 50km/h as per the remainder of the Evans Head Village.

Comment - Noted.

It is considered that the mitigation and management measures provided within the Flora and Fauna Assessment Report and the OEH response is sufficient and acceptable in terms of potential fauna impacts as a result of the proposal.

14. The proposed off set of native vegetation removal by the provision of additional forage areas for common avifauna is not considered adequate due to;

a. all proposed lots being constrained by an APZ, which limits types and amount of vegetation on private land.
b. The vegetation of land that is proposed to become Councils asset (foreshore) is also limited due to conflicting use of the land for community parkland.
c. Council Parks and Gardens Section is not supportive of extensive vegetation in the road reserve and has requested a reduction of identified/shrubs of 50%

Council requires reconsideration of vegetation removal off set areas, so these areas are suitably size for the amount of vegetation removal and don't conflict with future usable community open space.

Comment - As outlined, direct impacts from this proposal have been quantified. The modified development plans will result in ~19.0832ha proposed to be cleared/modified as a result of the proposed development. From this, ~17.53ha is Disturbed Vegetation Community as described within the Flora and Fauna Assessment report. Indirect impacts and mitigation measures have been provided within the Flora and Fauna Assessment.

It is proposed that the southern areas of the subject site (foreshore road reserve) will be revegetated with native species similar to those found within the adjacent EEC. This has been supported by the OEH. Additionally, it is proposed that ~1.83ha of assisted natural regeneration is proposed within the northern areas of the subject site.

In summary, the majority of the vegetation proposed to be removed/modified is of a disturbed nature and is not considered to represent core habitat for threatened fauna species. It is considered that the proposed revegetation of the foreshore road reserve and the assisted natural regeneration of ~1.83ha in addition to the proposed landscaping will compensate the removal/modification of primarily cleared/disturbed vegetation.

15. Demonstrate how the proposed subdivision will limit the impacts of the recently introduced 10/50 rule for clearing of vegetation for bushfire protection. Council has concern existing and future adjoining land owners to the individual residential lots will be liable if they refuse to permit vegetation removal on their land and a bushfire occurs.

Comment - This item is addressed in more detail by the bushfire consultant, however, we note that no areas of high conservational value will be cleared as a result of the development. The design of the development ensures that vegetation clearing is minimal and restricted to areas not considered to represent significant habitat.

The inclusion of perimeter streets and trails provide an asset protection zone for ecological and bushfire management.

16. Council requires the following potential impacts to be considered in the SEE;

a. Impacts on future residents from a Flying Fox colony establishing in the EEC (lot 179).

b. Impacts on future residents from mosquitos, sand flies and midges.

What mitigation measures/buffers can be introduced to limit the impacts on future residents.

Comment - No evidence of a flying-fox colony establishing within the Littoral Rainforest (EEC) was observed during survey periods, or inspections of the subject site. Given that there is no flying fox colony establishing within the EEC, no impacts on future residents is expected.

A Biting Insect Impact Assessment prepared by Mosquito Consulting Services Pty Ltd for the development site. Please refer to this report for potential impacts and mitigation/recommendation measures in regards to biting insects on-site.

17. The seven part tests p.84 states "the following ten species of threatened fauna and one endangered ecological communities were recorded on the site or are considered potential occurrences within the area based upon available habitat components and may have the potential to be significantly affected through any development of the site". Please confirm the intent of this statement as it would appears that this statement would require a Species Impact Assessment be undertaken for the potential impacts on the environment.

Comment - In regards to the comment stating that the threatened species and the endangered ecological community recorded or considered potential occurrences may have the potential to be significantly affected through any development of the site, this was only an assumption prior to the 7-part test of significance being performed for the respective species/community and was not a conclusion as a result of the findings.

It is noted that following the 7-part test of significance, it was concluded that as a result of the proposal none of the threatened fauna species or endangered ecological community recorded on site or considered potential occurrences would disrupt the lifecycle of the local population of the respective species/community to the point that they are at risk of extinction.

It is also noted that page 102 of the Flora and Fauna Assessment Report concluded that a Species Impact Statement (SIS) was not required as a result of the proposed development.

OEH **letter dated 22/12/2014 – points 1-12 & 16-17**

Biodiversity Matters

OEH has reviewed the Statement of Environment Effects (SEE) and the Flora and Fauna Assessment report by Planit Consulting dated October 2014 and August 2014 respectively.

Historical Information

OEH recommends that prior to determining the development application:

1. The applicant should provide a copy of the restoration order to Council for further consideration.

2. Council should clarify the legal implications of the restoration order with respect to the current development application.

3. The details of the recent vegetation clearing and its relationship to former development consents should be provided to Council for further consideration.

Comment - Noted.

It is noted that the proponent subject to the restoration order is not the current proponent and does not have a copy of the restoration order.

It is also noted that the previous proponent went into receivership shortly after the Orders were made and remain so today. As such no actions required by the Orders were ever undertaken, which included restoration of the land.

Indirect Impacts and Buffers

OEH recommends that prior to determining the development application:

4. The proposal should be designed to provide vegetated buffers to the significant environmental values of the site.

5. Any indirect impacts not addressed by vegetated buffers on the significant environmental values or any other vegetation community should be calculated and offset accordingly.

Comment - The proposed development has been designed to avoid environmental impacts. Where impacts may potentially occur these have sought to be reduced and/or mitigated. The development has quantified the direct impacts from the development which has demonstrated no endangered ecological communities are proposed to be cleared or habitat that constitutes core or critical habitat for scheduled threatened species. Through this development high environmental areas as identified through the environmental report have been retained and no development is proposed within these areas.

Indirect impacts may arise from the development. Indirect impacts is defined as impacts caused by a transportation action and occur later in time and farther removed in distance from the action, but are still reasonably foreseeable. Indirect impacts can include growth inducing impacts and other impacts related to induced changes in the pattern of land use, population density or growth rate, and related impacts on air, water, and other natural systems, including ecosystems (Texas Department of Transport, 2014).

Potential indirect impacts associated with the proposed development includes light pollution, noise pollution, weed invasion, predation, edge effects, dieback, genetic isolation, barrier effects, and vehicle strike.

A key feature of the development proposal has been the inclusion of low speed roads adjacent to retained vegetation within the development. This reduces necessity for clearing for bushfire, an indirect impact, and further provides further separation between the development allotments and areas of retained vegetation and/or habitat.

As outlined the proposal has been designed to avoid impacts and reduce/mitigate residual impacts. As part of the development of the site a suite of management plans will be developed such as vegetation management, weed management, fauna management, stormwater management, waste management plan, sediment and erosion control management, noise pollution management.

Additionally, a Construction Management Plan and an Environmental Management Plan will be prepared for the construction phase of the development which will help prevent potential environmental impacts.

