



Planning &  
Infrastructure

**MAJOR PROJECT ASSESSMENT:**  
***Rainbow Beach***  
***Ocean Drive, Bonny Hills***  
***(06\_0085 / 07\_0001)***



Director-General's  
Environmental Assessment Report  
Section 75I of the  
*Environmental Planning and Assessment Act 1979*

February 2012

## ABBREVIATIONS

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ASS	Acid Sulfate Soils
APZ	Asset Protection Zone
CIV	Capital Investment Value
DECCW	Department of Environment, Climate Change and Water
Department	Department of Planning & Infrastructure
DI&I	Department of Industry & Investment
DGRs	Director-General's Requirements
Director-General	Director-General of the Department of Planning & Infrastructure
EA	Environmental Assessment
EEC	Endangered Ecological Community
ELUMP	Environmental Land Use Management Plan
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPI	Environmental Planning Instrument
ICOLL	Intermittently Closed and Open Lake or Lagoon
LPMA	Land and Property Management Authority
MP SEPP	<i>State Environmental Planning Policy (Major Projects) 2005</i>
Minister	Minister for Planning & Infrastructure
NOW	NSW Office of Water
OE&H	Office of Environment & Heritage
OSMS	Open Space Management Strategy
Part 3A	Part 3A of the <i>Environmental Planning and Assessment Act 1979</i>
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
PPR	Preferred Project Report
PBP	<i>Planning for Bushfire Protection 2006</i>
Proponent	St Vincent's Foundation Pty Ltd
RFS	NSW Rural Fire Service
SEPP	State Environmental Planning Policy
SoC	Statement of Commitment
STP	Sewage Treatment Plant
TSC Act	<i>Threatened Species Conservation Act 1995</i>
WSUD	Water Sensitive Urban Design

Cover Photograph: View facing east of Rainbow Beach through dunal vegetation adjacent to development site (Source: Environmental Assessment).

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## EXECUTIVE SUMMARY

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This is a report on a concept plan and stage 1 project application by St Vincent's Foundation Pty Ltd to carry out a residential subdivision at Rainbow Beach, Bonny Hills along Ocean Drive in the Area 14 land release area of the Port Macquarie-Hastings local government area.

The concept plan seeks approval for residential subdivision of the site into between 900 and 1100 lots. The development will be carried out in seven (7) stages and includes a village centre, two (2) school sites, playing fields, central open space/habitat corridor, three (3) intersections off Ocean Drive, constructed wetland system and associated infrastructure.

The project application seeks approval for stage 1 construction and embellishment of a 75.2 ha central corridor encompassing eight recreational/environment precincts which will include:

- landscape masterplan incorporating passive recreational facilities comprising bicycle/pedestrian paths, park seating, children's playground, picnic areas and site rehabilitation/revegetation in accordance with an Environmental Land Use Management Plan and an Open Space Management Strategy;
- excavation of 415,800 m<sup>3</sup> of soil from eastern portion of site;
- site filling of low-lying areas to reclaim for future development;
- establishment of 12.4 ha constructed wetland system; and
- formal public access to Rainbow Beach

The combined estimated cost of the development is \$150 million.

The proposal is a major project under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) by virtue of it being development of the kind described in Schedule 2 of the *State Environmental Planning Policy (Major Projects) 2005* namely clause 1(1) (i) – residential subdivision into more than 25 lots in the coastal zone (as in force at the time the proposal was declared a major project).

Despite its repeal on 1 October 2011, Part 3A continues to apply to certain projects, described as transitional Part 3A projects, pursuant to Schedule 6A of the EP&A Act. The subject concept plan and project application are transitional projects as the Director-General's requirements were issued before 8 April 2011.

The Environmental Assessments were exhibited between 2 September 2010 and 1 October 2010 (30 days). During this time the department received 23 submissions – eleven submissions from public authorities and twelve submissions from the general public and special interest groups. Of the twelve public submissions, nine (9) objected to the project and three (3) provided support. Port Macquarie-Hastings Council has given its support to the project.

Key issues considered in the department's assessment included:

- Biodiversity;
- Management of air quality & noise impacts;
- Flooding & sea level rise;
- Proposed excavation & constructed wetlands;
- Coastal erosion;
- Traffic & access;
- Bushfire protection;
- Urban design;
- Ocean Drive road corridor; and
- Voluntary Planning Agreement (VPA) & contributions.

The department has recommended changes to the project to conserve Endangered Ecological Communities (EECs) and threatened species habitats in perpetuity, along with issuing additional requirements for the proponent to carry out extensive vegetation rehabilitation to restore biodiversity.

The department has considered all relevant documents in accordance with the objects of the EP&A Act and ecologically sustainable development. The department has assessed the merits of the project and is satisfied that the potential impacts of the proposed development have been addressed via the proponent's statement of commitments and the department's recommended conditions of approval,

and can be suitably mitigated and/or managed to ensure a satisfactory level of environmental performance.

The environmental features of the project include extensive rehabilitation of endangered ecological communities and littoral rainforest and are balanced with the creation of areas for housing, future employment, and community services including the village centre and district sporting fields.

The concept plan will contribute to the dwelling targets of the *North Coast Regional Strategy* by providing new urban development consistent with the identified growth boundaries contributing to a significant number of new dwellings and measures for affordable housing which are priorities of *NSW 2021*. State-wide targets for natural resource management to improve biodiversity and native vegetation and sensitive coastal ecosystems are also being met whilst supporting business and jobs.

The project application facilitates the creation of an open space corridor that preserves threatened species populations, provides enhanced habitat linkages and recreational opportunities on significant coastal lands degraded from historical agricultural, sand mining and other activities.

The residential development will become an appropriate driver of economic development in the growing Port Macquarie-Hastings area as a significant employment generator and in the delivery of new housing. Some 45 percent of the site will form the central corridor resulting in a significant increase in habitat areas including preservation of threatened species habitat and sensitive ecological areas, along with restoring wildlife corridor linkages through the site. The project is considered to be a unique opportunity to set a benchmark for future large-scale residential land releases on the Mid North Coast whilst proposing a development type that is sympathetic to the fragile environment and Aboriginal cultural attributes of the site's coastal location.

The project will provide environmental, social and economic benefits to the region. The department is satisfied that the site is suitable for the proposed development and is therefore in the public interest. All statutory requirements have been met and on these grounds the department recommends that the project be **approved**, subject to conditions.



## 1. BACKGROUND

St Vincent's Foundation Pty Ltd proposes to carry out a 900-1100 lot residential subdivision at Rainbow Beach, Bonny Hills, a small coastal village located approximately 18 km south of Port Macquarie, within the Port Macquarie-Hastings local government area. The project location is shown in Figure 1.

**Figure 1: Project Location**



The subject site is situated between the coastal settlements of Bonny Hills to the immediate south and Lake Cathie to the north in a land release area commonly referred to as Area 14. Approximately 177.4 ha in size and incorporating part Lot 1232 DP 1142133, Lots 1, 2, 3 and 4 DP 1150758 and Lot 5 DP 25886, the site has extensive frontage to Ocean Drive and is bound to the north and west by this main arterial road which serves coastal settlements from the Port Macquarie district to the north. Houston Mitchell Drive intersects with Ocean Drive adjacent to the subject site and provides a secondary link to Port Macquarie via the Pacific and Oxley Highways.

The site's north-eastern boundary adjoins land identified for future development. The mid-eastern boundary of the subject land has frontage of approximately 350m to a Crown beach littoral forest reserve leading to Rainbow Beach, and the south-eastern boundary adjoins a sewage treatment plant servicing both Bonny Hills and Lake Cathie. The Queens Lake State Forest, with its distinctive ridgeline, The Jolly Nose, lies to the site's west whilst existing residential development adjoins the southern boundary.

The site occupies an area of low lying land currently used primarily for agricultural activities such as cattle grazing. Existing buildings include a telephone exchange, two (2) dwellings and associated farm sheds. Site topography generally ranges from around RL 6m AHD with some higher areas of up to RL 12m AHD.



Historic landform modification conducted in association with a former development approval for an international sports resort during the 1980s resulted in the construction of artificial drainage lines and a 6.3 ha lagoon in the southern portion of the property.

Upper tributaries of the Duchess Gully ICOLL (Intermittently Closed and Open Lake or Lagoon) extend through the project area via a series of vegetated drainage channels which eventually flow south-east, behind the coastal dune system towards the Pacific Ocean approximately 1.3km from the site.

Existing site vegetation is of a disturbed nature, however, remnant pockets of endemic vegetation communities still remain which have been mapped, and the species found within them listed as endangered ecological communities (EECs) under the *Threatened Species Conservation Act 1995* (TSC).

**Figure 2: Existing site layout**

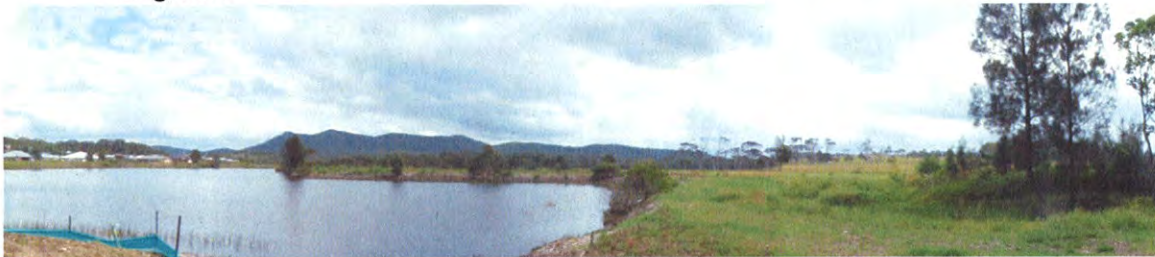




**Plate 1: Panoramic view across site taken from south-east**



**Plate 2: Panoramic view west over site's existing water body towards The Jolly Nose ridgeline**



**Plate 3: View facing south-east of littoral rainforest adjoining site (left) and Rainbow Beach (Source: Environmental Assessment)**



## 2. PROPOSED PROJECT

### 2.1 Project Description

The project comprises a concept plan and stage 1 project application.

The proponent seeks concept plan approval for the entire site, with the project application seeking approval for stage 1 construction works and embellishment of the environmental/recreational precincts of the central corridor within a 120.2 ha area of the site. A summary of the key project components is described in Table 1 as follows:

**Table 1: Key project components**

<b>Aspect</b>	<b>Description</b>
<i>Concept plan summary</i>	<p><i>The concept plan seeks approval for residential subdivision of the site into between 900-1100 lots and includes:</i></p> <ul style="list-style-type: none"> <li><i>• village centre;</i></li> <li><i>• two school (2) sites;</i></li> <li><i>• associated infrastructure;</i></li> <li><i>• playing fields;</i></li> <li><i>• three (3) intersections off Ocean Drive;</i></li> <li><i>• central open space/habitat corridor; and</i></li> <li><i>• constructed wetland system.</i></li> </ul>
<i>Project application summary</i>	<p><i>The project application seeks approval for stage 1 construction and embellishment of a 75.2 ha central open space/drainage/habitat corridor encompassing eight recreational/environment precincts which will include:</i></p> <ul style="list-style-type: none"> <li><i>• landscape masterplan incorporating passive recreational facilities comprising bicycle/pedestrian paths, park seating, children's playground, picnic areas and site rehabilitation/re-vegetation in accordance with an Environmental Land Use Management Plan and an Open Space Management Strategy;</i></li> <li><i>• excavation of 415,800 m<sup>3</sup> of soil from eastern portion of site;</i></li> <li><i>• site filling of low-lying areas to reclaim for future development;</i></li> <li><i>• establishment of 12.4 ha constructed wetland system; and</i></li> <li><i>• formal public access to Rainbow Beach.</i></li> </ul>

The areas of each proposed land use are shown in Table 2 with the components of the project application provided in Table 3.

**Table 2: Proposed land use areas**

<b>Concept plan</b>	<b>Area (ha)</b>
<i>Residential Areas</i>	<i>70.2</i>
<i>Open Space, Drainage and Habitat Corridor Areas</i>	<i>86.1</i>
<i>Village Centre</i>	<i>4.8</i>
<i>Northern School Site</i>	<i>5.0</i>
<i>Southern School Site</i>	<i>9.7</i>
<i>Northern Ocean Drive 10m Buffer</i>	<i>1.6</i>
<b>TOTAL</b>	<b>177.4</b>



**Table 3: Components of project application**

<b>Project Application</b>	<b>Area (ha)</b>
<b>CENTRAL CORRIDOR:</b>	
Establishment Works for District Sporting Fields	7.7
Existing Lagoons, Water Bodies and Wetlands (to be incorporated into central corridor)	6.3
Excavation of Main Water Body (W1) (with 415,800 m <sup>3</sup> of soil extracted for fill)	9.9
Stormwater Treatment Areas (W1A - W1E)	1.2
Stormwater Treatment Areas (W2 & W3)	1.3
Central Open Space (incorporating 8 environmental precincts which include revegetation areas and passive recreational facilities comprising bicycle/pedestrian paths, park seating, children's playground and picnic area)	48.8
<b>TOTAL CENTRAL CORRIDOR</b>	<b>75.2</b>
<b>OTHER (OUTSIDE CENTRAL CORRIDOR):</b>	
Eastern Creek/Duchess Gully and Swale	3.2
Stormwater Treatment Wetlands (W4A & W4B)	0.4
Pocket Woodland (to be preserved)	2.1
Low-Lying Site Filling for Residential Areas (between RL 4-10m AHD)	39.3
<b>TOTAL – OUTSIDE CENTRAL CORRIDOR</b>	<b>45.0</b>
<b>TOTAL</b>	<b>120.2</b>

The combined concept plan and project application layout is shown in Figure 3.

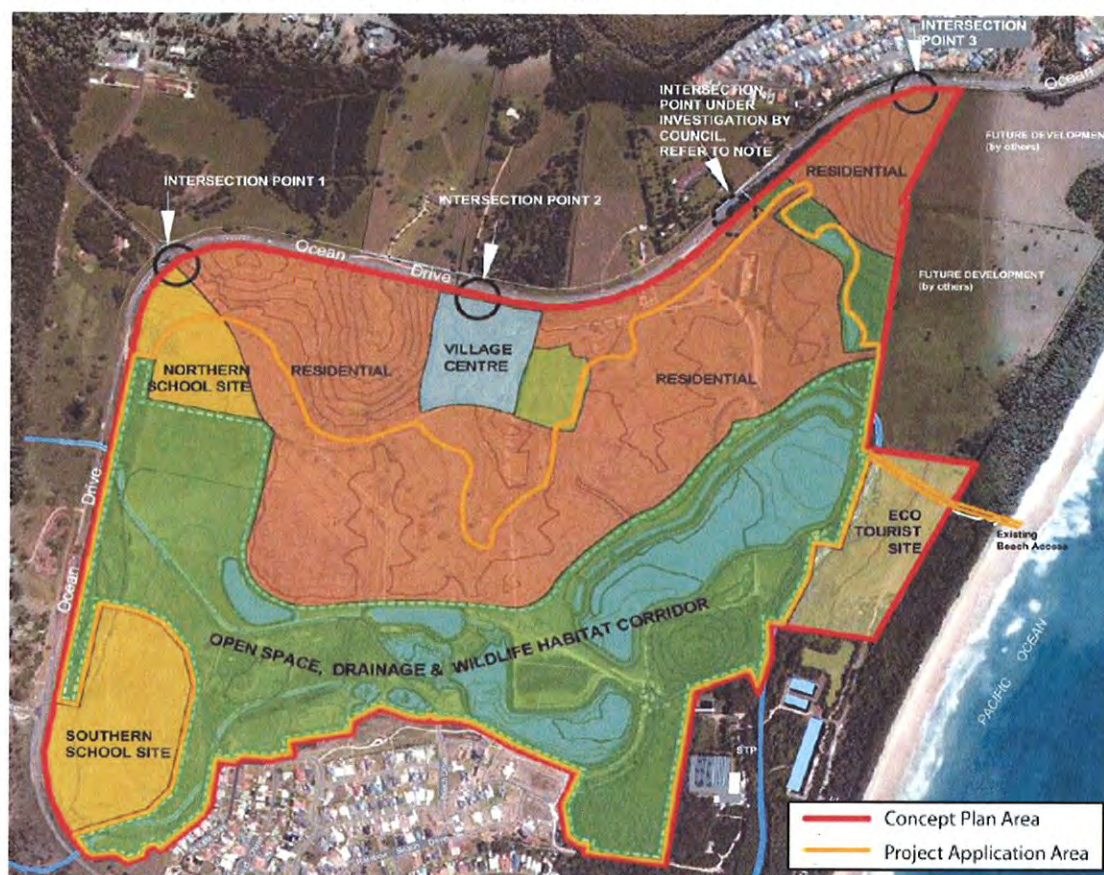
**Figure 3: Concept plan and stage 1 project application (Source: Environmental Assessment)**

Figure 4: Concept plan as exhibited (Source: Environmental Assessment)