The development further seeks to reduce indirect impacts identified above in the following ways:

Light Pollution - Design features of the proposal such as light guards to external lighting are proposed to prevent / reduce light spill to adjacent retained vegetation communities. Additionally, the proposed vegetated buffer will reduce lighting within vegetation communities external to the proposed development. These areas will be vegetated with native species which will provide refuge to small ground mammals, as well as assisting in stablising disturbed areas and controlling dispersal of weeds.

Weed Invasion - Weed management protocols will be implemented during the construction and operational phases of the development to reduce the spread of weeds within, and within areas immediately external to the site (including the Littoral Rainforest). Control techniques will vary depending upon the species being targeted as well as its location. In areas of low significance (i.e. weed thickets external to bushland or drainage lines ect) broad scale application of herbicide or mechanical removal will be appropriate. Within the proximity to areas of native floral species dominance more selective removal techniques (i.e. cut stump, stem application, hand removal ect.) and spot application of a non-residual herbicide (i.e. roundup bioactive) would be necessary.

Noise Pollution – Noise pollution issues during the construction phase of the development relate to the operation of plant and machinery necessary to complete works. It is proposed that construction activities on site be limited to less noise sensitive periods. In addition, the proposed vegetation buffers will help screen potential noise pollution.

Sediment and Erosion - The location of the proposal and the scale of earthworks ensures sedimentation and impacts to the external vegetation communities and SEPP 14 wetlands do not occur. Implementation of accepted best management practices for effluent disposal combined with other site management actions (i.e weed control) also address potential

secondary impacts to these areas. Strict sediment and erosion control measures will be implemented to prevent impacts to areas external to the development footprint (SEPP 14 areas, Evans River and Littoral Rainforest). More details regarding Sediment and Erosion Control procedures are provided by the engineering consultant for the project (Hyder Consulting).

Increase in Predation - As identified within the Flora and Fauna Assessment Report the proposed development is not intended to permit / allow domestic animals (i.e. dogs & cats) to freely roam within the development while all open spaces are to be an on-leash area only to minimise harassment of residual fauna.

Edge Effects, Dieback, Genetic Isolation, Barrier Effects – Design and management initiatives are proposed in association with the proposed development to progressively reduce the impact of 'edge effects' and weed management on the retained vegetation communities external to the development footprint. All weed treatment is to adopt selective control techniques (i.e. cut stump, stem application ect) and spot application of a non-residual herbicide (i.e. roundup bioactive) and not utilise broad scale mechanical removal.

As discussed within the submitted Flora and Fauna Assessment for the subject site, it is considered that the residual vegetation communities/habitats are highly connected and form an expansive contiguous corridor of remnant habitat. As stated within the report, it is considered that the proposal will not introduce a new significant terrestrial fauna dispersal barrier given that existing vegetation will still remain around the entire development, allowing easy fauna movement. Additionally, the small scale nature of the development in context to the available habitat/vegetation in the locality ensures that no environmental corridors will be significantly impacted.

As previously indicated, connectivity to the central Littoral Rainforest will remain as a result of the proposed development. The entire community is surrounded by low speed roads. Given that no areas of vegetation will be isolated from external habitats, genetic isolation will not occur.

Road Strikes/Vehicle Mortality - Given that an increase in daily vehicle numbers will occur on site as a result from the development, an increase in potential vehicle strike is likely to occur. To reduce vehicle strikes, road signage indicating the presence of wildlife will be erected within the development site as well as along Iron Gates Road to aware drivers of the presence of wildlife in the area. Given the small nature of the development and proposed low speed roads, it is considered that road strikes/mortality will not be significantly increased within the locality as a result of the development.

In addition, a native landscape palette is being proposed for the streetscape and landscape works. Additionally, it is proposed that the southern areas of the subject site (foreshore road reserve) will be revegetated with natural species similar to those found within the adjacent EEC. ~1.83ha of assisted natural regeneration is proposed within the northern section of the site (refer Attachment 2).

In relation to paragraph 2 in the Indirect Impacts and Buffers section, as outlined above the proposal has been designed to minimise conflict between the designated R1 land use and uses within adjoining zones. This conflict is sought to be reduced by the provisional ring roads further separating activities/housing development and the retained conservation areas.

As stated within the Flora and Fauna Assessment Report no vegetation is proposed to be removed from the Littoral Rainforest Community. Additionally, all clearing works associated with the proposed development will be supervised by a suitably qualified fauna spotter catcher. Within areas of vegetation retention tree management is to occur in accordance with Australian Standard AS 4970 Protection of trees on development sites. An appropriate Fauna Management Plan will be implemented during the clearing/modification stage of the development.

As stated, the Littoral Rainforest community is buffered from the development through the provision of a road. Landscaping within the verges of these road reserves is sought to reduce/mitigate potential impacts from the development.

In relation to the statement about loss of connectivity in regard to the Littoral Rainforest, as noted in the attached plans the Littoral Rainforest community has retained conservation areas and/or vegetated areas which provide corridors to, within and through the Littoral Rainforest areas. This is a small development and low speed roads are proposed to reduce potential impacts to fauna.

We note that the stated buffer within the correspondence and note that an alternate solution is brought forward and the alternate is that the land uses are separated by the conservation areas by low speed roads which are to be appropriately treated to provide a level of buffering through landscaping of the retained communities. Additionally, the proposed culverts will help ensure that connectivity is to remain between the central EEC and external habitats.

Positive impact arising from the proposal will be the appropriate native landscaping of currently cleared areas such as the foreshore road reserve. Additionally, assisted natural regeneration is proposed within the northern section of the subject site. This is particularly important for providing refuge to small ground mammals, as well as assisting in stabilising disturbed areas and controlling dispersal of weed species.

Bushfire Impacts

OEH recommends that prior to determining the development application:

6. The impacts of bushfire management, including the 10/50 Code clearing entitlement should be considered and addressed as part of the impacts of the proposal.

7. The proposal should be redesigned such that building envelopes are located at least 50m from vegetation to be retained within the site and from vegetation on adjoining properties.

8. Where such redesign of the proposal is justified as not practicable, the potential future impacts on such vegetation should be offset.

Comment - This item is addressed in more detail by the bushfire consultant, however, we note that development design of the proposal ensures that clearing is minimal and no areas

of high conservational value will be cleared as a result of the development. Clearing for bushfire purposes will be located within the development footprint and areas zoned as R1 – General Residential. Additionally, future residential buildings will be required to be constructed to AS 3959-2009.

The inclusions on perimeter streets and trails provide an asset protection zone for both ecological and bushfire management.

Offsets to Biodiversity Impacts

OEH recommends that prior to determining the development application:

9. Measures such as vegetated buffers and the redesign of the proposal should be considered to avoid impacts to biodiversity.