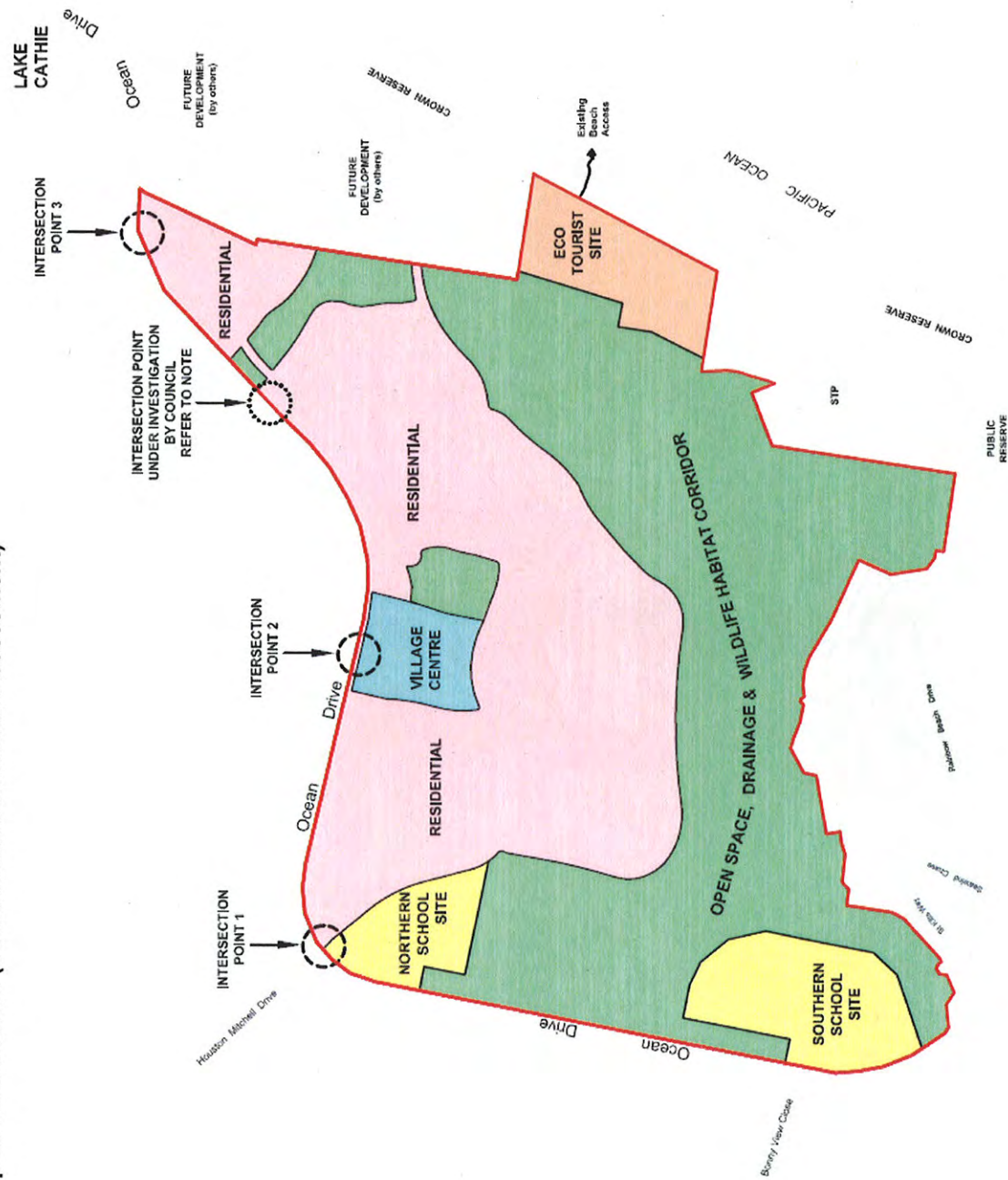
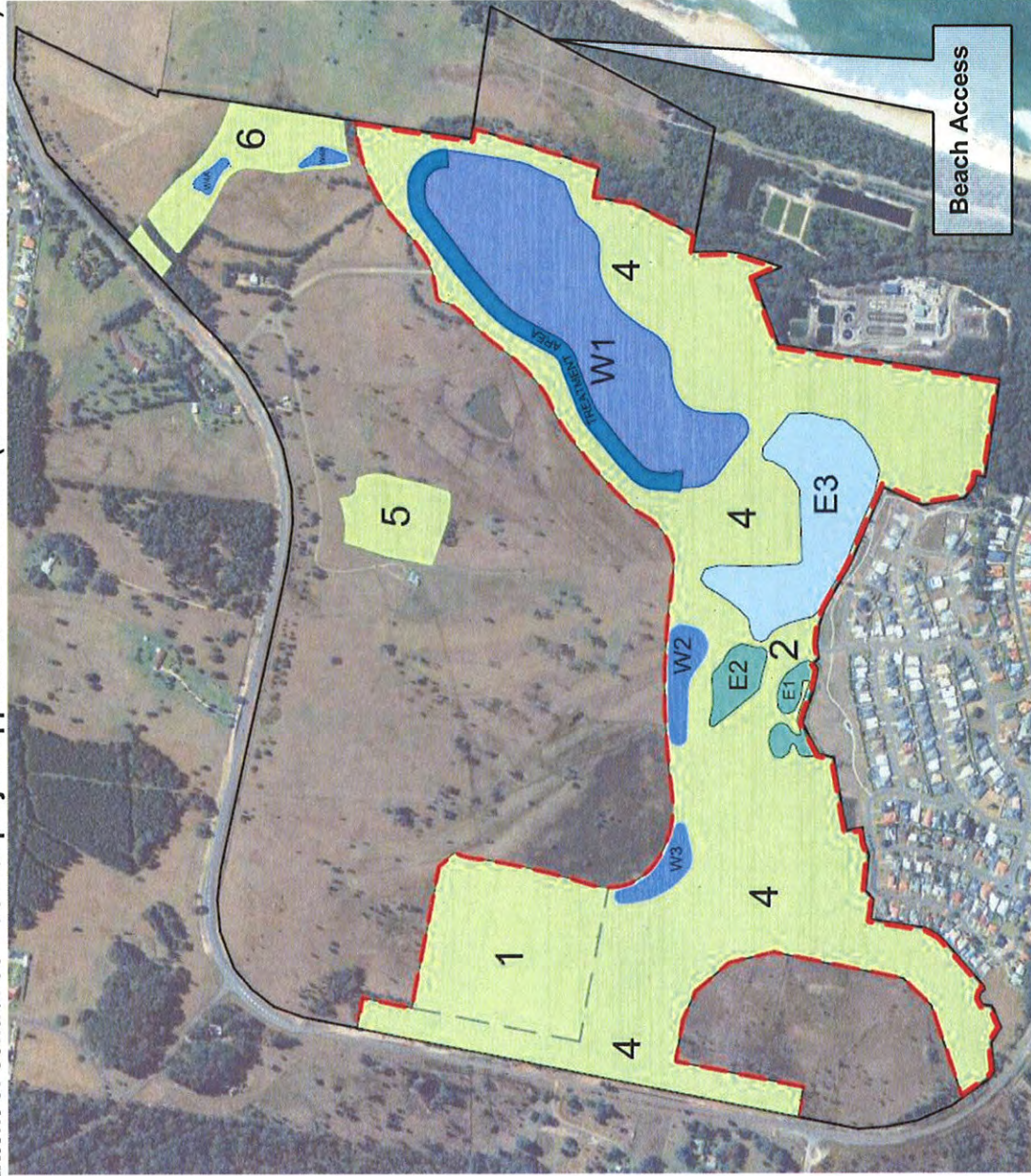




Figure 5: Extent of central corridor for project application as exhibited (Source: Environmental Assessment)

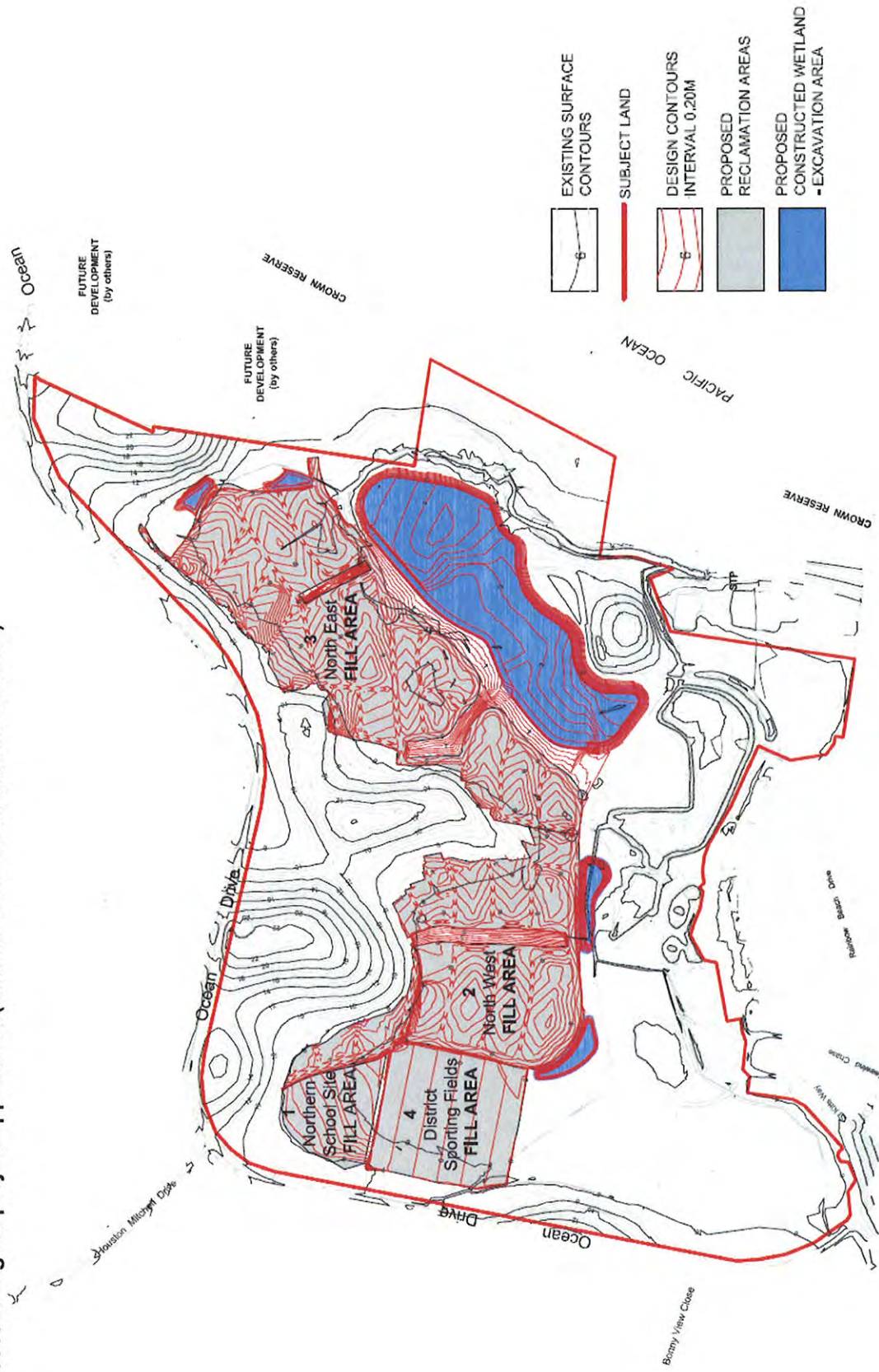


<b>CENTRAL CORRIDOR:</b>	
1. Distinct Sporting Fields	7.7
2. Existing Waterbodies/ Wetlands	
E1 (Existing Treatment Area)	0.7
E2 (Existing Treatment Area)	0.7
E3 (Existing Lagoon)	4.9
<b>Subtotal</b>	<b>6.3</b>
3. Proposed New Waterbodies/ Wetlands Breakdown	
W1 (Constructed Wetland)	10.5
W1 (Treatment Area)	1.9
W2 & W3 (Proposed Treatment Area)	1.3
4. Central Open Space	47.5
<b>Central Corridor Sub total</b>	<b>75.2 ha</b>
<b>OTHER:</b>	
5. Picket Woodland	2.1
6. Eastern Creek & Swale	3.2
W4A & B (Proposed Treatment Area)	0.4
<b>Subtotal</b>	<b>5.7</b>
<b>Total Open Space</b>	<b>80.9 ha</b>

--- CENTRAL CORRIDOR



Figure 6: Proposed filling for project application (Source: Environmental Assessment)

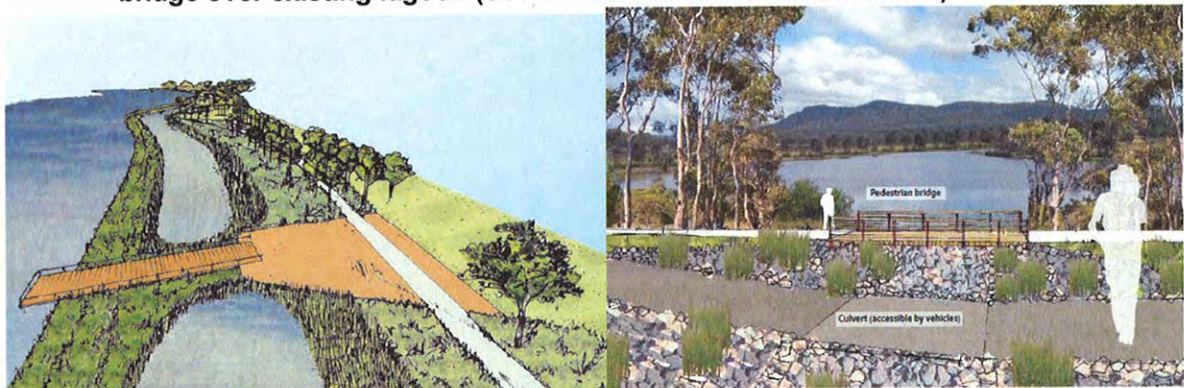




**Figure 7: Project application landscaped masterplan as exhibited (Source: Environmental Assessment)**



**Figure 8: Perspectives of corridor interface with future residential area (left) and pedestrian bridge over existing lagoon (Source: Environmental Assessment)**



**Figure 9: Perspective of beach access upgrade (right) and boardwalk in central corridor (Source: Environmental Assessment)**





**Figure 10: Project application Environmental Land Use Management Plan with proposed open space rehabilitation and revegetation measures (Source: Preferred Project Report)**



## 2.2 Project Need and Justification

The proposal facilitates the environmental rehabilitation of significant coastal lands degraded from historical agricultural activities and other works. The development will provide for an open space/habitat corridor giving passage for wildlife and revegetation of endemic flora, along with providing community benefit facilities including public playing fields, picnic areas, children's playground, formalised beach access, and bicycle/pedestrian paths on land outside of the main residential areas of the subject site.

The central corridor is predominantly located within the southern portion of the site, separating the proposed residential areas from existing urban development to the south. Creating the central corridor provides for restoration of east-west habitat linkage across the site, while its north-eastern extent separates the proposed residential precinct from urban development to the east (Major Project 07\_0010 Lake Cathie).

The residential areas enable the generation of a sustainable revenue source to facilitate the proposed open space corridor, and provide an appropriate driver for economic development in the growing Port Macquarie-Hastings district. The project is considered to be a unique opportunity to set a benchmark for future large-scale residential land releases in the region whilst proposing a development type that is sympathetic to the sensitive ecological and cultural attributes of the site.

The project will contribute to the dwelling targets of the *North Coast Regional Strategy* by providing new urban development consistent with the identified growth boundaries of the Strategy. The proposal will also achieve the Strategy aims for Settlement and Housing by presenting a new urban settlement which incorporates accessible public open space with opportunities for recreation, nature conservation, social interaction, and visual enhancement and amenity.



### 3. STATUTORY CONTEXT

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#### 3.1 Major Project

The proposal is a major project under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) by virtue of it being development of the kind described in Schedule 2 of the *State Environmental Planning Policy (Major Projects) 2005* namely clause 1(1) (i) – subdivision into more than 25 lots in the coastal zone (as in force at the time the proposal was declared a major project). Therefore the Minister for Planning and Infrastructure is the approval authority.

Despite its repeal on 1 October 2011, Part 3A continues to apply to certain projects lodged before 8 April 2011 (described as transitional Part 3A projects), pursuant to Schedule 6A of the EP&A Act. The subject concept plan and project application are transitional projects as Director-General requirements for the concept plan were issued on 10 January 2007 and the requirements issued for the project application on 9 March 2007.

The Environmental Assessments were exhibited between 2 September 2010 and 1 October 2010 (30 days). During this time the department received 23 submissions – 11 submissions from public authorities and 12 submissions from the general public and special interest groups. Of the 12 public submissions, eight (8) objected to the project and three (3) provided support.

On 1 October 2011 the Minister delegated his functions to determine Part 3A applications to the department where:

- the council has not made an objection, and
- there are less than 25 public submissions objecting to the proposal, and
- a political disclosure statement has not been made in relation to the application.

There have been 11 submissions received from the public and although Council has made a submission this is only to recommend conditions and Council has not made an objection to the proposal. There has also been no political disclosure statement made for this application, and no disclosures made by any persons who have lodged an objection to this application.

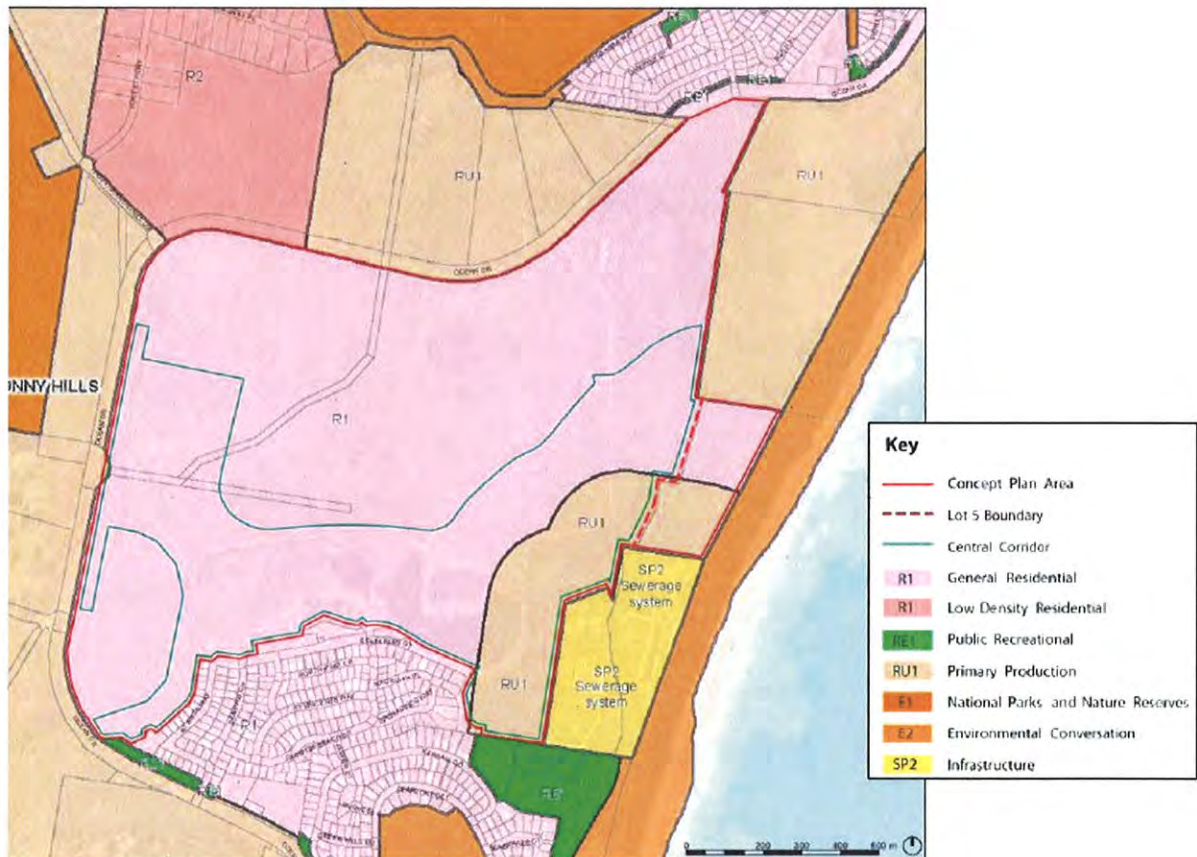
Accordingly the application is able to be determined by the Deputy Director General under delegation.

Consequently, this report has been prepared in accordance with the requirements of Part 3A and associated regulations, and the Minister (or his delegate) may approve or disapprove of the carrying out of both the concept plan under section 75O of the EP&A Act and project application under section 75J of the same Act.

#### 3.2 Permissibility

On 23 February 2011 the *Port Macquarie-Hastings Local Environmental Plan 2011* (LEP 2011) was made and applied to the site. The LEP 2011 was prepared in line with state government requirements for a standard LEP template. Under the LEP 2011 all relevant land uses under the previous LEP become converted to R1 General Residential and RU1 Rural. All proposed land uses are permissible with the exception of the proposed village centre which is a prohibited use under the R1 zoning.

Figure 11 depicts the subject site under LEP 2011.

**Figure 11: Zoning of the subject site under LEP 2011**

The environmental assessment requirements were issued before the *Environmental Planning and Assessment Regulation 2000* was amended (clauses 8N and 8O) to prevent a concept plan to approve uses that were prohibited by an environmental planning instrument (such as an LEP), if the site was in a sensitive coastal location. Therefore, pursuant to clause 8OA, clauses 8N and 8O do not apply to the proposal, and the Minister may, but is not required to take into account the provisions of the LEP 2011 when determining the subject concept plan and project application.

### 3.3 Environmental Planning Instruments

Under sections 75I(2)(d) and 75I(2)(e) of the EP&A Act, the Director-General's report for a project is required to include a copy of, or reference to, the provisions of any State Environmental Planning Policy (SEPP) that substantially governs the carrying out of the project, and the provisions of any EPI that would (except for the application of Part 3A) substantially govern the carrying out of the project and that have been taken into consideration in the assessment of the project.

The department's consideration of relevant SEPPs and EPIs is provided in **Appendix D**.

### 3.4 Objects of the EP&A Act

Decisions made under the EP&A Act must have regard to the objects of the Act, as set out in section 5 of the Act. The objects of the EP&A Act are:

- (a) to encourage:
  - (i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,
  - (ii) the promotion and co-ordination of the orderly and economic use and development of land,
  - (iii) the protection, provision and co-ordination of communication and utility services,
  - (iv) the provision of land for public purposes,

- (v) *the provision and co-ordination of community services and facilities, and*
- (vi) *the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and*
- (vii) *ecologically sustainable development, and*
- (viii) *the provision and maintenance of affordable housing, and*
- (b) *to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and*
- (c) *to provide increased opportunity for public involvement and participation in environmental planning and assessment.*

The approval of this project will be consistent with the objects of the Act in that it will encourage:

- the promotion and coordinated development of land identified as suitable for a certain level of development by virtue of its predominantly residential zoning;
- the protection of the environment through the retention and subsequent rehabilitation of large areas of existing native vegetation through the site's central openspace/habitat corridor and along the Duchess Gully area;
- the promotion of ecologically sustainable development through the implementation of Water Sensitive Urban Design principles throughout the subdivision; and
- provision of affordable housing.

The development as proposed is considered to be both economically and ecologically sustainable, and is in accordance with the relevant objects set out in section 5 of the EP&A Act.

### 3.5 Ecologically Sustainable Development

The EP&A Act adopts the definition of Ecologically Sustainable Development (ESD) found in the *Protection of the Environment Administration Act 1991*. Section 6(2) of that Act states that ESD requires the effective integration of economic and environmental considerations in decision-making processes and that ESD can be achieved through the implementation of:

- (a) *The precautionary principle—namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation*
- (b) *Inter-generational equity—namely, that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.*
- (c) *Conservation of biological diversity and ecological integrity.*
- (d) *Improved valuation and pricing of environmental resources.*

The department has considered the project in relation to the ESD principles. The Precautionary and Inter-generational Equity Principles have been applied in the decision making process via a thorough and rigorous assessment of the environmental impacts of the project. Whilst recommending that the proposal be approved, thus providing additional housing opportunities on the Mid North Coast, much of the site will be protected and rehabilitated.

The Biodiversity and Improved Valuation Principles have been applied through measures recommended by the department protecting Endangered Ecological Communities (EECs) and minimising impact on threatened species habitat to compensate for removal of some vegetation within other parts of the site.

An on-site offset to protect EECs and other high conservation value land has been recommended by the department to compensate for removal of some EEC within other parts of the site. Therefore, it is considered that the proposal meets the valuation principle.

### 3.5 Statement of Compliance

In accordance with section 75I of the EP&A Act, the department is satisfied that the Director-General's environmental assessment requirements have been complied with.



## 4. CONSULTATION AND SUBMISSIONS

### 4.1 Exhibition

Under section 75H(3) of the EP&A Act, the Director-General is required to make the environmental assessment (EA) of an application publicly available for at least 30 days. After accepting the EA, the department publicly exhibited it from 2 September 2010 until 1 October 2010 (30 days) on the department's website, and at its Information Centre at 23-33 Bridge Street Sydney. The proposal was also exhibited at Port Macquarie-Hastings Council's Customer Service Centre at Lord and Burrawan Street Port Macquarie and Port Macquarie Library at Gordon and Grant Street Port Macquarie. The department advertised the public exhibition in the *Port Macquarie News* on 1 September 2010, the *Port Macquarie Express* on 8 September 2010, and the *Wauchope Hastings Gazette* on 9 September 2010. Landholders and relevant State and local government authorities were also notified in writing.

The department received 23 submissions during the exhibition of the EA comprising 11 submissions from public authorities and 12 submissions from the general public and special interest groups.

A summary of the issues raised in submissions is provided below.

### 4.2 Public Authority Submissions

Eleven (11) submissions were received from public authorities.

#### Port Macquarie-Hastings Council

Council made two submissions on the proposal. The first submission focused on the terms of a voluntary planning agreement being discussed between proponent and Council while the second identified a number of issues with the project, including:

- Outline of staged implementation;
- Concern with size and number of stormwater treatment wetlands proposed;
- Buffer to sewage treatment plant;
- Multiple issues with use of high acoustic barriers along Ocean Drive;
- Need for detailed constraints mapping of eco-tourist site;
- Environmental impacts associated with increased public access to Rainbow Beach; and
- Issues with development's eastern interface with adjoining lands.

#### NSW Office of Water

The NSW Office of Water (NOW) raised the following issues through its submission:

- Need for stormwater treatment wetlands to be lined prior to stormwater flows entering main ground water body excavation;
- Risk of groundwater contamination due to acid sulfate soils (ASS);
- Require payment of \$250,000 security bond for ASS risks with further payment required for additional risks associated with stormwater and other impacts;
- Need for a detailed groundwater and excavation monitoring program and ASS contingency plan;
- The proposed groundwater excavations will have to be approved and licensed under the *Water Act 1912*; and
- Potential for the proposal to be captured under the definition of *State Environmental Planning Policy No. 50 – Canal Estate Development*.

#### Department of Environment Climate Change and Water (now Office of Environment & Heritage/ Environment Protection Authority)

The Department of Environment Climate Change and Water (DECCW) provided a submission on the proposal raising the following issues:

- Need for appropriate management of air quality and noise impacts;
- Recommends that the proponent ensure that there is sufficient capacity within the municipal sewage treatment system to accept all sewage waste from the proposal;
- Need for adequate offsets for impacts on Eastern Chestnut Mouse, Common Planigale and Wallum froglet;
- Loss of Swamp Oak Floodplain Forest Endangered Ecological Community;
- Impact on mapped Regional corridor from bushfire protection measures; and
- Detail of future offset measures to be incorporated into the future planning agreement.

### **Roads and Traffic Authority (now Roads & Maritime Services(RMS))**

In its submission the RMS raised the following issues:

- In order to assess impact on the road network it would be desirable to develop a micro-simulation model for the arterial road network;
- Raised concern regarding impacts on the safety and efficiency of the junction at Pacific Highway with Houston Mitchell Drive;
- Ocean Drive is a Classified Road that requires concurrence to any new access or proposed road works;
- Schools should not be located adjacent to a multi-lane arterial road due to the impacts that the traffic will have on safety and amenity. Any school zone installed on Ocean Drive will have an impact on its efficiency and create ongoing compliance problems. They are better located away from major roads where the road environment is safer;
- The southern school site proposes a fifth direct connection to Ocean Drive which will have a significant impact on the safety and efficiency of Ocean Drive. Consideration needs to be given to its impact, access design and funding of road works;
- Safe links need to be established across Ocean Drive for pedestrians and cyclists to connect to schools, shops, beach and other residential areas. These would ideally be grade separated to avoid conflicts with traffic;
- Consideration will need to be given to the provision of street lighting in accordance with the local electricity authority's guidelines; and
- A traffic management plan should be developed and implemented for the proposed earthworks operations.

### **Land and Property Management Authority (now Crown Lands Division)**

The Land and Property Management Authority (LPMA) raised the following issues:

- Requested further information relating to proposed beach access including requirement to change Crown land access arrangements;
- Identified need for a fence between the developed lands and the Crown reserve; and
- Requirements for bushfire protection measures and stormwater works flowing from the development to be contained within the proponent's site.

### **NSW Rural Fire Service**

The Rural Fire Service (RFS) reviewed the EA and raised concerns regarding the following matters:

- Identified a need for all areas proposed for residential development to be managed as an inner protection area (IPA);
- Identified concerns with the asset protection zones (APZs) provided for the school sites as Special Fire Protection Purpose developments need APZs to be greater in width; and
- APZ for the eco-tourist site does not meet minimum requirements of *Planning for Bushfire Protection 2006*.

### **Northern Rivers Catchment Management Authority**

The Northern Rivers Catchment Management Authority (NRCMA) raised the following matters:

- The volume and quality of stormwater runoff to the proposed main excavation is a concern;
- A buffer of at least 400 m is recommended between the existing sewage treatment plant and the eco-tourist site;
- A buffer of 100 m is required between the development and the SEPP 26 littoral rainforest; and
- The development should support the connectivity of vegetation remnants with larger vegetated areas by not blocking or encroaching on potential corridors, not infringing on any local, regional or State significant corridors and providing an adequate buffer to such corridors.

### **Housing NSW**

Housing NSW reviewed the EA and identified the following matters:

- Preference to see some affordable housing in the future residential development of the site;
- Stressed a need to provide a variety of dwelling types and sizes to cater for changing demographics;
- Identified need for an integrated road network with good permeability;
- Supports use of walking paths and cycleways; and
- Encourages the provision of an adequate public transport service that complements Rainbow Beach.

**Industry & Investment (now Department of Primary Industries (DPI))**

DPI reviewed the EA and identified the following matters:

- The proposed development generally avoids direct impacts on key fish habitats;
- The project design should prevent likelihood of fish populations moving into the stormwater treatment wetlands by effectively separating key fish habitat of Duchess Gully ICOLL from water quality control infrastructure; and
- Final levels for the subject development should be cognisant of projected sea level for the 20 and 50 year time horizons.

**Department of Education and Training (now Department of Education & Communities (DE&C))**

The DE&C generally supported the proposal and identified a need for a buffer between the main road and school sites.

**4.3 Public Submissions**

12 submissions were received from the public. This included submissions from the following special interest groups:

- Bonny Hills Youth and Community Projects Group
- Bonny Hills Progress Association
- Lake Cathie Progress Association

Of the 12 public submissions, nine (74.7%) objected to the project and three (25%) supported the project. The key issues raised in public submissions are listed in Table 4.

**Table 4: Summary of issues raised in public submissions**

Issue	Proportion of submissions (%)
Traffic & Access	58% (7)
Biodiversity	41.7% (5)
Infrastructure & Community Facilities	33% (4)
Stormwater	33% (4)
Acid Sulfate Soils	16.6% (2)
Insufficient detail submitted on proposal	16.6% (2)
Over Development	0.083% (1)
Noise	0.083% (1)
Air Pollution	0.083% (1)

Some of these issues were resolved following further consultation with the proponent, or were directly addressed via the proponent's Preferred Project Reports (PPRs), Statement of Commitments (SoCs) or dealt with in the department's recommended conditions of approval. Significant issues are discussed in detail, below. The department has fully considered the issues raised in submissions in its assessment of the project.

**4.4 Proponent's Response to Submissions**

The proponent provided a combined response to the issues raised in submissions (see Appendix C). The response included two PPRs which submitted an amended scheme proposing:

**Changes to the concept plan**

- Removal of the proposed future 'eco-tourist' land use for Lot 5 DP 25886 and change to low density residential within a designated development footprint;
- Introduction of a 'Principles Plan' for Lot 5 DP 25886 which illustrates interface and setback areas to the STP and ecological areas, and delineates the extent of land for development;
- Introduction of a series of 'Urban Design Principle Plans' that clarify the framework and strategic intent for site development, particularly with regard to future urban form; and
- Introduction of a 'Staging Plan' that illustrates indicative staging of proposed residential precincts.



**Changes to the project application**

- Amendment to the central corridor to increase width of the habitat passage between the site's existing water body and the proposed groundwater excavation from 50m to 100m which results in:
  - reduction in surface area of the groundwater excavation by 6% (0.6 ha);
  - revision of original Environmental Land Use Management Plan (ELUMP) to reflect minor modifications to the breakdown of open space areas within the central corridor; and
  - amended cut and fill balance.
- Refinement of wetland treatment areas W1A – W1E within the central corridor; and
- Detailed design of proposed beach access over Crown land.

## 5. ASSESSMENT

The department considers the key environmental issues for the project to be as follows:

- Impacts on threatened species and biodiversity;
- Management of air quality & noise impacts;
- Flooding & sea level rise;
- Proposed excavation & constructed wetlands;
- Coastal erosion;
- Traffic & access;
- Bushfire protection;
- Urban design;
- Ocean Drive road corridor; and
- Voluntary Planning Agreement (VPA) & Contributions.