10. All direct and indirect biodiversity impacts of the proposal are to be offset, in accordance with the OEH principles for the use of biodiversity offsets in NSW.

11. The BioBanking Assessment Methodology should be used to quantify the offsets required to compensate for the direct and indirect biodiversity impacts of the proposal.

Comment - In relation to comments in regard to illegal clearing this is being invested by other entities and no further comment will be provided in relation to this.

As outlined, direct impacts from this have been quantified. The modified development plans will result in ~19.0832ha proposed to be cleared/modified as a result of the proposed development. From this, ~17.53ha is Disturbed Vegetation Community as described within the Flora and Fauna Assessment report. Indirect impacts and mitigation measures have been provided within the Flora and Fauna Assessment, as well as the preceding sections of this response.

In relation to comments regarding residue lots containing building entitlements please refer to the planning report on this point.

In regard to the last paragraph stating the southern area of the site (the foreshore road reserve) should be revegetated this area is currently cleared, this area is proposed to be revegetated with native species similar to those found within the adjacent EEC.

Additionally, it is proposed that ~1.83ha of assisted natural regeneration is proposed within the northern areas of the subject site (refer Attachment 2).

In summary, the majority of the vegetation proposed to be removed/modified is of a disturbed nature and is not considered to represent core habitat for threatened fauna species. It is considered that the proposed revegetation of the foreshore road reserve and the assisted natural regeneration of ~1.83ha.

Acid Sulphate Soils Matters

OEH recommends that:

12. Council should ensure that proponent monitors and manages any potential acid sulphate soil issues during the construction phase of the proposal.

Comment - Noted.

It is proposed that a Construction Management Plan will be prepared and implemented during the construction phase of the proposal which will include monitoring and management measures of potential acid sulphate soils.

More information regarding acid sulphate soils is provided within the Acid Sulphate Soils Review prepared by Hyder Consulting.

Compliance and Regulation Matters

OEH recommends that prior to determining the development application:

13. Richmond Valley Council should consider the outcome of OEH's investigations into alleged unlawful clearing and impacts on threatened species habitat and Aboriginal heritage.

Comment - Noted.

DPI letter dated 18/02/2015

Review of the assessment documentation and a site inspection undertaken by Fisheries NSW find that based on the plans that are available, the proposed works generally avoid key fish habitats. It is possible however that construction works might result in encroachment into Key Fish Habitat areas.

Fisheries NSW understands that the proponent is refining plans in order to satisfy a "stop the clock" request. Fisheries NSW recommend that the proponent and Council reassess the additional information that is prepared and any modifications to plans cognisant that permanent or temporary encroachment into areas considered key fish habitat would make the proposal an integrated matter for Fisheries NSW.

The Department's *Policy and Guidelines for Fish Habitat Conservation and Management (2013 update)* are available at www.dpi.nsw.gov.au/fisheries/habitat/protecting-habitats/toolkit. Section 3.2 of this document details the types of habitats that are considered Key Fish Habitats.

It should also be noted that the subject site is near the threatened fish species Oxleyan Pygmy Perch and consideration of impacts on this species should again be evaluated against any changes to the development layout or construction methodologies. The Department's policy and guidelines outline recommended buffer distances to both key habitats which include the habitat of threatened species.

Comment - Please refer to Attachment 1 for the Engineering Services and Civil Infrastructure Report prepared by Hyder Consulting dated July 2015 which indicates the proposed works. It is noted that no areas considered to represent Key Fish Habitats will be impacted upon by the proposed works associated with the development. It is noted that no works associated with the development will encroach within areas considered to represent Key Fish Habitat areas as stated within the Engineering Services and Civil Infrastructure Report (Attachment 1).

To ensure that no areas containing Key Fish habitats will be impacted upon as a result of the development, mitigation and management plans (i.e. sediment and erosion control plan, stormwater management plan, construction management plan ect) will be prepared, approved and implemented when necessary. It is also noted that a significant buffer will be provided between the proposed development and Evans River.

It is also noted that an average 40m setback has been proposed to the Evans River Foreshore which will be revegetated and maintained as public open space providing a buffer between the urban footprint and Evans River.

As stated within the Flora and Fauna Assessment Report, it is also considered that no areas representing potential Oxleyan Pygmy Perch habitat will be impacted upon by the proposed works associated with the development.

David Millage Public Submission Response – Dated 4/12/2014

1. Introduction

In November 2014 Landmark Ecological Services was requested by EDO NSW to undertake an independent expert review of the Statement of Environmental Effects (SEE, Planit 2014a) for the Iron Gates Residential Development with respect to the Terrestrial Flora and Fauna Assessment prepared by Planit Consulting (Planit 2014b).

In particular, EDO NSW requested information on:

i) the presence of Threatened species (as listed on the schedules of the NSW *Threatened Species Conservation (TSC) Act 1995*) and their habitats in the Iron Gates site (Lots 277, 276 and 163, Parish of Riley; Planit 2014);

ii) the likely impacts from the proposed development on these Threatened species and their habitats; and

iii) the likelihood of any harm having occurred to the Threatened species, communities and their habitats resulting from the lack of remediation of the site as ordered by the NSW Land and Environment (L&E) Court in 1997.

I have had previous field experience in the site, having undertaken investigations there on 19 and 20 September 1996 (Milledge 1996), 27 March 1997 (Milledge 1997) and 19 March 1998 (Milledge 1998) in conjunction with a number of cases before the L&E Court at that time.

Following the recent request from EDO NSW, I viewed the site again on 28 November 2014 from its eastern boundary along the drain that I observed there in September 1996 and subsequently in 1997 and 1998 (Milledge 1996, 1997, 1998).

I have been provided with a copy of Division 2 of Part 31 of the *Uniform Civil Procedure Rules 2005* and the *Expert Witness Code of Conduct* in Schedule 7 of *the Uniform Civil Procedure Rules 2005*. I have read the *Expert Witness Code of Conduct* under the *Uniform Civil Procedure Rules 2005* and agree to be bound by it. I believe that my report complies with the code.

2. Threatened Species Known or Likely to Occur in the Site

During my investigations in the site on 19 and 20 September 1996 (as part of L&E Court proceedings at that time), I recorded two Threatened microchiropteran bat species (*TSC Act 1995*), comprising the Hoary Wattled Bat *Chalinolobus nigrogriseus* and the Greater Broad-nosed Bat *Scoteanax rueppellii* (Milledge 1996). I also found evidence of Koala *Phascolarctos cinereus* use of the site in the form of numerous scats at the bases of Red Mahogany *Eucalyptus resinifera* emergents in the Littoral Rainforest during investigations on 19 March 1998 (Milledge 1998).