### 5.1 Impacts on Threatened Species and Biodiversity

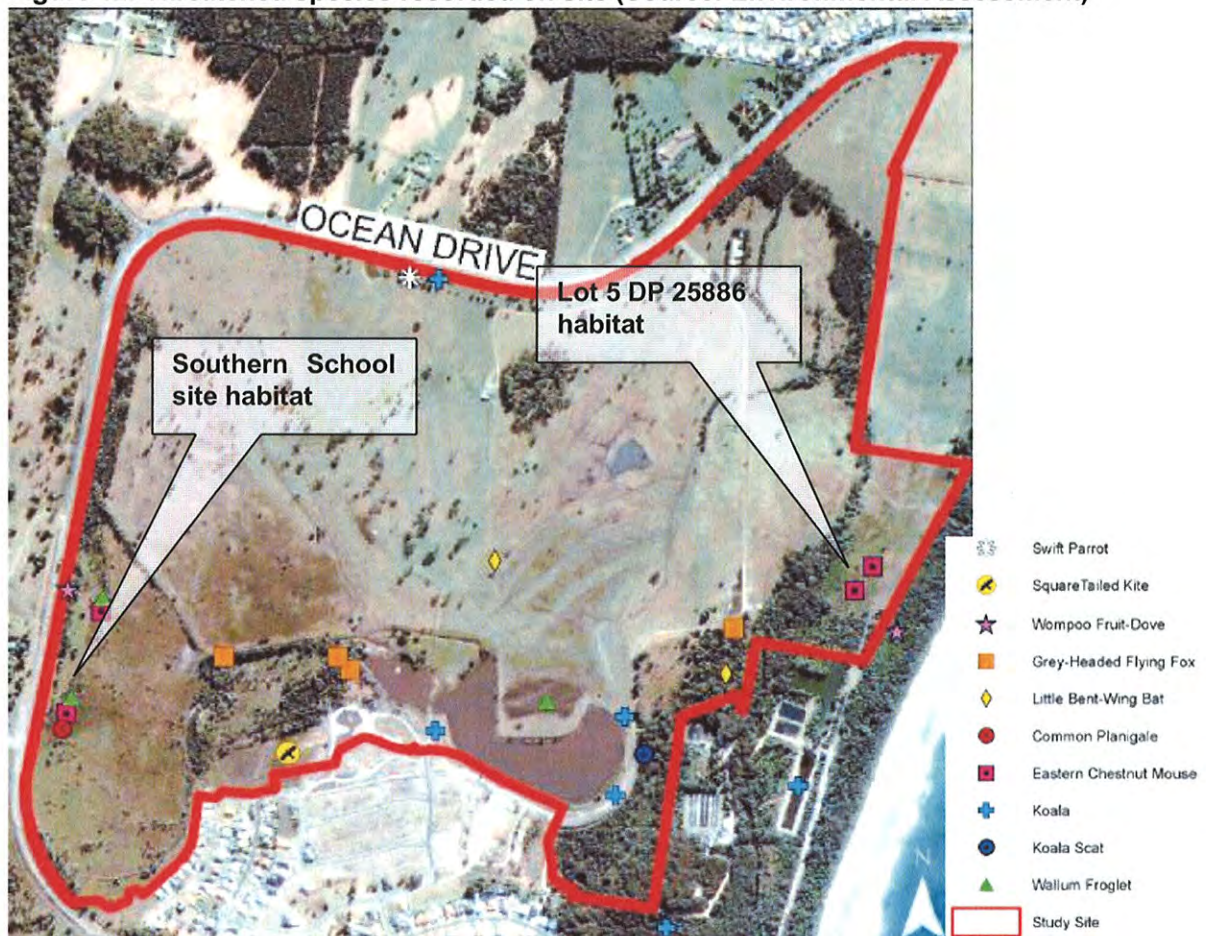
#### Impacts on Fauna

The following threatened species listed under the *Threatened Species Conservation Act 1995* (TSC Act) have been recorded on the site:

- |                        |                    |                          |
|------------------------|--------------------|--------------------------|
| • Wallum Froglet       | • Koala            | • Eastern Chestnut Mouse |
| • Wompoo Fruit-Dove    | • Common Planigale | • Grey-Headed Flying Fox |
| • Square-Tailed Kite   | • Wallum Froglet   | • Swift Parrot           |
| • Little bent wing bat |                    |                          |

Figure 12 depicts threatened species recorded on the site.

**Figure 12: Threatened species recorded on site (Source: Environmental Assessment)**



Notwithstanding the disturbed nature of the site and the consequent reduced habitat complexity, the proposal will result in the direct loss of habitat for the Eastern Chestnut Mouse, Common Planigale and Wallum Froglet which are listed under the TSC Act. These threatened fauna species are located within the proposed southern school site and the Lot 5 DP 25886 area on the site's eastern extent (see Figure 12).

The EA suggests that although threatened species and their habitats are present on the subject land, there are no areas of constraint precluding the proposal due to the low habitat value of existing vegetation and removal activities are not expected to have significant impacts on threatened species within and around the site. The proponent states that any impacts on threatened species resulting from the loss of vegetation will be ameliorated via its proposed schedule of revegetation activities put forward in the Open Space Management Strategy (OSMS) and implemented through the Environmental Land Use Management Plan (ELUMP) which forms part of both applications.

In its submission responding to the exhibition the Office of Environment & Heritage (OEH) (formerly DECCW) advised that prior to determination, suitable offsetting of the impacts on these species is required.

Although the proposed schedule of revegetation activities will introduce improved ecological outcomes to riparian vegetation and littoral rainforest areas adjacent to Lot 5 DP 25886, the proponent has not directly responded to the need to either conserve the Eastern Chestnut Mouse population on the eastern part of the site or to offset it. The proponent's argument that the areas of threatened species habitat on the southern school site are not sufficient to support viable populations appears to be at odds with the intended restoration and habitat enhancement efforts to be carried out in adjoining areas for the proposed central corridor.

In view of this, the department considers that giving approval to the proposal on the basis that impacts on threatened species will be revisited in the future defers a decision on an important aspect of the project that could alter the proposal in a fundamental respect. The OEH's requirement for the identified areas of threatened species to be incorporated into the central corridor is not an unreasonable burden given the peripheral location of these species (within the southern school site and Lot 5 DP 25886) to the central corridor. A recommendation has therefore been made to modify the concept plan to require a design change to conserve the habitats in perpetuity as shown on Plan I (annexed to the Modifications to the concept plan).

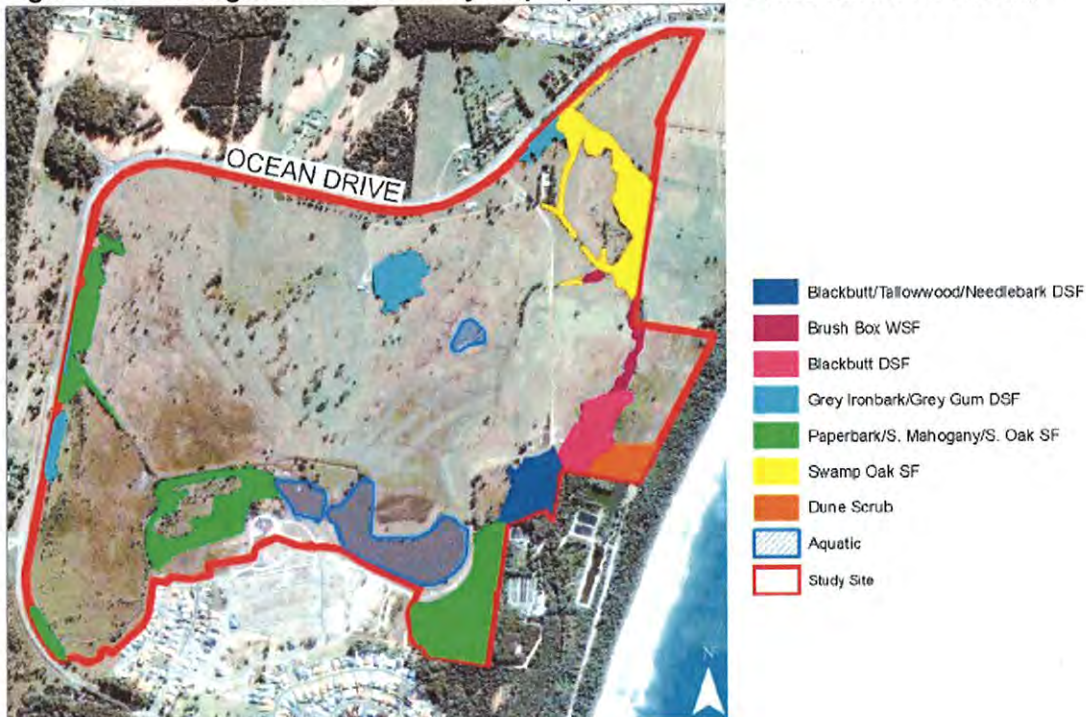
### ***Impacts on Endangered Ecological Communities***

The Ecological Assessment submitted with the EA identified nine vegetation communities on the subject site:

- Blackbutt-Tallowood-Needlebark Dry Sclerophyll Forest (1.98 ha);
- Brushbox Wet Sclerophyll Forest (0.72 ha);
- Blackbutt Dry Sclerophyll Forest (2.11 ha);
- Grey Ironbark-Grey Gum Dry Sclerophyll Forest (2.39 ha);
- Paperbark-Swamp Mahogany-Swamp Oak Swamp Forest/Woodland (10.45 ha);
- Pasture/Pastoral Woodland (150.12 ha);
- Dune Scrub (1.19 ha);
- Swamp Oak swamp forest (4.29 ha); and
- Aquatic (5.75 ha).

As well, situated on Crown land adjacent to the site is littoral rainforest mapped under *State Environmental Planning Policy No. 26 – Littoral Rainforest* (SEPP 26), being littoral rainforest No. 116. A map of these vegetation communities is provided at Figure 13 (over).



**Figure 13: Site vegetation community maps (Source: Environmental Assessment)**

The Ecological Assessment has identified the following two Endangered Ecological Communities (EECs), as listed under the TSC Act, occurred on the site:

- Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregion; and
- Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions.

To make way for residential areas and two road reserves the project will result in a direct vegetation loss of approximately 0.4 ha of Swamp Oak EEC, and loss of 0.4 ha of Swamp Sclerophyll EEC. Figure 14 provides a visual representation of these losses and shows the location of the two road reserves.

The proponent's plan to retain and revegetate a significant proportion of *Swamp Sclerophyll EEC* vegetation is supported.

The main area of *Swamp Oak EEC* (4.29 ha) is located on the north-east portion of the site. A large proportion of this EEC stretches approximately 500m along the Duchess Gully drainline and is between 20m-60m in width.

In its submission responding to the exhibition of the EA, OEH identified concerns with the majority of Swamp Oak EEC not being included within the proposed central corridor. OEH also raised a need for the proponent to offset any proposed removal of EEC and include details of the mechanism(s) proposed for the long term protection and management of offset area(s) to be provided prior to project determination. In addition, OEH recommended that all future APZs be placed within the development footprint and any buffer areas placed on environmentally sensitive lands such as the Swamp Oak EEC not captured by the central corridor be at least 50m wide.

The department recognises the importance of ensuring the identified Swamp Oak EEC is protected in a similar method to the central corridor offset in perpetuity. The department therefore shares the concerns raised by OEH in that the design of the proposal could provide better protection to Swamp Oak EEC.

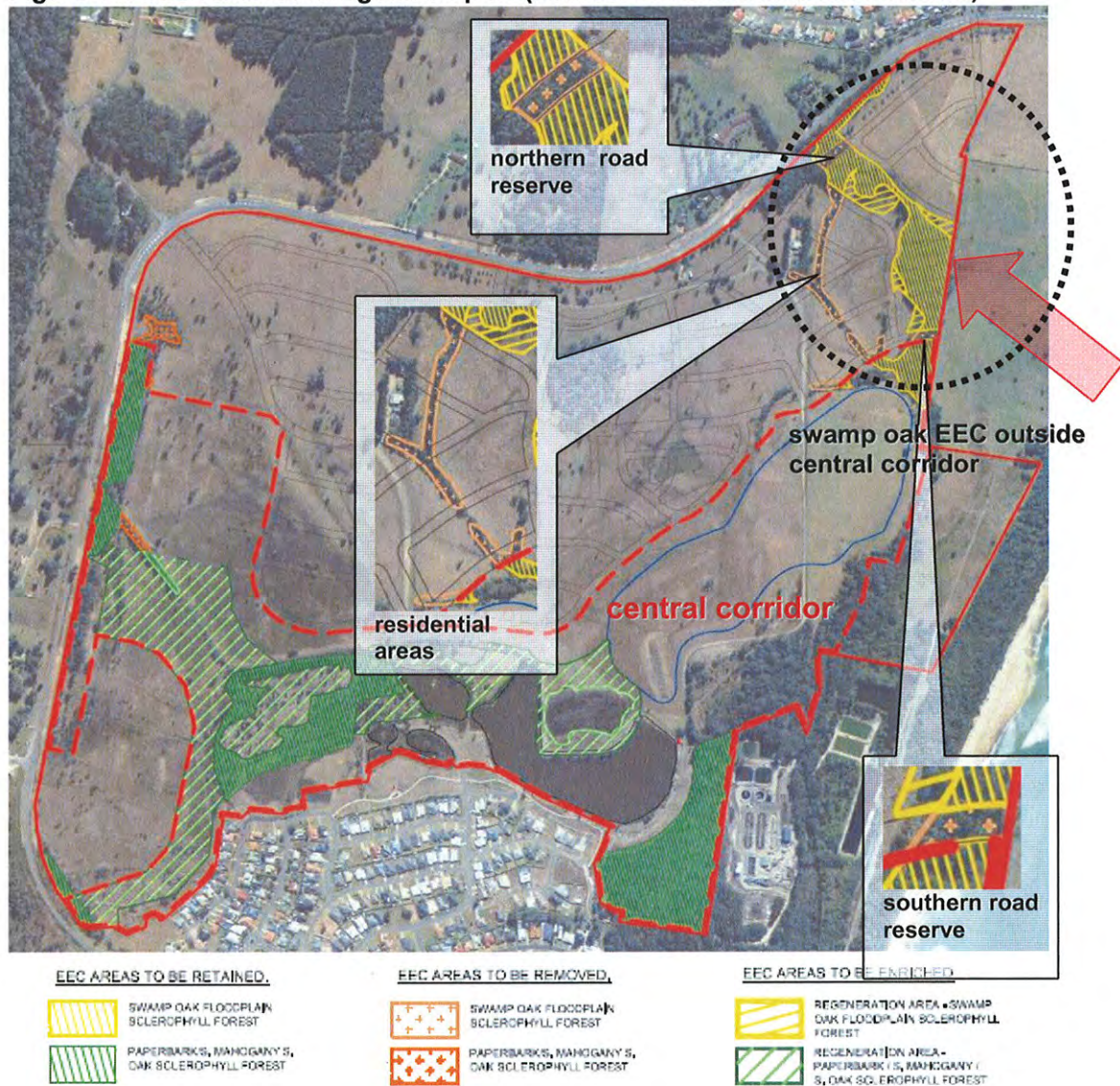
Ideally road reserves should not run through the EEC. The removal of the EEC to make way for the northern road reserve is therefore not supported.



The southern road reserve cannot be deleted in the interest of achieving a sound planning outcome as it allows a future road connection for the north-eastern component of the development. Given that the area to be cleared is small (500m<sup>2</sup>) and measures have been put forward to restore the remaining EEC, to provide an underpass/overpass and to seek a future environmental rezoning following determination of the concept plan, the department is satisfied that the southern road reserve may proceed.

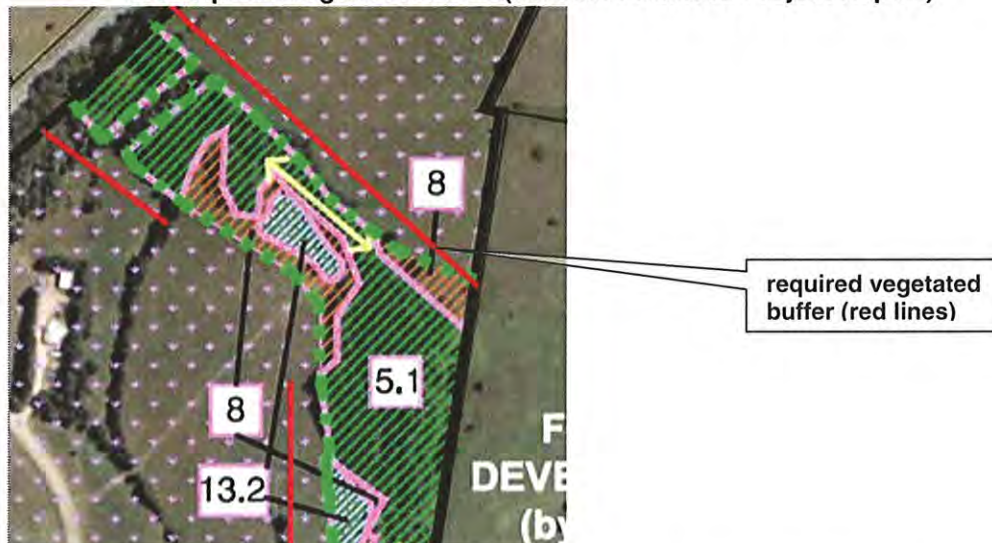
The department has also taken into account OEH's requirement for long-term conservation security in perpetuity and incorporated the Swamp Oak EEC into the central corridor. In view of this a condition requiring the EEC to be managed in line with ongoing management arrangements put forward for the central corridor has been recommended.

**Figure 14: EEC removal/revegetation plan (Source: Environmental Assessment)**





**Figure 15: Swamp Oak EEC (5.1) with 0.6 ha of proposed revegetation measures (8) and required vegetated buffer (Source: Preferred Project Report)**



**Impacts on adjoining SEPP 26 littoral rainforest and other dunal vegetation**

A further environmental issue relates to the impact on the SEPP26 Littoral Rainforest and other dunal vegetation which forms the eastern boundary of the sit (see **Plate 4**). SEPP 26 Littoral Rainforest #116 is situated adjacent to the northern edge of a walking track through a Crown reserve and extends along the upper north-east corner of Lot 5 25886 as shown on Figure 16, over.