The recent fauna surveys conducted by Planit resulted in two of these Vulnerable species (*TSC Act 1995*), the Koala and Hoary Wattled Bat being detected, as well as five additional Threatened fauna species (Table 1). The latter consist of the Vunerable Wallum Froglet *Crinia tinnula*, Squirrel Glider *Petaurus norfolcensis*, Grey-headed Flying-fox *Pteropus poliocephalus*, Little Bent-winged Bat *Miniopterus australis* and Large-footed Myotis *Myotis macropus* (Planit 2014b). In addition to their *TSC Act* listing, both the Koala and Grey-headed Flying-fox are listed as Vulnerable under the Commonwealth's *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*.

However, the Planit assessment makes no reference to any of the fauna investigations conducted in the site prior to and in relation to the L&E Court cases between 1996 and 1998 (Phillips 1991, 1998, Leggett 1992, Lim 1993 , Milledge 1996, 1997, 1998). Consequently they have overlooked the occurrence of the Greater Broad-nosed Bat plus records of the Threatened Black-necked Stork *Ephippiorhynchus asiaticus*, Square-tailed Kite *Lophoictinia isura*, Bush Stone-curlew *Burhinus grallarius*, White-eared Monarch *Carterornis leucotis*, Brush-tailed Phascogale *Phascogale tapoatafa* and Eastern Blossom-bat *Syconycteris australis* from the site (Table 1).

Records of several of these species are also contained in the Atlas of NSW Wildlife (Milledge 1996, Atlas of NSW Wildlife search November 2014; Table 1) and had Planit conducted an adequate literature and Atlas search these records would have been obvious. This should have resulted in Planit listing these species as recorded from the site rather than as only of "possible" occurrence.

Further, due to the presence of core habitat in the site and records within 5km of the site in similar habitats, Planit should have considered a number of additional Threatened (*TSC Act 1995*) species as likely or highly likely to occur. These include the Wallum Sedge Frog *Litoria olongburensis*, Little Lorikeet *Glossopsitta pusilla*, Masked Owl *Tyto novaehollandiae*,

Common Planigale *Planigale maculata* and Eastern Long-eared Bat *Nyctophilus bifax*. The Wallum Sedge Frog is also listed as Vulnerable under the *EPBC Act 1999*.

The categorisation by Planit of Threatened fauna species known from or likely/highly likely to occur in the site as of only "possible" occurrence, particularly species such as the Common Planigale, Eastern Blossom Bat and Eastern Long-eared Bat, also indicates a poor knowledge of the local habitat and ecological requirements of these species.

The swamp sclerophyll forest, shrubland and wet and dry heathland vegetation communities on coastal floodplain in the site (Milledge 1996, Planit 2014b) represent core habitat for the Common Planigale. Similarly the littoral rainforest in the site (Milledge 1996, Planit 2014b) provides core roosting habitat for both the Eastern Blossom Bat and Eastern Long-eared Bat; and the adjacent swamp sclerophyll forest, shrubland and wet and dry heathland vegetation communities supply core foraging habitat. The high values of these habitats to all three species in the site were clearly identified in previous reports (Milledge 1996, 1997, 1998, Phillips 1998) and should have been taken into consideration in the Planit assessment.

Table 1 Threatened Fauna Species Recorded in the Iron Gates Site

	Reference					
Threatened species	Phillips 1991, 1998	Leggett 1992	Lim 1993	Milledge 1996, 1997, 1998	Planit 2014b	Atlas of NSW Wildlife
Wallum Froglet *Crinia tinnula**	+				+	+
Black-necked Stork *Ephippiorhynchus asiaticus***						+
Square-tailed Kite *Lophoictinia isura**		+				
Bush Thick-knee *Burhinus grallarius***		+				
White-eared Monarch *Carterornis leucotis**		+				
Brush-tailed Phascogale *Phascogale tapoatafa**	+		+			+
Koala *Phascolarctos cinereus**#	+			+	+	+
Squirrel Glider *Petaurus norfolcensis**					+	
Grey-headed Flying-fox *Pteropus poliocephalus**#					+	
Eastern Blossom-bat *Syconycteris australis**	+					+
Little Bent-winged Bat *Miniopterus australis**					+	
Hoary Wattled Bat *Chalinolobus nigrogriseus**				+	+	+
Large-footed Myotis *Myotis macropus**					+	
Greater Broad-nosed Bat *Scoteanax rueppellii**				+		+

* listed as Vulnerable under the *TSC Act 1995*
** listed as Endangered under the *TSC Act 1995*
# also listed as Vulnerable under the *EPBC Act 1999*

In addition, important habitat for the Koala in the site was demonstrated to be represented by the emergent Red Mahoganies in the littoral rainforest in 1998 (Milledge 1998) and more recently by the Forest Red Gums and Scribbly Gums that occur as dominant, co-dominant or sub-dominant species in the open dry sclerophyll forest and woodland communities within the site (Planit 2014b).

Planit also recorded one of two Threatened flora species and one Threatened (Endangered) Ecological Community in the site (s.4, Planit 2014b). The latter is representative of the Endangered Littoral Rainforest of the South East Corner, Sydney Basin and North Coast Bioregions listed under the *TSC Act 1995* and also the Critically Endangered Littoral Rainforest and Coastal Vine Thickets of Eastern Australia listed under the *EPBC Act 1999*. The occurrence of the littoral rainforest in the site and its conservation significance were identified during L&E Court proceedings between 1996 and 1998 (e.g. Milledge 1996, 1997, 1998).

The two Threatened flora species considered by Planit comprise the Greater Swamp Orchid *Phaius tancarvilleae* and Lesser Swamp Orchid *P. australis*. Assignment to one of these two species was not attempted due to the difficulty of correct identification unless plants are flowering (which did not occur during their surveys), but Planit may have been premature in consigning these orchids to the *Phaius* genus due to their similarity with another orchid species, the Christmas Orchid *Calanthe triplicata*, which also occurs locally. It would have been advisable to defer treatment of these orchids as Threatened species pending confirmation by genetic analysis or observation of flowering, but notwithstanding, Planit should not have provided exact locations of plants (s.6.1.1, Planit 2014b) as they are routinely targeted by unauthorised orchid collectors.

In summary, 14 Threatened fauna species are known from the site (Table 1) and another five Threatened fauna species can be considered likely or highly likely to occur on the basis of the presence of suitable habitat. The Threatened plant species claimed to be present requires confirmation as it could be another non-Threatened orchid species. However, if its identity is confirmed as a species of *Phaius*, all detailed information relating to the species and individual locations should be suppressed.