The exhibited concept plan proposed to delineate a 7.6 ha eastern portion of land (primarily Lot 5 DP 25886) as a future eco-tourist development site. As this was likely to have resulted in increased impacts to the adjoining littoral rainforest areas unless adequately mitigated from edge impacts resulting from increased human interference, the EA as exhibited, identified a 50m buffer to the northern portion of the SEPP 26 area with a taper reducing to nil at the entry point to the proposed Rainbow Beach access point. A revegetated edge of approximately five metres was nominated for the remaining littoral rainforest south of the beach access and exhibited plans also show a future carparking area.

In its submission to the department responding to the EA, Council raised issues with potential impacts on the integrity of the dunal system and littoral rainforest. They also stated that the dunal vegetation south of the SEPP 26 area potentially meets the criteria for listing as littoral rainforest/vine thickets under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Although OEH or Council did not explicitly comment on the proposed buffer or physical separation to the SEPP 26/dunal vegetation in their exhibition responses, the NRCMA in its submission identified the need for a 100m buffer between the development and the SEPP 26 littoral rainforest in accordance with their best practice guidelines for ecological buffers adjacent littoral rainforests.

Following exhibition the proponent was asked to demonstrate that the mitigation measures proposed are adequate in respect to this area's significance as an EEC under both the TSC Act and EPBC Act. In addition, the department requested further design detail of all proposed works interfacing the littoral rainforest, notably the proposed beach access.

In response to the issues raised, the proponent amended the concept plan in relation to Lot 5 DP 25886. The preferred project provides a 'principles plan' which illustrates amended interface and setback areas to the adjoining littoral rainforest as provided at Figure 17 (over).

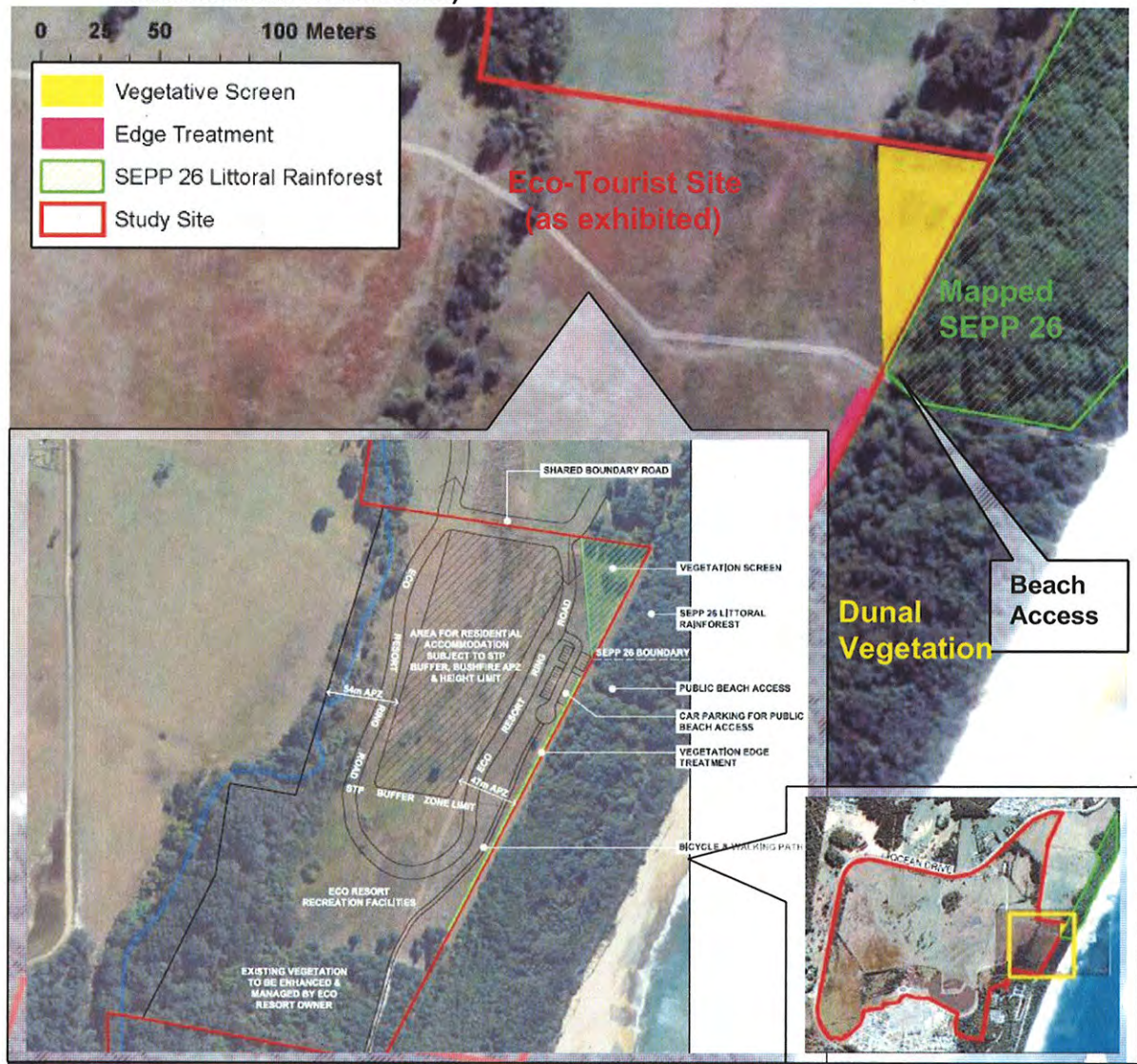
This deletes the eco-tourism component and delineates a residential development footprint located outside a 400m exclusion zone from the adjoining STP. The car parking area for the public beach access has also been deleted from the project. The north-south vegetation buffer taper has been



increased from 50-0m to 51-25m and revegetation measures introduced to be in accordance with an updated ELUMP and its associated OSMS (which form part of the project application).

The site adjoins a 75m buffer separating the residential precinct of the 'Lake Cathie' development, Major Project 07\_0010 to the north. A 75m buffer to littoral rainforest was approved with the 07\_0010 project as the result of prolonged negotiations originating from that site's rezoning. The buffer widths in that project were approved as extensive rehabilitation measures were to be carried out to the adjoining SEPP 26 area and adjacent vegetation. The 75m buffer encompassed a 50m revegetation area adjoining the SEPP 26 with a further 25m separation zone comprising a footpath/cycleway, road and parking areas.

**Figure 16: Exhibited proposal for eco-tourist site adjoining littoral rainforest (Source: Environmental Assessment)**



**Plate 4: View of littoral rainforest east of site (Source: Environmental Assessment)**



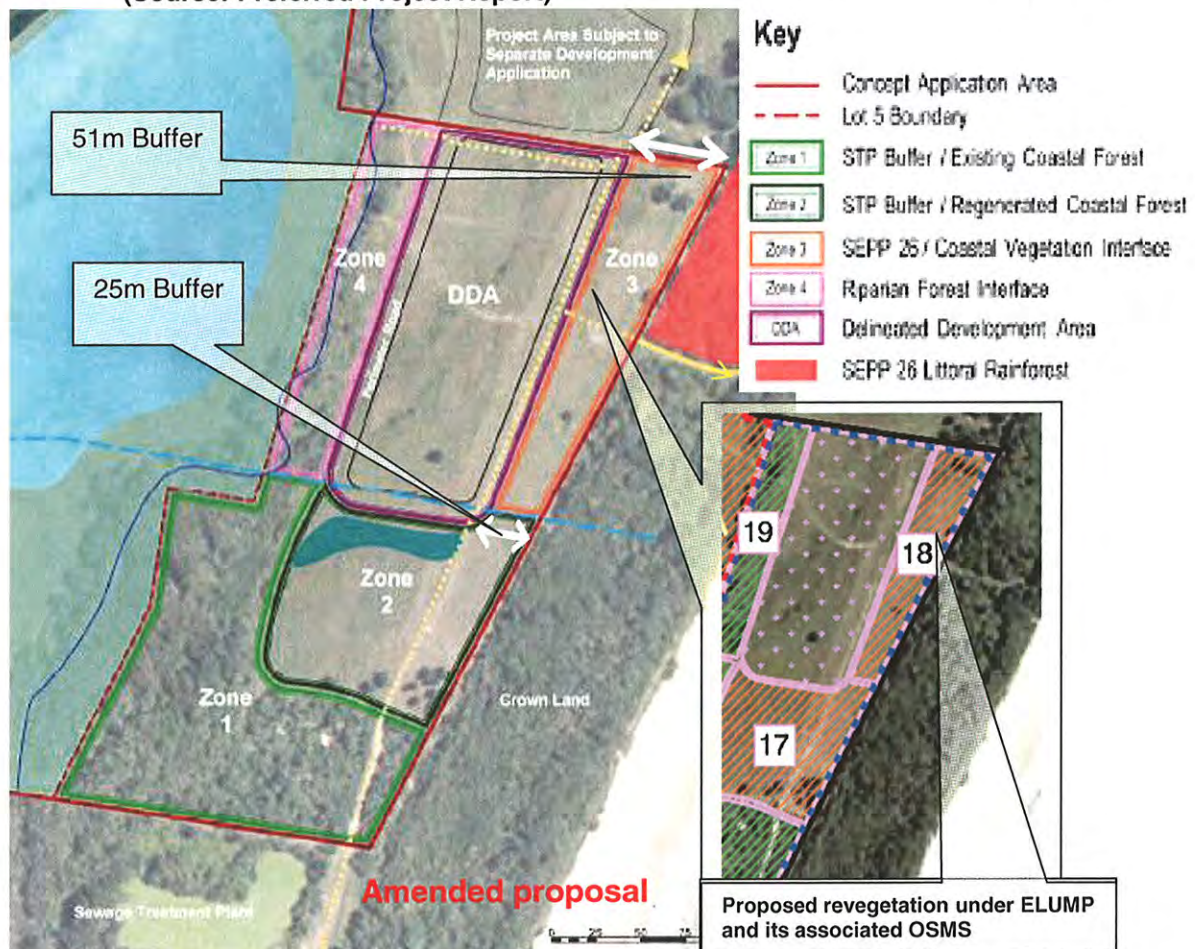


To ensure a consistent approach with the 07\_0010 project, a modification to the Rainbow Beach concept plan is recommended which will increase the proposed vegetation buffer to a full 50m between the Crown Reserve and the development area, this also, consequently, slightly reduces the development area. A condition of approval requiring extensive vegetation rehabilitation of the adjacent Crown land reserve is also recommended for the project application.

The position put forward by NRCMA for a minimum 100m wide buffer is noted however is not considered essential for the ongoing preservation of the SEPP 26 area. Subject to compliance with the recommended conditions of approval, and sound execution of the ELUMP and its associated OSMS, the department is satisfied that the mitigation measures proposed with the littoral rainforest/dunal vegetation interface are adequate in respect to this area's significance as a potential EEC under both the TSC Act and EPBC Act.

In response to concerns raised with the impacts of human interference by way of increased public use of the existing beach access, the proponent has provided design details of a proposed board and chain path. The design of beach access components has been undertaken in consultation with the LPMA and complies with the *NSW Coastal Dune Management Manual 2001*. The department supports the installation of the boardwalk to formalise the existing informal pedestrian access adjoining the SEPP 26 Littoral Rainforest. The path will allow access to the beach foreshore and discourage access in other locations. A recommended condition of approval requires that further details of the timber boardwalk be submitted with the construction certificate.

**Figure 17: Principles plan for adjoining littoral rainforest area under amended proposal**  
(Source: Preferred Project Report)



### Impacts on Key Habitats & Corridors

The majority of the vegetation on the subject site forms part of a mapped Regional Corridor identified by OEH as having regional connectivity significance. It has also been identified as a Koala Habitat



Link within the Port Macquarie-Hastings Council Area 14 Koala Plan of Management. Figure 18 displays the subject site and its association with Regional Corridor mapping.

In its submission responding to the EA, OEH raised concerns with the proposed 54m APZ between the Lot 5 DP 25886 site and the open waterbody (main excavation). OEH also recommended that riparian vegetation along Duchess Gully Creek be protected from any form of development, including bushfire protection measures. In response to exhibition, NRCMA raised concerns with the limited habitat connectivity of the central corridor as the proposed open waterbody occupies the bulk of the central corridor, leaving effective terrestrial corridors less than 50m in width in some locations, with limited consideration given for the movement of terrestrial fauna.

In response the proponent amended the concept plan by removing the APZ from the future development interface between the main excavation area and Lot 5 DP 25886 (former eco-tourist site) and therefore preserving the riparian vegetation along Duchess Gully Creek. Figure 19 (over) shows the location of original APZ with the amended plan to retain riparian vegetation (shown as Zone 4 on the Figure 15 Principles Plan). The proponent also reduced the area of the main excavation (in the project application) to allow for terrestrial corridors to be widened from 50m to 100m (Figure 20) and committed to amending the OSMS to provide measures for underpass and overpass connectivity to improve habitat corridor values movement of terrestrial fauna.

The department considers the redesign of the APZ to preserve riparian vegetation along Duchess Gully Creek, the widened central corridor and the new commitment to introduce wildlife underpass/overpass measures will improve the site's overall habitat connectivity.

Although the amended project has not adopted OEH's recommendation to extend the proposed central corridor, the central corridor as amended will provide connectivity between the two mapped regional corridors as well as restoring the east-west linkage across the site. To ensure the proposal maintains the regionally significant wildlife corridor, a condition of approval has been recommended requiring the details of future wildlife overpass/underpass linkages to be submitted prior to commencement of works.

**Figure 18: Regional Corridor mapping with site (Source: Environmental Assessment)**

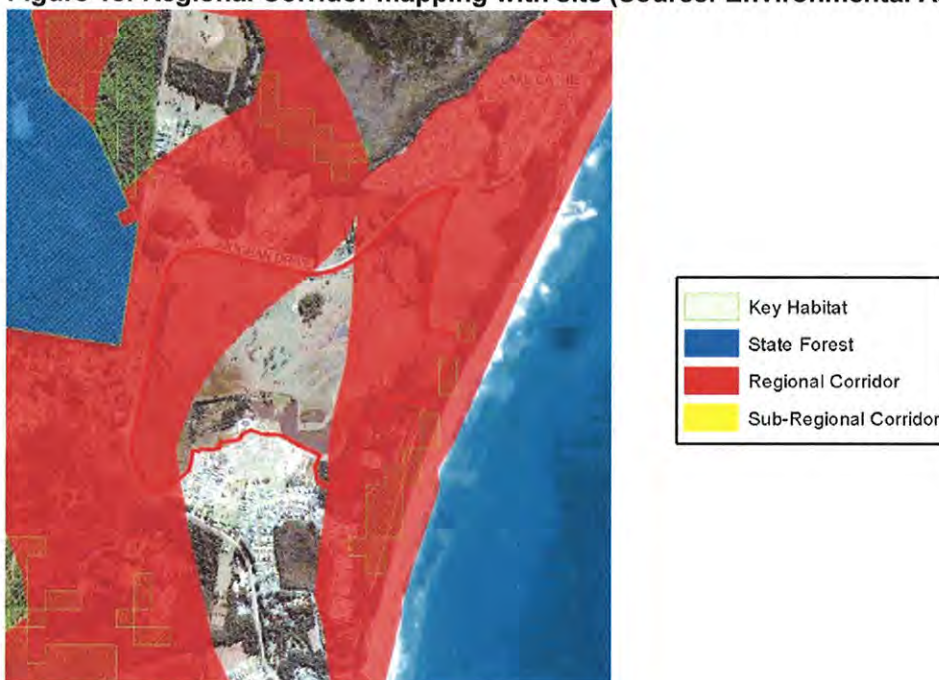




Figure 19: Lot 5 DP 25886 APZ adjoining Duchess Gully (Source: Environmental Assessment)