Comment – In relation to point 2, the submitter refers to historic reports and Atlas recordings identifying additional threatened species which were recorded or may have been recorded on or adjacent to the site within a 5km radius in relation specifically to the Atlas. These species have been noted in the report within Table 12 titled '*Potentially Occurring Threatened Fauna Species'*. We have stated that these species from today's assessment are a possible occurrence on site. This does not discount that they are there, or are not there, it purely makes the conclusion that suitable habitat does occur on site and the listed scheduled species may possible occur there. The species however were not recorded during the most recent survey conducted. It is also noted that several of the preceding ecological surveys for the site were conducted over twenty years ago and the site has changed since.

Additionally, the submitter then further identifies a number of other threatened species which are not recorded from the literature review or the Atlas search on site but considers it should have been assessed. The report also notes that these species may possibly occur onsite. These species were not recorded during the recent survey works and as such were have identified them as a possible occurrence.

We do note that the development occurs in principally cleared and regrowth vegetation and that remnant vegetation and core habitat areas are to the large extent unaffected by this development.

We also note that vegetation communities onsite also occur adjacent to the site within retained areas and are locally abundant preserved through the Bundjalung National Park and Broadwater National Park.

In summary, a range of threatened species were identified onsite through survey efforts which were generally consistent with the guidelines for undertaking such work. A number of other species were identified through desktop analysis and the majority of these species have been identified as possibly occurring onsite. This conclusion has been reached upon the habitats which occur onsite fulfilling the habitat requirements for these species. We also note as stated numerous times in our report these habitat types are locally abundant in the location.

Additionally, where vegetation is being removed that does constitute habitat for these threatened species it is similarly concluded that the removal of this vegetation is not a significant impact given the abundance locally of that habitat type.

The two of threatened flora were considered to potentially occur on site, this being the Lesser Swamp Orchid (*Phaius australis*) or the Greater Swamp Orchid (*P. tancarvilleae*). As stated in our report verification of this species would be undertaken during the flowing periods of this species. Inspections during the flowering period for the swamp orchids conformed that the species found within the Littoral Rainforest of the site was not the swamp orchid despite the similarity in leaves between it and the species which was recorded which was the Christmas Orchid (*Calanthe triplicata*). In relation to the comment about providing specific details, as required by the necessary reporting the details and locations should have been provided and were.

In summary, as noted above a range of scheduled fauna and flora (Littoral Rainforest) occur in this location. The development footprint occurs within largely cleared areas or regrowth vegetation. As demonstrated through the 7-part test significant impacts do not occur through the removal of this vegetation. The proposal retains high value conservation areas which provide habitat for these scheduled species.

3. Adequacy of Planit's Fauna Survey Methods and Reporting

Despite the claim that 38 Threatened species "were targeted during the fauna survey or reviewed in the context of documented ecology and available habitats" (Planit 2014b), Planit failed to use appropriate survey methods for detecting several Threatened species highly likely to occur in the site and likely to be impacted by the proposed development. In particular, suitable methods were not employed to detect the Common Planigale, which requires the use of multiple pit-fall traps with drift fences, and the Eastern Blossom Bat and Eastern Long-eared Bat, which require the use of harp traps or mist nets.

Although two pit-fall traps are stated to have been employed (confusingly Attachment 3, Planit 2014b indicates four locations), many more traps with drift fences are necessary to establish the occurrence of the Common Planigale. No mist nets or harp traps appear to have been used, which are the standard methods for detecting the Eastern Blossom-bat and

Eastern Long-eared Bat respectively, as the former cannot be surveyed by spotlighting or the latter by the Anabat call recording method.

It is unclear if Koala scat searches were undertaken using a standard method (e.g. Phillips and Callaghan 2011), but as no mention of the finding of scats was made (in contrast to descriptions of Koala scratches on Forest Red Gums *Eucalyptus tereticornis* and Scribbly Gums *E. signata*, s.4.5.2, Planit 2014b), it is assumed that these were not conducted systematically, if at all. This represents a major deficiency in the survey as in 1998 relatively high levels of Koala activity were recorded on the basis of scats found at the bases of emergent Red Mahoganies *Eucalyptus resinifera* in the littoral rainforest (Milledge 1998, Phillips 1998).

Another deficiency in the Planit fauna survey methodology was the use of camera traps (trail cameras) that appear to have been set in inappropriate locations (as shown by photos in s.4.2.1, although no locations are provided in the Fauna Survey Maps, Attachment 3; Planit 2014b) and for only five days/nights, which is insufficient time to detect the rarer, cryptic and more sparsely distributed species that should have been the subject of these investigations. Such species include the Threatened Brush-tailed Phascogale, Koala and Long-nosed Potoroo *Potorous tridactylus*, and these are unlikely to have been recorded by cameras placed in locations such as those shown in the photos included in s.4.2.1 (as referred to above). Cameras also did not appear to have detected invasive predators such as the European Red Fox *Vulpes vulpes* and Feral Cat *Felis catus*, despite several observations of Feral Cats during spotlighting/observational surveys (Planit 2014b), emphasising the inadequate time period over which they were employed.

As well as the confusion and omissions referred to above, the Planit report contains a number of other omissions that flow through to the interpretation of results and assessment of potential impacts from the proposed development. No quantitative data are provided on the results from the various methods used (e.g. Elliott and cage trapping, hair traps, call playback, spotlighting etc, Planit 2014b), which prevents an evaluation of the adequacy of their application and of the numbers or levels of activity of species of interest or concern. Also, no locations (MGA co-ordinates, mapped records) are provided of the locations of Threatened (*TSC Act 1995*) fauna species detected, which confounds an evaluation of the likely impacts from the proposal. The presentation of such data is standard practice in ecological reporting and their omission prevents a proper review of the report's findings and claims. Similarly, the provision of references is standard scientific practice and although the Planit assessment is extensively referenced throughout the text, none of these references are indexed to allow checking of the numerous claims that they are quoted to support.

Confusion is added to the assessment of Planit's findings by the statement that 26 mammal species were recorded in the site during surveys, of which two were "scheduled as Vulnerable under the *Threatened Species Conservation Act 1995* or *Environment Protection and Biodiversity Conservation Act 1999*" (s.4.5, Planit 2014b), when 25 mammal species were recorded of which six are listed as Vulnerable on the schedules of the *TSC Act 1995*.

To summarise, Planit's methodology was inadequate to detect several Threatened species that can be expected to be dependent on the site's habitats and the reporting of results is confused, with the omission of key data and references preventing any independent analysis of the findings.

Comment - Techniques employed for the surveys are consistent with those outlined in the Guidelines and are consistent with the relevant fauna survey licences Planit hold.

In regards to the comment about the number of pitfall traps employed during the survey, it is noted that there was a typing error within the report and that five pitfall traps were employed during the surveys of the site.

Due to the risk of injury and death to bats, mist nets and harp nets were not incorporated during the survey efforts of the subject site. It is also noted that within the report the abovementioned bat species were considered as possibly occurring on site with potential habitat occurring.