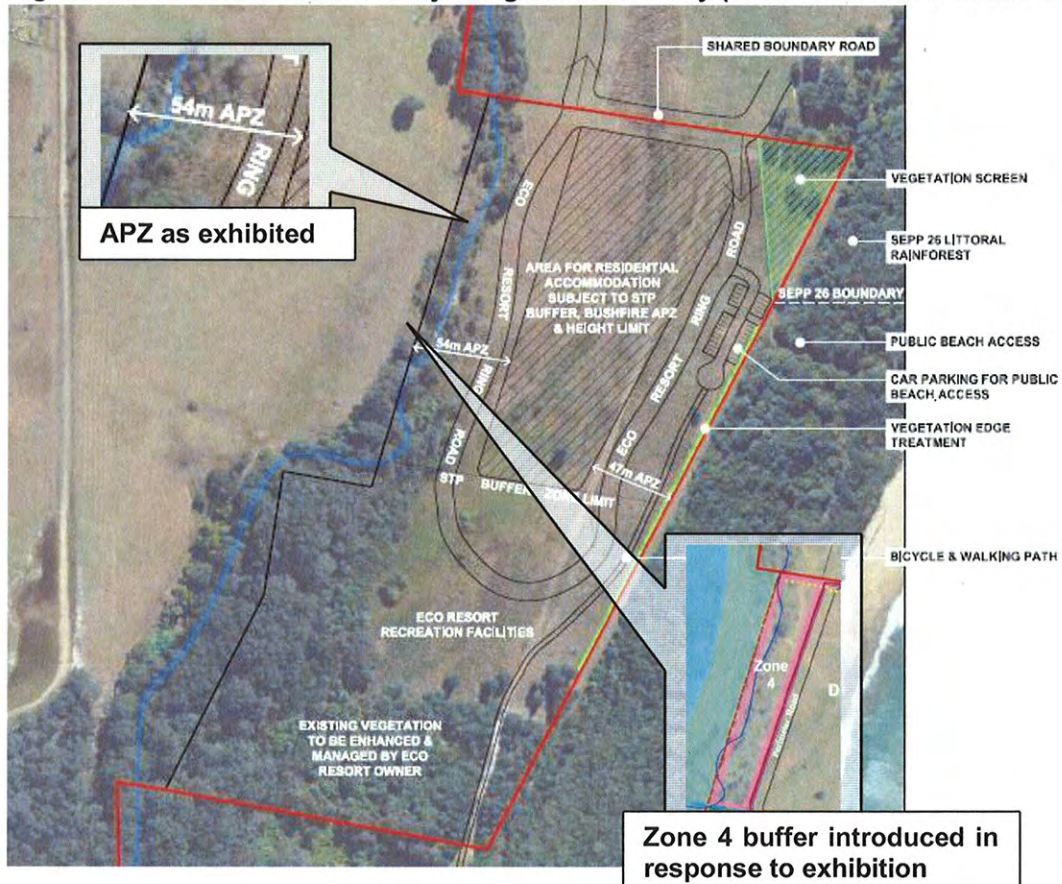
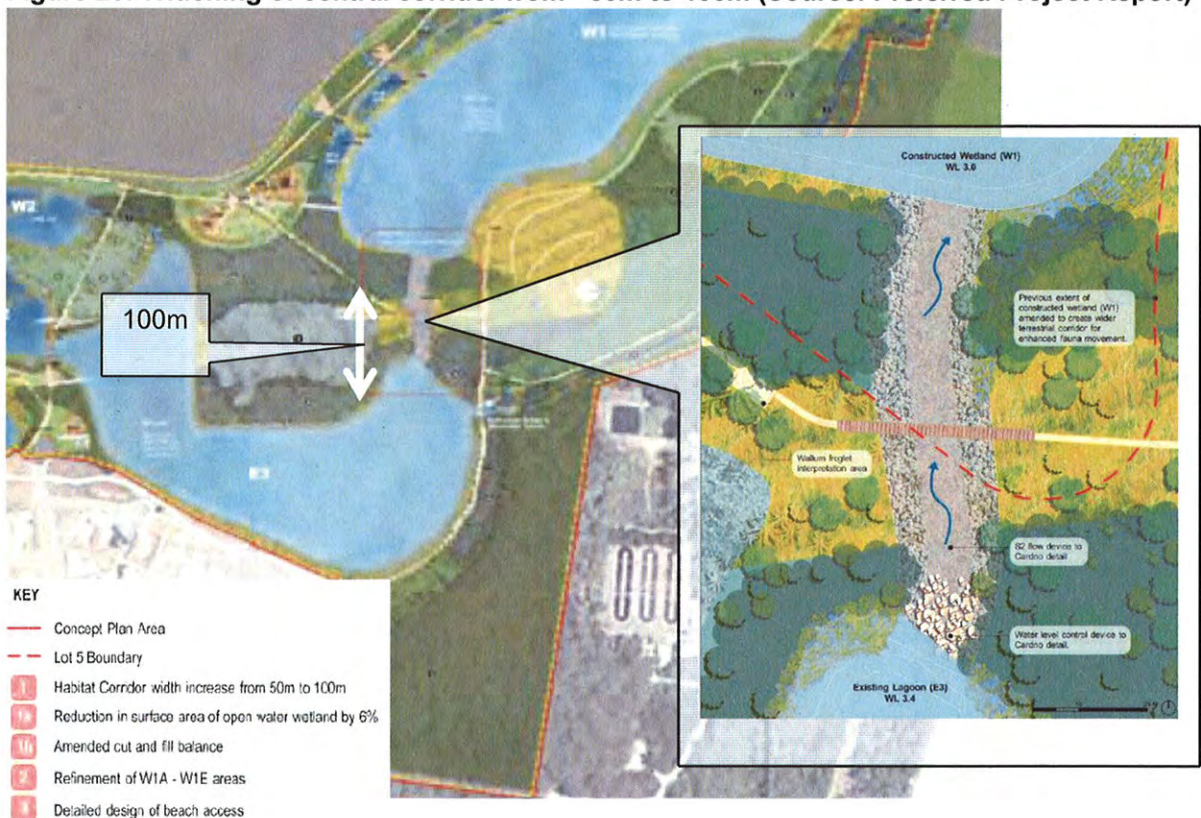


Figure 20: Widening of central corridor from &lt;50m to 100m (Source: Preferred Project Report)



## 5.2 Management of Air Quality & Noise Impacts

The project application includes the proposed excavation of 415,800 m<sup>3</sup> of soil to make way for the proposed open water bodies and subsequent filling activities. These activities may require an Environment Protection Licence (EPL) under section 48 of the *Protection of the Environment Operations Act 1997* (POEO Act).

Schedule 1 of the POEO Act defines excavation and filling as follows:

- *land-based extractive activity, meaning the extraction, processing or storage of extractive materials, either for sale or re-use, by means of excavation, blasting, tunnelling, quarrying or other such land based methods.*
- *extractive materials means clay, sand, soil, stone, gravel, rock, sandstone or similar substances that are not minerals within the meaning of the Mining Act 1992.*

In its submission responding to exhibition, OEH advised that an EPL is required for the extraction, processing or storage of more than 30,000 tonnes per year of extractive materials under Schedule 1 of the POEO Act. Typically the EPL would guide the environmental management, control and monitoring of water quality and air quality. Subsequently, post-exhibition of the EA, the department advised the proponent of the need to ascertain whether or not any of the proposed activities are deemed a Scheduled Activity under Schedule 1 of the POEO Act.

The proponent responded through its PPR by confirming that the excavation and filling works proposed under the project application are a Scheduled Activity under the POEO Act 1997 and will require an EPL. In this regard, the proponent has committed to making an application to the relevant authority for the issue of an EPL prior to the commencement of any works associated with the main excavation. In view of this the OEH has provided a series of requirements which have been recommended as conditions of approval.

## 5.3 Flooding & Sea Level Rise

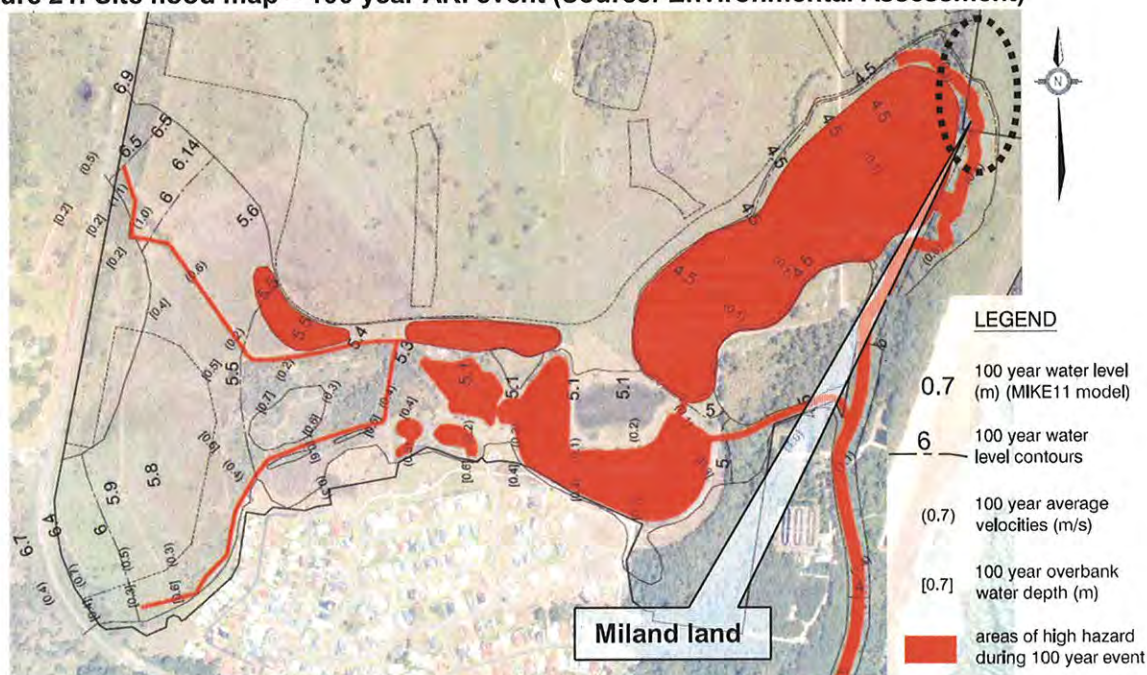
The Flood Study (Cardno, April 2010) exhibited with the EA assessed the impact of the project, including the effects of the proposed filling and main excavation, with regard to the increase in magnitude of runoff and reduced response time associated with urban development.

Although the development site is not classed as 'flood prone', as defined under the *Port Macquarie-Hastings Interim Flood Policy*, the flat low-lying nature of parts of the site gives rise to occasional inundation from local severe storm events at some locations.

The greater catchment area for the subject site is estimated to be 782 ha in size with water flows running off the adjacent Jolly Nose hill entering the site in the north-western and south western quadrants, and then discharging into the Duchess Gully ICOLL. From this point, the Duchess Gully alignment follows the Rainbow Beach frontal dune for a distance of some 1.3km before reaching the beach to discharge into the Pacific Ocean.

The Flood Study calculates 5-year, 10-year, 20-year, and 100- year average recurrence interval (ARI) flood event scenarios for a range of storm durations and catchment development conditions. Inundation levels on the developed site for the 100 Year ARI event are plotted in Figure 21, over.



**Figure 21: Site flood map – 100 year ARI event (Source: Environmental Assessment)**

Reclamation fill levels in the proposed residential areas will be constructed to a freeboard of 0.8m above the 100 Year ARI event. This is consistent with Council's interim flood policy which requires residential lots east of the Pacific Highway to be at least equal to these 100 Year ARI levels with finished floor levels constructed with a freeboard of 0.8m above the 100 Year ARI level.

In accordance with the guidelines of the NSW Floodplain Manual, the Flood Study assessed flood risk in terms of the impact of the proposed fill on existing and post-development flood water levels. The Flood Study found that flood levels are not worsened by the proposed development for the 100 year ARI event with the exception of an increase of 110 mm at the boundary of the adjoining Miland land which reduces to zero within a short distance of the property boundary (Figure 21) and is located outside residential zoning.

The contours for the proposed development plotted in the EA show that for all significant rainfall events there are inundation-free evacuation routes via the road system to higher ground along Ocean Drive. The Flood Study further advises that much of the proposed development will remain free of inundation during the probable maximum flood and access paths to higher ground will still be available. The Flood Study concluded that it is not within the scope of the current project to prepare a floodplain risk management plan but instead a matter for consideration in future development proposals on the site. As a result, the need to consider flooding issues has been included as a further assessment requirement for future development applications for subdivision.

Climate change is expected to have adverse impacts upon sea levels and rainfall intensities, both of which may have significant influence on flood behaviour in coastal areas. As a result the NSW Government has set benchmarks for future rise in sea level, relative to the 1990 mean sea level, of 0.4m by 2050 and 0.9m by 2100.

The Flood Study simulated a range of scenarios for climate change induced flooding for coastal catchments in the area including consideration of the high level impact scenario (0.9m rise in sea level by 2100 and 30% increase in rainfall intensity).

To this end, based on the high level scenario the modelling found that rainfall intensity would reduce the freeboard to 432mm by 2100 and a 1.0m sea level rise could occur without affecting the future development. Based on the modeling provided with the Flood Study, the project will essentially not be affected by future estimated sea level rise and remain flood free.

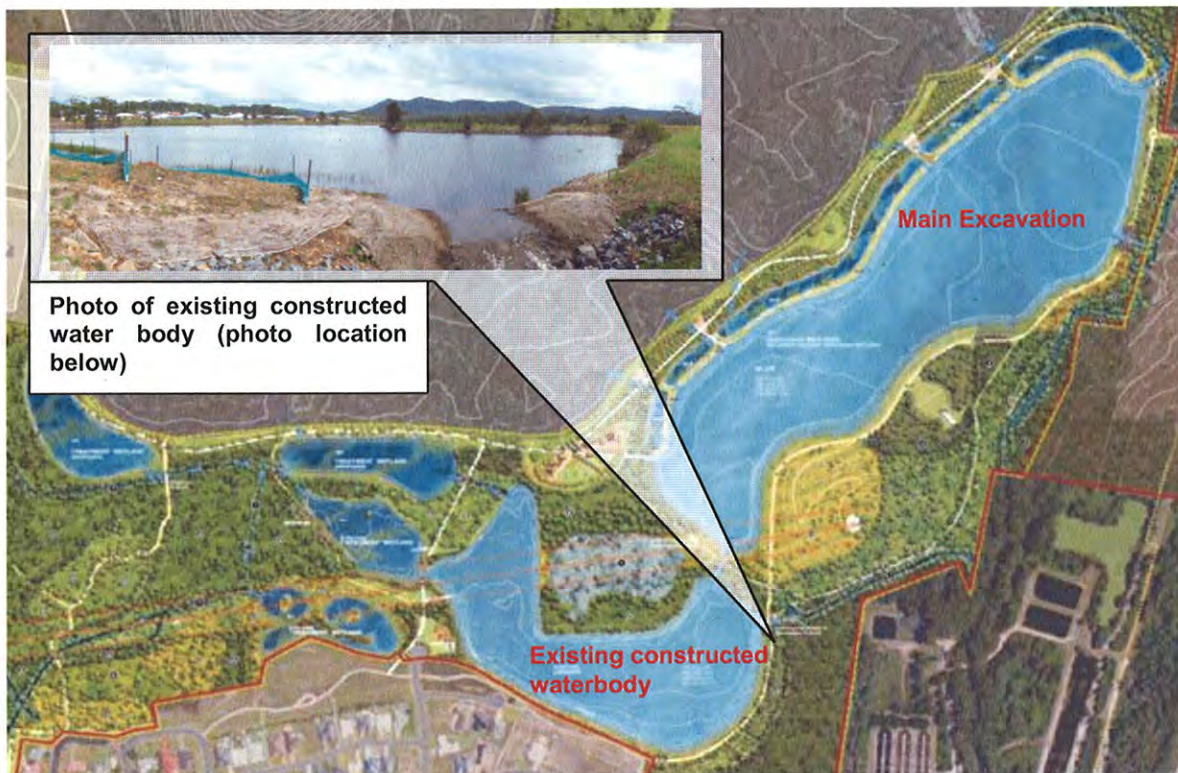


#### 5.4 Proposed Excavation & Constructed Wetlands

In order to maximise the urban development area, the project application involves a significant area of excavation and filling. Geotechnical investigations provided with the EA show that the soil of the site is suitable for use as fill material.

There is currently a 6.3 ha constructed waterbody on the subject site, which was excavated as part of work carried out in the mid 1980s. The project application (as exhibited) proposes to excavate a new 10.5 ha water body referred to in the EA as the 'Open Water Wetland' (main excavation) which will be over 700m long, 250m wide, between 1.25m and 2.75m in depth, and with a capacity of 165 ML. In addition, a series of smaller excavations are proposed as stormwater treatment wetlands which will flow towards the main excavation. The main excavation and site's existing constructed waterbody are depicted in Figure 22.

**Figure 22: Proposed excavation and existing constructed waterbody (inset) forming part of landscape masterplan (Source: Environmental Assessment)**



Due to the specialised water cycle management and hydrological issues associated with the project, the department engaged Storm Consulting to review the EA and accompanying engineering reports. The consultant undertook a review of all EA documentation related to the project and provided the department with a list of additional information requirements which were subsequently issued to the proponent to respond to as part of its PPR.

#### Hydrology & Water Quality

The Groundwater Study (WRL, March 2010) supplied with the EA identifies the subject site as a small coastal basin comprising the following 3 groundwater aquifer systems:

- Saturated organic/estuarine clays which dominate low lying areas to the west;
- An unconfined aquifer within deposits of silty sands throughout lower lying areas in the centre of the site; and
- Perched freshwater aquifers within coastal dune systems in the east of the site adjacent to the coast.



The Groundwater Study associates water quality within the first two systems as typical of an Acid Sulfate Soil (ASS) environment, with low pH and elevated concentrations of iron and aluminium. However, the perched coastal aquifer is deemed to be fresh and of good quality playing a role in sustaining the littoral rainforest adjacent to the site. The Groundwater Study confirms that the impact on this system will be negligible due to Duchess Gully Creek (traversing the site) providing an effective saturated barrier against groundwater drawdown.

In its submission responding to exhibition of the EA, NOW advised that the main excavation would require separate approval and water license under the *Water Act 1912*. NOW advised that the main excavation could be constructed without a liner, provided the pre-treatment of stormwater is adequate. The stormwater treatment wetlands are proposed in close proximity to the groundwater table and without sufficient treatment and removal of pollutants (including nutrients, pesticides and hydrocarbons), NOW has raised concerns with the potential impact on the watertable and Duchess Gully Creek. NOW's submission outlined a requirement for the bottom of all proposed stormwater treatment wetlands (W1A, W1B, W1C, W1d, W1E, W2, W3, W4A, W4B) to be structurally sealed off from the groundwater table before flows enter the main excavation.

NOW also raised concerns with Potential Acid Sulfate Soil (PASS) contaminating the main excavation. Although modelling (provided with the EA) presents ASS issues as a low to moderate risk, ASS contamination is possible with the potential for the groundwater quality in the locality to be affected. Subsequently, NOW has advised the department that in line with operational practice for such potential impacts a security deposit (bond or bank guarantee) in the order of \$250,000 would be required from the proponent prior to commencement of works to enable remediation of any impacts should they occur. Any additional requirements for a security deposit (above the \$250,000 already indicated) to remediate other potential impacts will be determined during the water licence application process.

In response to NOW's requirement for the treatment wetlands to be lined, a supplementary report provided with the PPR has recommended that the site's natural geology could be possibly used as a hydraulic barrier where it can be shown to be effective. If the in-situ material is found to be inappropriate, then that individual pond or ponds will be lined. The proponent has reflected this commitment in SoCs.

NOW has reviewed the PPR and advised the department that it accepts the proponent's response to ASS, the commitment to line the constructed wetlands, and the proposed water quality monitoring measures including any payable security bonds for issuing water licences and 2 years of monitoring.

The department is satisfied that the proponent has committed to ensuring satisfactory water quality outcomes through its ASS Management Plan (Cardno, April 2010) and Groundwater Monitoring Plan (WRL, March 2010) as referred to in its SoCs. The department's consultant has advised that provided the ASS Management Plan is implemented the risk of contamination from ASS is low. A condition of approval enforcing these commitments as well as a requirement to consult with NOW regarding a future security bond at the construction certificate stage has also been included in the department's recommendation.

### **Stormwater Management**

The subject site drains to the east into Duchess Creek Gully via existing drainage lines which consist of deep drainage gullies and vegetated ditches directed south and then east to the Pacific Ocean. Catchments to the west of Ocean Drive drain into the upper reach of the Duchess Creek Gully and the upper tributary entering from the north.

The proposed stormwater concept plan (Figure 23) follows the principles of water sensitive urban design (WSUD). The WSUD measures chosen, which include buffer strips and grassed swales, have been influenced by the topography of the site with bio-infiltration systems for the upper areas of the catchment and stormwater treatment wetlands proposed for the flat areas. A stormwater treatment wetland system is also proposed which would incorporate five water treatment areas along the north eastern edge of the main excavation. The stormwater treatment wetlands would have the following components:

- An inlet zone (sediment basin);
- Macrophyte zone (a heavily vegetated area of different water depths to remove fine particulates and take up soluble pollutants); and

- A high flow bypass channel.

**Figure 23: Stormwater concept plan (Source: Environmental Assessment)**



In its response to the exhibition NRCMA raised concern with the volume and quality of stormwater runoff if not adequately addressed. In this regard, NRCMA's submission mentioned the need for a comprehensive monitoring and management system to avoid negative impacts. NRCMA also identified the potential for the proposed constructed wetlands to harbour aquatic weeds, and raised the need for necessary measures for their management.

Council's submission to the department raised concern with the proposed number of stormwater treatment wetlands and requested that the number be consolidated to minimise the total number of systems. In this regard, the project will result in 16 different stormwater treatment systems for Council to monitor and maintain for the life of the development. Council's request to rationalise the number of systems is provided on the basis that a reduced number will be more cost effective and simpler to monitor and maintain.

In response to NRCMA's concerns regarding aquatic weeds, the proponent has adopted revised SoCs (for the project application) to improve the site's resistance to weeds and measures for ongoing monitoring. The proponent responded to Council's concerns with the number of proposed constructed wetlands by consolidating wetland treatment areas W1A to W1E within W1. Further, the proponent has committed to ensuring concerns regarding maintenance costs are accommodated for or mitigated through future detailed design work for the constructed wetlands. The Council has indicated its written support for this aspect of the project.

Due to the inherent size of the main excavation and the location of sensitive ecological areas in its vicinity, there is concern that the proximity of urban development may lead to loss of environmental values, resulting from poor water quality of future constructed water bodies. The department's consultant reviewed the proponent's response to submissions in relation to potential water cycle management and hydrological issues, and was not able to determine the hydraulic function and interrelationships of the proposed WSUD treatment elements within future urban development. In view of this the proponent has maintained that until a final design of the urban areas is completed, the sub-catchment delineation of the future stormwater system is in flux and is therefore seeking to provide this information in future assessments for future development applications. On this basis the



proponent has committed to achieving prescribed performance standards within these future applications by way of the SoCs.

The department and its consultant have assessed the proposed stormwater concept plan along with the prescribed performance standards for future applications outlined in the proponent's final SoC. Subject to a recommended condition of approval requiring the proposed WSUD treatment elements to achieve specific water quality measures, the department is satisfied that the project will be likely to achieve its stated water quality performance targets.

### Size of Main Excavation

The extracted material from the main excavation is proposed to be used to raise surface levels on flood prone land. While being a component of the stormwater treatment system for future urban development adjacent to the central corridor, the proposed main excavation has clearly been sized for the opportunity to gain material for filling various development areas to meet future subdivision flood level requirements.

Council's submission suggested a reduced excavation be explored. The department also raised concerns with the proposed scale and design of the main excavation as it appeared to overly dominate the proposed central open space corridor and subsequently limit the contribution of the central corridor to overall habitat values. The potential for the main excavation to inhibit access to Rainbow Beach was also raised as an issue.

In response to issues raised during exhibition the proponent redesigned the main excavation (also discussed in Section 5.2 at Figure 20). This redesign was achieved by reducing the surface area of main excavation by 6% from 10.5 ha to 9.9 ha. The proponent advised that the following design options were considered during the development of the project (Table 5):

**Table 5: Stormwater design options (Source: Environmental Assessment)**

Evaluation Parameter	Option 1	Option 2	Option 3
Development features	Wetlands stormwater treatment – end of line	Bio-infiltration stormwater treatment – end of line	Bio-infiltration stormwater treatment – end of line
Residential yield Area	66.22 ha	66.22 ha	45 ha
Total earthworks volume	approx 400,000 m <sup>3</sup>	Approx 800,000 m <sup>3</sup>	approx 400,000 m <sup>3</sup>
Volume imported fill	0	Approx 250,000 m <sup>3</sup>	0

In this regard the proponent advised that Option 2 was not economically feasible due to the large volume of imported material required and increased volume of earthworks. Option 3 was discounted as it would not result in sufficient fill material to achieve desired residential yield targets.

The department has reviewed the project amendments put forward by the proponent. The department's concern with the main excavation relates to the overall expanse of water area dominating ecological benefits of the proposed central corridor. The proponent's preferred proposal has improved the ecological function of this space and introduced a range of habitat measures to the main excavation. Although the amended proposal has not attempted to break up the expanse of the proposed water body, the proponent maintains that a significant reduction in the overall size of the main excavation will not necessarily improve ecological parameters and may affect water circulation within the new lake. In addition, the redesigned proposal widens the central corridor allowing for improved east-west wildlife migration. To this end, the department is prepared to accept that the proposed changes achieve the best ecological outcome for the central corridor without compromising water quality and unnecessarily inhibiting the economic viability of the project. The project also has the support of Council. As a result, the department considers that subject to the project achieving and maintaining its water quality targets for the proposed water body as discussed elsewhere in this report, the proposal to excavate and construct the main excavation is supported.

### 5.5 Coastal Erosion

The coastline adjacent to the site is subject to a high energy wave climate which has seen the gradual long term recession of Rainbow Beach. To determine the potential threat to the development a Coastal Hazard Report (SMEC, March 2010) was provided with the EA. The report describes the coastal processes affecting the beach and mapped hazard impact lines for the present day, 2050 and 2100 have been calculated and shown at Figure 24 (over).

The Coastal Hazard Report found that with the exception of the eco-tourist site (now deleted and replaced with residential), future urban development will not be at risk by 2100. As displayed on Figure 24, the eastern perimeter of the project will be impacted by a band approximately 20m in width by 2100. Due to considerably long time frame associated with the future hazard presented and the non-urban nature (dunal vegetation) of the 20m band subject to the 2100 hazard line, the encroachment of the 100 year hazard line is supported subject to a condition of approval requiring a future detailed assessment when submitting a future development application on the Lot 5 DP 25886 site.

**Figure 24: 2010 Coastal hazard lines adjoining project (Source: Environmental Assessment)**



## 5.6 Traffic & Access

### Traffic Impact

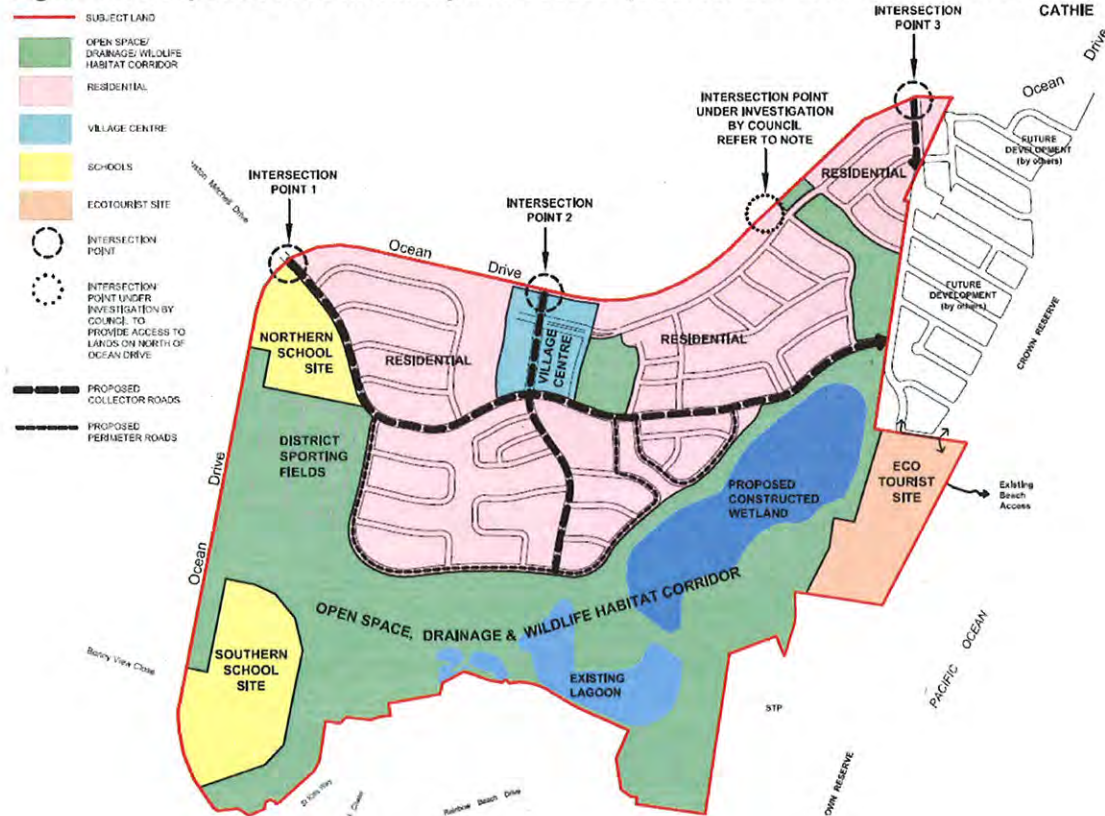
Ocean Drive, which runs through the Area 14 area, is the primary arterial road connecting the coastal town centres of Bonny Hills, Laurieton and Lake Cathie to the regional centre of Port Macquarie. Growth of these coastal centres in recent years has seen traffic along Ocean Drive increase dramatically. Houston Mitchell Drive (north-west of the site) is a key connector to the Pacific Highway (5km from the site) for these local centres, and as these centres grow, so will the volume of turning movements at the Houston Mitchell Drive / Ocean Drive intersection.

The majority of public submissions responding to exhibition raised traffic as a key issue and generally identified the importance of ensuring existing road networks in the area are upgraded in order to accommodate the expected increase in traffic loads from the development.

Council commissioned a Traffic Assessment (Roadnet, 2010) for the wider Area 14 area which carried out traffic analysis, modelling and road upgrade recommendations for Area 14 to accommodate new development for approximately 2,160 dwellings, two schools, a town centre, a commercial district, sporting fields and other developments including tourist facilities. The Traffic Assessment considers the traffic impacts to Ocean Drive, and Houston Mitchell Drive as well as the predicted impacts to their respective junctions, their functionality, road safety and their level of service (see locations in Figure 25 over).

Twelve road upgrades within Area 14 were recommended by the Traffic Assessment to ensure safe and efficient traffic flows in the road network up to the year 2029. Vehicle access to the project's future urban/residential development areas and the northern school site and playing fields will be proposed from Ocean Drive at three locations. The EA notes that the cost of providing the intersections along Ocean Drive will be apportioned to future development applications requiring the works and Council is in the process of preparing a roads contribution plan for all Ocean Drive intersections in the area.



**Figure 25: Proposed road hierarchy and access (Source: Environmental Assessment)**

The department is satisfied that the traffic impacts of the proposal were adequately considered in the Traffic Assessment. To ensure the predicted traffic impacts on the road network are not exceeded, future development applications for subdivision will need to demonstrate compliance with the Traffic Assessment. As a result, further environmental assessment requirements have been included by the department to ensure that traffic generated by future subdivision proposals are consistent with any concept plan approval.

#### Roads & Maritime Service (RMS) Issues

Ocean Drive is a classified road requiring Roads & Maritime Service (RMS) concurrence to any new access or proposed road works. In its submission responding to the EA, the RTA (now RMS) identified a need for further analysis to predict the likely impact of changes in traffic patterns resulting from the development. The RMS raised concern with the impacts on the safety and efficiency of the surrounding road network including the proposed location of the two school sites located adjoining Ocean Drive. The impact on the Pacific Highway junction with Houston Mitchell Drive was also raised and the RMS suggested that further consideration be given to access design and funding mechanisms for future road works.

With regards to the future southern school site, the Council has advised that access can be achieved from an existing rural roundabout in Ocean Drive either as part of the future development application for the school or earlier via its Ocean Drive Works programming.

The RMS has advised that it is concerned that *‘...it still has reservations regarding direct access for the southern school site due to possible impacts it will have on the safe and efficient operations of Ocean Drive for all road users. It would appear more feasible from a traffic perspective that this proposal be located adjacent the other proposed school in a safer road environment where infrastructure can be shared.’*

In view of the RMS's current objection, no approval for the southern school site has been recommended. The location of the school and its access is able to be dealt with by the council and RMS at the development application stages.

### 5.7 Bushfire Protection

The subject site is affected by areas of bushfire prone land, and as a result, all bushfire protection measures proposed as part of the development including asset protection zones (APZs), construction standards, utilities, refuge areas, public roads and fire trails, should comply with *Planning for Bushfire Protection 2006* (PBP).

The EA was accompanied by a Bushfire Report which recommended a series of bushfire risk mitigation measures for the project including APZs for future buildings and the central corridor, and emergency access/egress.

In its response to submissions the RFS identified a need for all areas proposed for residential development to be managed as an inner protection area (IPA). The RFS further advised that the APZs provided for both school sites as Special Fire Protection Purpose developments needed to be greater in size. The proponent responded to the RFS's issues by committing to carrying out further bushfire risk assessments in accordance with the PBP during the detailed site design for future development applications for the residential subdivisions and school sites. The RFS is satisfied with this approach.

The department concurs with the proponent's position that detailed site planning of residential and educational precincts can be undertaken as part of separate development applications following determination of the concept plan. However, given the potential for bushfire APZ requirements to conflict with environmental impact mitigation requirements the department has recommended a condition of approval ensuring that all APZs are to be located outside the central corridor and any environmental buffer area.

### 5.8 Urban Design

The department initially raised concerns with the proponent regarding the limited information provided in the EA as to how the urban layout of the proposed concept plan will function. In this regard, further clarification was sought in relation to future pedestrian and traffic flow connections; intended densities and uses of future precincts; and built form/building lot types for both the village centre and residential areas with regard to other identified constraints such as ecological buffering and bushfire protection measures.

In response to the issues raised with the exhibited proposal, the proponent provided additional details to illustrate how the urban components of the concept plan will be developed in the future. This information included urban design principle plans offering a variety of housing types making provision for low density and medium residential components, in addition to indicative road and cycle/pedestrian networks.

The department is satisfied that the more detailed urban design principles as presented in the proponent's PPR provides an adequate framework and strategic intent for development of the site. These principles are sympathetic to site constraints and consistent with existing development and surrounding environments. Therefore, it is considered that subject to recommended conditions of approval, the level of information presented by the proponent demonstrates the concept plan will ensure a satisfactory future urban design outcome for the development.

### 5.9 Ocean Drive Road Corridor

The View Analysis provided with the EA displays some indicative montages of future urban development along the Ocean Drive road corridor. However, the layout of the concept plan as exhibited does not provide a clear demarcation of the Ocean Drive/urban development interface and its relationship with future built form on the subject site.