Irrespective of this, the removal of ~19.08ha (vegetation communities 1, 2 and 3[updated clearing areas]) of potential foraging habitat for the Eastern Blossom Bat (*Syconycteris australis*) and Eastern Long-eared Bat (*Nyctophilus bifax*) is not considered to cause a significant impact for these species given the abundance of similar habitat within conservation networks of the region (Bundjalung National Park, Broadwater National Park, Tabbimobile State Forest ect.).

In regards to the comments about performing koala scat searches using a standard method (e.g. Phillips and Callaghan 2011), it is noted that no SAT tests were performed in accordance with this methodology. Other standard survey methodologies for koalas were applied in accordance with the *NSW Working Draft Threatened Species Survey and Assessment Guidelines 2004* (i.e. spotlighting, call playback ect.) which resulted in evidence of the species within the eucalypt forest of the subject site. Nevertheless, the proposal will remove approximately 2508m^2 of potential koala habitat which is considered unlikely to significantly impact the species considered the surrounding environment within the locality provides upwards of 20,000ha of similar habitat.

In regards to the comments on the locations of the camera traps, several of the cameras were placed within the development footprint which included areas previously cleared/modified as illustrated within images of the report. These were strategically placed within these areas to observe what species occur within the development footprint which is subject to be modified/cleared. Additionally, cameras were also placed within areas external to the development footprint (i.e. littoral rainforest and the eucalypt forest). Camera traps were used in conjunction with other standard survey techniques (i.e. spotlighting, hair funnel sampling, trapping ect) which are proven to record species such as the brush-tailed phascogale, koala and long-nosed potoroo.

In regard to the submitter's comments that no quantitative data and no locations of threatened fauna species recorded during the survey were provided, these were described within Section 4.4 of the report.

In regards to the submitter's comments on the number of mammal species recorded during the ecological survey and the number of vulnerable species recorded during the ecological survey, it is noted that this was a typographical error. Twenty five mammal species were recorded during the 2014 ecological survey efforts of which six were listed as Vulnerable under the *TSC Act* 1995.

4. Likely Damage to Threatened Fauna Species, Communities and their Habitats from the Development Proposal

A preliminary review of the development proposal as contained in the SEE and the Flora and Fauna Assessment (Planit 2014a, b) indicates that substantial impacts on Threatened species and their habitats would occur if the development were to proceed. Although lack of access to the site has prevented a detailed independent assessment at this time, it is clear that the development footprint will destroy a minimum of 1.4ha of heathland and shrubland dominated by Broad-leaved Paperbark *Melaleuca quinquenervia* and Banksia *Banksia spp* species (Table 15, Planit 2014b), 0.16ha of open dry sclerophyll forest and woodland (Table 15, Planit 2014b) and approximately 8.0ha of regenerated shrubland and woodland (Attachment 2, Planit 2014b).

The Paperbark and Banksia heathlands and shrublands are likely to provide core foraging habitat for the Threatened Wallum Froglet, Common Planigale, Eastern Blossom Bat, Grey-headed Flying-fox, Little Bent-winged Bat, Eastern Long-eared Bat and Hoary Wattled Bat. The open dry sclerophyll forests and woodlands are likely to provide core foraging and additionally, breeding habitat for the Brush-tailed Phascogale, Koala, Squirrel Glider, Hoary Wattled Bat and Greater Broad-nosed Bat. The regenerated shrublands and woodlands are also likely to supply foraging resources for the Common Planigale, Little Bent-winged Bat, Eastern Long-eared Bat, Hoary Wattled Bat and Greater Broad-nosed Bat.

However, larger areas of the open dry sclerophyll forest and woodland, heathland and shrubland vegetation communities than those estimated by Planit as requiring clearing for the development footprint (Table 15, Planit 2014b) are likely to be cleared for upgrading bushfire trails and for asset protection zones about buildings (despite the claim in the SEE that these will be contained within the development footprint).

Indirect detrimental impacts are likely on the littoral rainforest, as residential lots and roads impinge directly on its entire perimeter without any provision for an adequate buffer, with the existing regenerated buffer along the eastern edge proposed for clearing (Attachments 1 and 2, Planit 2014b). This will result in desiccation of the rainforest edge causing dieback, wind shear with tree collapse and weed invasions, particularly of garden weeds. Noise from urbanisation, light and predation from domestic and introduced animals, particularly cats and the Black Rat *Rattus rattus* are likely to further impact on any colonies of Eastern Blossom Bats and Eastern Long-eared Bats using this habitat for roosting and breeding, with detrimental effects on the local viability of their populations.

Isolation of the littoral rainforest with its emergent tall eucalypts by residential development will destroy its value as Koala habitat and may also put at risk the viability of the local Koala population.

The proposal is also likely to exacerbate the impact of introduced predators on Threatened species in other vegetation communities, particularly predation by the Red Fox and Feral Cat which are both Key Threatening Processes (*TSC Act 1995*, and contrary to the claim of no effect by Planit 2014b). As indicated in the Planit report, the Feral Cat is already affecting vertebrate communities in the site (s.6.1 Planit 2014b).

Although it is not possible to accurately predict the likelihood of a significant effect on Threatened species under s.5A of the *Environmental Planning and Assessment*

(*EPA*) *Act 1979* due to lack of site access and relevant survey information, it appears probable that the proposal will have a significant effect on the Threatened Eastern Blossom Bat and Eastern Long-eared Bat, and possibly on the Common Planigale and Koala. This is due to the potential for the cumulative impacts from the proposal to place local populations at risk of extinction, particularly in relation to impacts on the littoral rainforest in the site.

These impacts may also result in a substantial modification to the structural and floristic composition of the Endangered Ecological Community termed Littoral Rainforest of the South East Corner, Sydney Basin and North Coast Bioregions, placing its long-term occurrence in the site at risk of extinction.

These findings suggest that the preparation of a Species Impact Statement may be required.

Comment - In regards to the submitter's comments on core foraging habitat for threatened species being cleared, it is considered that the removal/modification of ~19.08ha (of which ~17.45ha is areas already cleared or acacia regrowth) will not significantly impact the mentioned species given that over 20,000ha of similar habitat is provided within the conservation networks of the locality (i.e. Bundjalung National Park, Broadwater National Park, Tabbimobile State Forest ect..). The majority of the clearing will occur within areas previously cleared/modified which does not represent core habitat for species.

In relation to the statement about additional clearing required for bushfire purposes external to the development footprint, it is noted that no areas of high conservational value will be cleared as a result of the development and will be limited to regrowth which are located within the development footprint. The careful design of the development limits clearing with roadways acting as a buffer between retained vegetation communities and building envelopes, reducing bushfire risk. The APZs have been identified generally to be located wholly within the residential zoned portion of the site and outside of the Core Riparian Zone (CRZ) along the Evans River. This has been achieved through the provision of perimeter roadways or fire trails within the development footprint.

In relation to indirect detrimental impacts on the littoral rainforest, the proposal has been designed to minimise conflicts between the designated R1 land use and uses within adjoining zones. This conflict is sought to be reduced by the provisional ring roads further separating activities/housing development and the retained conservation areas.

As stated the Littoral Rainforest community is buffered from the development through the provision of roads. Landscaping within the verges of these roads is sought to reduce/mitigate potential impacts from the development. These areas will be vegetated with native species which will provide potential forage and refuge opportunities for fauna species. Additionally, the southern areas of the site (foreshore road reserve) is proposed to be revegetated with similar species as those found within the adjacent EEC.

As stated within the Flora and Fauna Assessment Report no vegetation is proposed to be removed from the Littoral Rainforest Community. Additionally, all clearing works associated with the proposed development will be supervised by a suitably qualified fauna spotter catcher. Within areas of vegetation retention tree management is to occur in accordance with Australian Standard AS 4970 Protection of trees on development sites. An appropriate Fauna

Management Plan will be implemented during the clearing/modification stage of the development.

As stated within the Flora and Fauna Assessment Report, management protocols will be implemented to prevent potential indirect impacts of the development towards retained vegetation and fauna species. Weed management protocols will be implemented during the construction and operational phases of the development to reduce the spread of weeds within, and within areas immediately external to the site (including the Littoral Rainforest). Control techniques will vary depending upon the species being targeted as well as its location. In areas of low significance (i.e. weed thickets external to bushland or drainage lines ect) broad scale application of herbicide or mechanical removal will be appropriate. Within the proximity to areas of native floral species dominance more selective removal techniques (i.e. cut stump, stem application, hand removal ect.) and spot application of a non-residual herbicide (i.e. roundup bioactive) would be necessary.

The location of the proposal and the scale of earthworks ensures sedimentation and impacts to the external vegetation communities and SEPP 14 wetlands do not occur. Implementation of accepted best management practices for effluent disposal combined with other site management actions also address potential secondary impacts to these areas. Strict sediment and erosion control measures will be implemented to prevent impacts to areas external to development footprint (Littoral Rainforest, SEPP 14 areas, and Evans River).

Design features of the proposal such as light guards to external lighting are proposed to prevent/reduce light spill to adjacent retained vegetation communities. Additionally, the proposed vegetated buffer will reduce lighting within vegetation communities external to the proposed development. These areas will be vegetated with native species which will provide refuge to small ground mammals, as well as assisting in stablising disturbed areas and controlling dispersal of weeds.

Additionally, the proposed development is not intended to permit / allow domestic animals (i.e. dogs and cats) to freely roam within the development while all open spaces are to be an on-leash area only to minimise harassment of residual fauna.

In regards to the comment on destroying the Littoral Rainforest value for koala habitat, which as a result may put at risk the viability of the local koala population, it is noted that the proposed development is not proposing to clear areas of Littoral Rainforest. The small nature of the development and proposed low speed roads, will allow koalas to continually utilise the Littoral Rainforest within the proposed development. Proposed culverts will help ensure that connectivity is to remain between the central EEC and external habitats. It is considered that this will not put at risk the viability of the koala population. Additionally, the site is surrounded by conservation networks (i.e. Bundjalung National Park, Broadwater National Park, Tabbimobile State Forest ect.) which provides core koala habitat in abundance within the region, in addition to the retained eucalypt forest in the western sections of the site which will be retained.

Given the small nature of the development, it is unlikely that a significant increase in introduced predators will occur as a result of the development.

In summary, necessary management plans will be implemented during the construction and operational phases of the development which will reduce/mitigate direct and indirect impacts associated with the development towards retained vegetation and fauna species. Additionally, the development has been designed to avoid significant environmental impacts through careful design and mitigation procedures, therefore, no Species Impact Statement is required as stated within our report.

5. Harm to Threatened Species and their Habitats Resulting from Previous Works

As with assessing whether the proposal is likely to have a significant effect on Threatened species, communities and their habitats, lack of access to the site and relevant current survey information make it difficult to gauge whether harm has resulted to Threatened species, communities and their habitats as a result of previous site works and the lack of remediation, as ordered by the L&E Court in 1997.

However, it is apparent that areas of Threatened fauna species' core habitat that were present in the site prior to 1996 have been replaced by natural regeneration that no longer provides such core habitat. For example, the stands of shrubland dominated by Hickory Wattle *Acacia disparrima* in the east of the site (Fig. 1) no longer provide the nectar resources that would have been available to the Threatened Eastern Blossom Bat and Grey-headed Flying-fox from the Banksia-dominated heathland and shrubland that occurred there prior to bulldozing.

Similarly, the floristic composition of the wetland occurring in the north-eastern section of the site, particularly the area of State Environmental Planning Policy No. 14 (SEPP 14, Coastal Wetlands) Wetland No. 147 is likely to have changed due to drawdown of the water table effected by the deep drain excavated along the eastern boundary of the site in 1996 (Fig. 1). This may have resulted in the loss of core habitat for the Wallum Froglet and Wallum Sedge Frog, although contrary to the claim by Planit (s.6.2, 2014b), some wetland vegetation typical of the SEPP 14 vegetation type "Melaleuca forests" remains in the site (Fig. 2) and this is likely to expand back to the mapped boundary of SEPP No. 14 Wetland No. 147 if the eastern drain is filled.

It is also apparent from an examination of aerial photographs taken in 2013 and 2014 (Figs 3 and 4) that additional clearing of vegetation has occurred recently on the site. This has included areas regenerated after the clearing in 1996 and also areas that were not cleared in 1996, particularly on the northern boundary of the site (Figs 3 and 4). This clearing is likely to have destroyed foraging habitat of the Threatened Common Planigale, Little Bent-winged Bat, Eastern Long-eared Bat, Hoary Wattled Bat and Greater Broad-nosed Bat and

damaged the western and southern edge of the littoral rainforest by exposing it to edge effects and weed invasion.

In summary, lack of remediation of the site following clearing and draining in 1996, together with additional clearing in 2014, is likely to have removed and damaged the habitat of a number of Threatened fauna species and damaged an Endangered Ecological Community.

Comment - In regards to the above comments regarding the works previously occurring on site in 1996, this is irrelevant in regards to the current proposal given that the proponent has changed.

In regards to the comments about the recent clearing, this is currently being investigated by other entities and no further comment will be provided in regards to this matter.

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The above is our current response to the request for information or issues raised in regards to the environment as a result of the development. Should you have any further questions relating to the abovementioned, please don't hesitate to contact Boyd Sargeant on telephone number (07) 5526 1500.

Yours Sincerely,

for:

Boyd Sargeant
Director
Planit Consulting Pty Ltd

ATTACHMENT 1: FLORA & FAUNA ASSESSMENT AUTHOR'S CV
ATTACHMENT 2: BROAD VEGETATION COMMUNITIES MAP

ATTACHMENT 1

FLORA & FAUNA ASSESSMENT AUTHOR'S CV

Boyd Sargeant

Director | Senior Urban & Environmental Planner | boyd@planitconsulting.com.au

Founding Director of Planit Consulting, Boyd Sargeant, has an enviable depth of experience in a number of areas critical to the successful resolution of major development projects in both the private and government sectors.

With experience spanning more than 20 years, Boyd has been responsible for large scale city and community master plans through to detailed urban revitalisation projects and strategies. Boyd experience is valued as it is drawn from development processes and design outcomes from across Australia.

Being highly regarded and skilled in the key urban development disciplines of planning, design and the environment Boyd works regularly with private sector and government clients. Through well-developed consultative skills Boyd provides advice to deliver communities and projects which balance innovation, feasibility and sustainability.

Current Duties & Skills

- Provision of planning and environmental advice to local and state authorities;
- Preparation of development applications pursuant to Sustainable Planning Act 2009, former Integrated Planning Act 1997 and Part 4 of the Queensland State Development and Public Works Organisation Act 1971;
- Preparation and implementation of town planning and environmental management strategies for private and public sector clients across a range of industries and locations;
- Panel Specialist for the Waverley (NSW) Council Independent Planning Panel
- Project Manager for Environmental Impact Assessments of State Significant Projects for private and public sector clients.
- Ability to work cooperatively and in a positive business manner with all project stakeholders;
- Strategy preparation including the production of local area plans and structure plans, master planning, the preparation of planning codes, water quality monitoring programs, stormwater management plans, & flora and fauna studies;
- Specialist consultant on Western Australia's Land Corp panel of providers (Marine Industry)
- Planning and Environmental reports
- Flora and Fauna surveys and the recovery programs for protected species;
- Development of educational material on environmental and planning issues;
- Liaison with State and Council officers and other relevant stakeholders;
- Project management, Monitoring and Coordination;
- Preparation of reports and expert witness for appeals; and
- Expert Witness – Planning and Environmental issues.

Professional Qualifications & Accreditations

- Bachelor of Science (Australian Environmental Science);
- Masters in Urban Planning;
- Certificate of Completion, Short Course on Wetland Stormwater Management Systems, International Erosion Control Association;
- Certificate of Completion, Short Course on Application of Soil and Water Management Plans, International Erosion Control Association

- Member of Queensland Environmental Law Association;
- Corporate Member of the Planning Institute of Australia;
- Corporate Member Urban Development Institute of Australia;
- Holder of licence for scientific purposes permit for fauna surveying (issued by Queensland Parks and Wildlife Service);
- Holder of Animal Ethics Committee approval - Scientific Survey of Fauna Species (issued by Bribie Local Animal Ethics Committee, Queensland Department of Primary Industries);
- Holder of scientific research license for fauna surveying (issued by New South Wales National Parks & Wildlife Service);
- Holder of Animal Research Authority Permit for Fauna Surveying issued by the Animal Care & Ethics Committee of NSW Agriculture;
- Certified as an environmental practitioner in association with the Environment Institute of Australia and New Zealand (EIANZ); and
- Accredited and successfully completed the QLD Regional Ecosystem Framework and its Applications training programs administered by the DNRME and the QLD Herbarium regarding regional ecosystem/vegetation mapping and application.

Professional Recognition

- Member of the Griffith University Professional Advisory Board for the School of Urban and Environmental Planning
- Invited by Environment Australia to participate in the formalisation of the Asia Pacific Wetland Management Training Manual (RAMSAR)
- Appointed member of Steering Committee for the Gold Coast City Council Catchment Management Association
- Preferred supplier to Gold Coast City Council – Planning Environment and Transport Directorate
- Preferred supplier to Queensland Government Department of Transport and Main Roads
- Panel Specialist for the Waverley (NSW) Council Independent Planning Panel
- Expert witness to Planning and Environment Court
- Environmental Planning Consultant to the Cooperative Research Centre for Coastal Zone, Estuary and Waterway Management
- Consultant to Moreton Bay Waterways and Catchments Partnership (State Government and (18) South East Queensland Local Authorities)

Report Writing & Publication

- Author of numerous planning and environmental reviews, assessments and reports
- Recently finalised a research paper which is focused on a proposal to review residential density patterns and their impacts upon future public transport infrastructure/investments in the Mermaid Beach locale. Key to this issues paper is the strategic and statutory processes planners perform in delivering development outcomes. Specifically, there is a continual reiterative process of evaluation of statutory applications or construction of statuary applications against the strategic assessment framework and objectives. In particular, this paper focused on the Gold Coast Light Rail project ensuring that land use decisions supported transport infrastructure investments.
- Co-author of the following scientific research papers:
  - Low Choy, D.C., Fearon, R., Worrall, R.H., Robinson, J., Sargeant, B., Ryan, S. and Bennett, J., 2002. Environmental Planning Project: Volume III – Incorporating science into planning. CRC for Coastal Zone Estuary and Waterway Management, Technical Report 4: 280pp.
  - Worrall, R.H., Low Choy, D.C., Fearon, R., Ryan, S., Robinson, J., Gleeson, J., McKay, P. and Sargeant, B., 2002. Environmental Planning Project: Volume IV – Appendices and glossaries to Volumes I and III. CRC for Coastal Zone Estuary and Waterway Management, Technical Report 4: 246pp.

ATTACHMENT 2

BROAD VEGETATION COMMUNITIES MAP

LOT 544
DP 48550

LOT 163
DP 831052

LOT 276
DP 755624

LOT 544
DP 48550

LOT 547
DP 48550

LEGEND

- SEPP 14 COASTAL WETLANDS
- DISTURBED COMMUNITIES
  - OPEN PADDOCK / CLEARED LAND
  - ACACIA REGROWTH
- HEATH
  - OPEN DRY HEATH WITH MIXED EUCALYPT / MELALUECA OPEN FOREST
  - OPEN DRY HEATH
  - WET HEATH WITH MELALUECA
- EUCALYPT FOREST
  - CORYMBIA INTERMEDIA, E.PLANCHONIANA, E. TERETICORNIS, E. SIGNATA AND OTHER EUCALYPTS
  - E. TERETICORNIS
- LITTORAL RAINFOREST
- ASSISTED NATURAL REGENERATION

IRON GATES, EVANS HEAD

BROAD VEGETATION COMMUNITIES

SCALE: 1:4000 @ A3
DATE: 08/15
REV: 02

DRAWN: ZP
CHECKED: BS
DRAWN NO: IRONGATES_BVC_00

NORTH

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