In its submission responding to the EA, Council identified issues with the use of acoustic barriers in the project, as it presents a maintenance burden to Council and undermines its preparation of an Area 14 Ocean Drive corridor plan.

The proponent responded by committing to participating in the development of Council's Area 14 Ocean Drive corridor plan and achieving Council's objectives for the Ocean Drive corridor.



## 5.10 Voluntary Planning Agreement & Contributions

The proposed ownership and long term establishment and management arrangements for the central corridor components have been subject to protracted negotiations between both Council and the proponent. Both parties will enter into a Voluntary Planning Agreement pursuant to section 75F(6) of the EP&A Act in relation to the dedication and management of the open space corridor areas within the site.

The proponent made an irrevocable offer to Council on 7 November 2011 to enter into a planning agreement that requires the landowner to establish, dedicate and manage certain environmental lands for 20 years, and provide infrastructure (community park, district sporting field and associated roads) to meet the development. There is also a requirement for a security bond of \$200,000 (separate to NOW's security bond requirement) payable to Council for the purpose of rectifying significant environmental events including major aquatic weed infestations, major algal blooms and damage to flood control structures should they occur. Council has confirmed that the amount of the bond is sufficient for rectifying significant environmental events.

The draft planning agreement was exhibited from 18 November 2011 to 16 December 2011 and no public submissions were received during this period. The department has recommended a condition of approval requiring the planning agreement to be entered into within 28 days from the date of project approval.

The planning agreement also outlines the proponent's obligations for the payment of monetary contributions to Council. These include contributions towards infrastructure and open space in the Port Macquarie-Hastings local government area. Accordingly, the department is satisfied that an appropriate mechanism has been secured to ensure the appropriate provision of local infrastructure relating to the concept plan. Additional contributions may be required in connection with future lot subdivision proposals such as community, sewer and bushfire services, however, these contributions are to be determined by Council during future DA stages.

State public infrastructure contributions may also be applicable in connection with future development for lot subdivision as Area 14 is identified as an 'urban release area' in the Port Macquarie-Hastings LEP 2011 (as amended). Part 6 of the Port Macquarie-Hastings LEP requires that Council consult the department regarding State public infrastructure requirements prior to granting consent for subdivisions within an urban release area. Any requirements for a State infrastructure levy would therefore be considered at this future juncture by the department. Accordingly, the department recommends a future assessment requirement be included in the concept approval that requires the proponent to address Part 6 of the Port Macquarie-Hastings LEP with respect to State public infrastructure contributions.

## 6. RECOMMENDATION

The proposal is located within 'Area 14', a parcel of land identified by Port Macquarie-Hastings Council as an area for strategic urban growth, and within a growth area identified by the State government for the Mid North Coast of New South Wales.

The department has assessed the Environmental Assessments for both applications and subsequently submitted information and has considered the submissions received in response to the proposal.

The key issues raised by the proposal relates to biodiversity and impacts on threatened species including fauna, EECs, littoral rainforest and habitat corridors; management of air quality and noise impacts; flooding and sea level rise; extent of the proposed excavation and constructed wetlands; impacts of coastal erosion, traffic and access, bushfire protection, urban design, the design of the Ocean Drive road corridor, and consideration of development contributions.

Modifications to the concept plan are recommended to address the environmental issues associated with biodiversity and threatened species, namely provisions the rehabilitation, protection and conservation of the:

- habitat for Eastern Chestnut Mouse, Common Planigale, and Wallum Froglet threatened species;
- SEPP 26 Littoral Rainforest; and
- conservation of EECs.

The environmental amendments are shown graphically in Plans I and II attached to the Part B of the concept plan approval instrument.

A number of other future assessment requirements and project conditions are also recommended which in conjunction with the proponent's Statement of Commitments, will ensure that all key issues are satisfactorily addressed and the project will have minimal impacts.

The proposal will provide the following public benefits:

- Contribution to housing targets for Port Macquarie-Hastings local government area as identified in the Mid North Coast Regional Strategy;
- Creation of areas for housing, future employment, and community services with access to a village centre, district sporting fields and other significant open space recreation areas; .
- Improvements to public access to Rainbow Beach and the public foreshore;
- Increased provision of affordable housing;
- Protection of public, beach and visual amenity;
- Groundwater management for the benefit of SEPP 26 Littoral Rainforest and threatened species habitat; and
- Protection of Aboriginal cultural heritage.

Finally, the proposal has largely demonstrated compliance with the existing environmental planning instruments and Council has given its support to the project.

On these grounds, the department considers the site to be suitable for the project and in the public interest. Consequently, the department recommends that the project be approved, subject to the conditions of approval and the proponent's SoCs.

  
**Director  
Metropolitan & Regional Projects North**

  
**Deputy Director-General  
Development Assessment & Systems Performance**

  
**Executive Director  
Major Projects Assessment**



## **APPENDIX A    ENVIRONMENTAL ASSESSMENTS**

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See the department's website at <http://majorprojects.planning.nsw.gov.au>

## **APPENDIX B SUBMISSIONS**

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See the department's website at <http://majorprojects.planning.nsw.gov.au>



## **APPENDIX C    PROPONENT'S RESPONSE TO SUBMISSIONS**

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See the department's website at <http://majorprojects.planning.nsw.gov.au>

## **APPENDIX D    CONSIDERATION OF ENVIRONMENTAL PLANNING INSTRUMENTS**

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## **STATE ENVIRONMENTAL PLANNING POLICIES**

The proposal has been considered against the following State Environmental Planning Policies and is considered to be generally in compliance with the provisions contained within the following:

- **State Environmental Planning Policy (Major Development) 2005**

The MD SEPP applies to the project as discussed in Section 3 of the report.

- **State Environmental Planning Policy (Infrastructure) 2007**

The Infrastructure SEPP aims to assist in effective infrastructure delivery. Schedule 3 of the SEPP requires the proponent to refer the concept plan to the RTA for developments comprising of 300 or more apartment dwellings, commercial premises with a floor space over 4000m<sup>2</sup>, or subdivision of 200 or more allotments where the subdivision includes opening public roads. In accordance with the SEPP, the application was referred to the RTA on 30 August 2010. The RTA's issues have been discussed in Section 5 of the report.

- **State Environmental Planning Policy No. 26 – Littoral Rainforest**

*State Environmental Planning Policy No. 26 – Littoral Rainforest* (SEPP 26) provides the legislative policy framework for the preservation of littoral rainforest. SEPP 26 aims to provide a mechanism for the consideration of applications for development that are likely to damage or destroy littoral rainforest areas with a view to the preservation of those areas in their natural state.

SEPP 26 littoral rainforest No. 116 forms the eastern boundary of the site. The department considers that the proposal satisfies the aims of SEPP 26 as it will not damage or destroy the littoral rainforest, but rather, will ensure the preservation of the rainforest in its natural state. In reaching this conclusion, the department has considered the following aspects in its assessment of the proposal as discussed in Section 5 of this report:

- buffer to littoral rainforest
- revegetation measures
- fencing and boardwalk design
- stormwater and groundwater impacts

- **State Environmental Planning Policy No. 44 – Koala Habitat Protection**

SEPP 44 aims to encourage proper conservation and management of natural vegetation areas that provide habitat for koalas, to ensure permanent free-living populations over their present range and to reverse the current trend of population decline. The subject site is located within Port Macquarie - Hastings Shire which is listed on Schedule 1 of SEPP 44, and as detailed in clause 6, is more than 1 ha in area. Therefore SEPP 44 applies to the project. The SEPP applies to development in the Port Macquarie-Hastings Shire on land parcels.

Following the adoption of the Area 14 Structure Plan, Council commissioned a number of related environmental investigations, which included the preparation of a draft Koala Plan of Management (KPOM) in accordance with the provisions of SEPP 44. The draft KPOM was undertaken by Biolink Pty Ltd (Biolink) in 2004 and was subsequently amended in November 2005 to include all of the project area. The draft KPOM identifies one koala sighting within the subject site, in the area directly adjoining the sewage treatment plant. The draft KPOM also categorises the quality of koala habitat in the locality, and identifies possible habitat corridor locations.

One (1) area of primary koala habitat is identified within the site's sewage treatment buffer, which is also within the Central Corridor with an area of secondary habitat on the far western side of the project area primarily contained within a vegetated buffer to Ocean Drive. Overall the project has been generally designed in accordance with the recommendations outlined within the draft KPOM. The habitat linkages proposed as part of the proposed Central Corridor will be subject to design amendments improving the connectivity of the wildlife corridor for mobile fauna. Section 5 discussed the issue of habitat connectivity in further detail.

- **State Environmental Planning Policy No. 50 – Canal Estates**

The aim of SEPP 50 is to prohibit canal estate development in New South Wales. Both the department and NOW have questioned the possibility of the proposed system of constructed wetlands and water bodies meeting the definition of a canal estate in accordance with SEPP 50 which defines Canal estate development as:

- (a) *incorporates wholly or in part a constructed canal, or other waterway or waterbody, that is inundated by or drains to a natural waterway or natural waterbody by surface water or groundwater movement (not being works of drainage, or for the supply or treatment of water, that are constructed by or with the authority of a person or body responsible for those functions and that are limited to the minimal reasonable size and capacity to meet a demonstrated need for the works), and*
- (b) *includes the construction of dwellings (which may include tourist accommodation) of a kind other than, or in addition to:*
  - (i) *dwellings that are permitted on rural land, and*
  - (ii) *dwellings that are used for caretaker or staff purposes, and*
- (c) *requires or includes:*
  - (i) *the use of a sufficient depth of fill material to raise the level of all or part of that land on which the dwellings are (or are proposed to be) located in order to comply with requirements relating to residential development on flood prone land, or*
  - (ii) *excavation to create waterways primarily for the purposes of providing water access to dwellings,*  
*or both.*

Clause 3(c)(ii) the policy refer canal estate development as “excavation to create waterways primarily for the purposes of providing water access to dwellings”. In view of this, it is considered that as all waterways and drainage lines traversing the site are not navigable i.e. accessible by watercraft, the project could not be considered to be a canal estate.

- **State Environmental Planning Policy No. 55 – Remediation of Land**

SEPP 55 aims to provide controls and guidelines for the remediation of contaminated land. It requires the consent authority to consider the potential for the site to be contaminated. In view of the potential for site contamination as a result of historical uses on the subject site, a Preliminary Contaminated Site Investigation was carried out by the proponent in order to identify the potential for contamination of the subject lands from previous land uses.

The Investigation identified some localised areas of impacted soils and fibrous building materials that may warrant remediation, however, evidence of gross impact across the broader site was not recorded in relation to known historical and current land uses.

Subsequently, a Site Audit Statement is required to be submitted prior to the release of any construction certificate. The Statement is to be prepared in accordance with SEPP 55 for the whole of the site, including assessments for both soil and groundwater. The Statement shall demonstrate that the site has been remediated to a standard that is suitable for the proposed land use, and is not harmful to human health or the environment. The Statement will be provided by a site auditor accredited under the provisions of the *Contaminated Land Management Act 1997* and be in accordance with the relevant Office of Environment & Heritage guidelines.

- **State Environmental Planning Policy No. 71 – Coastal Protection**

SEPP 71 applies generally to land within the coastal zone. Clause 8 of the policy sets out matters for consideration by a consent authority when determining a development application to which the policy applies.

Key issues with respect to SEPP 71 are as follows:

- Public foreshore access  
Public access to the foreshore from the proposed development currently exists and is proposed to be upgraded as part of the Project Application.
- Amenity of coast



The project does not involve the construction of built form that would cause overshadowing of the coastal foreshore or impede views to the coastal foreshore area. Further consideration of the future eco-tourist development is discussed in Section 5 of the report.

- Conservation of threatened plants and animals  
The development as proposed would result in the removal of areas of native vegetation mapped as EEC and which has the potential to provide threatened species habitat. Section 5 of this report further discusses impacts on threatened plants and animals.
- Measures to conserve fish  
Construction of the proposed wetland is expected to develop significant areas of freshwater littoral and macrophyte vegetation. It is likely that freshwater aquatic species would readily benefit from the proposed wetland.
- Impacts of coastal processes and hazards  
The development as proposed may be impacted by the effects of sea level rise, requiring increased flooding protection for future dwellings.
- Aboriginal Cultural Heritage  
A number of Aboriginal archaeological sites have been identified within the project area. The design of the project layout has allowed for the retention of these sites in situ. Appropriate management practices have been recommended in order to mitigate potential impacts of the proposal on aboriginal heritage.

All relevant matters for consideration as set out in SEPP 71 have been considered in the assessment of this project and the department is satisfied that recommended modifications to the concept plan layout and further assessment requirements will ensure that the aims of SEPP 71 are achieved for this proposal.

- **North Coast Regional Environmental Plan 1988 (Deemed SEPP)**

The North Coast Regional Environmental Plan 1988 (Deemed SEPP) provides a framework for policy preparation for the North Coast region and specifies objectives for the future planning and development of land throughout the North Coast. The proposal is generally consistent with the provisions of the North Coast REP, in particular the objectives of Part 3 – Coastal Development. To this end the project would enhance the visual quality of the subject site by creating a usable space which restores the degraded nature of the existing landscape caused by previous earthworks and developments. The proposed open space corridor will lead to the regeneration of natural areas by providing for natural habitats.

- **Hastings Local Environmental Plan 2001**

The *Hastings Local Environmental Plan 2000* (LEP) sets the planning framework for development in Port Macquarie-Hastings Shire and establishes permissible forms of development and land use pursuant to clause 9.

The majority of the site is zoned (a1) Residential with a small area subject land forming a buffer around the adjoining sewerage treatment plant zoned 1(a1) Rural. The proposal is consistent with the objectives of these zones and is listed as permissible with consent and is therefore permissible subject to the Minister's approval.

The LEP includes a number of clauses relevant to future development of the subject land. A brief overview of clauses that may be relevant are discussed as follows:

- Clause 13: Availability of essential services. This clause aims to ensure that development does not occur without adequate measures to protect the environment and community health as well as ensuring development coordinated and efficiently costed. The subject land is able to be serviced for the future development identified in the concept plan. The upgrading of the Bonny Hills sewerage treatment plant will cater for the future growth of Area 14.
- Clause 26: Acid Sulfate Soils. This clause sets out the matters that a consent authority must take into consideration if the land is identified as having potential acid sulfate soil (ASS). Issues relating to ASS are discussed in Section 5 of this report.
- Clause 31: relates to neighbourhood centres. This clause provides guidance for ensure that the neighbourhood centres are viable and not in competition with one another and are

compatible with a hierarchy of business centres. The location of a future neighbourhood centre has been provided for in the concept plan, and the exact retail floor area requirements, will be subject to future applications.

- **Port Macquarie-Hastings Local Environmental Plan 2011**

On 23 February 2011 the *Port Macquarie-Hastings Local Environmental Plan 2011* (LEP 2011) became applicable to the subject site. The LEP 2011 was prepared in line with State Government requirements for a standard LEP template. Under the LEP 2011 all land uses under the previous LEP become converted to R1 General Residential and RU1 Rural. All proposed land uses remain permissible with the exception of the proposed village centre which is a prohibited use under the R1 zoning.

The Minister's ability to approve projects or concept plans located in a sensitive coastal location and prohibited by an environmental planning instrument, the Director-General issued environmental assessment requirements before clauses 8N and 8O of the *Environmental Planning and Assessment Regulation 2000* commenced. Therefore, pursuant to clause 8OA, clauses 8N and 8O do not apply to the proposal.

Subsequently, the Minister may, but is not required to take into account the provisions of the LEP 2011 when determining the subject Concept Plan and Project Application.

#### **OTHER ENVIRONMENTAL PLANNING INSTRUMENTS & POLICIES**

The proposal has been considered against the following non-statutory documents and is considered to be generally in compliance with the provisions contained within these documents:

- **Mid North Coast Regional Strategy**

The Mid North Coast Regional Strategy will guide local planning in eight (8) local government areas including Clarence Valley, Coffs Harbour, Bellingen, Nambucca, Kempsey, Port Macquarie-Hastings, Greater Taree and Great Lakes, and inform decisions on service and infrastructure delivery. The 25 year strategy is based on a projected regional population increase of 94,400 by 2031. The Strategy identifies Lake Cathie/Bonny Hills as a "town" within the subregion providing services just to the local area. While the majority of new housing will be focused around major centres such as Port Macquarie, the Strategy envisages future growth in several new release areas including between Lake Cathie and Bonny Hills. The project is consistent with the Strategy as follows:

- The proposal will contribute to the dwelling targets of the Strategy by providing new urban development consistent with the identified growth boundaries leaving white greenbelts between settlements.
- Allowing for urban development whilst protecting the cultural and Aboriginal heritage values of the area and preserving the visual character of the locality and surrounding landscapes.
- Achieving consistency with neighbourhood principles by providing a range of land uses allowing for a mix of housing, jobs, open space, recreational space and green space.
- Improving access to major centres and smaller village centres with neighbourhood shops by way of improving opportunities for cycling and walking.
- Providing a range of housing choices for different needs and incomes.
- Conservation lands in and around development sites to help protect biodiversity and provide open space for recreation.
- Taking into account issues associated with coastal erosion.

- **NSW Coastal Planning Guideline: Adapting to Sea Level Rise (2010)**

The Coastal Planning Guideline identifies coastal flooding risk areas and defines certain areas where it is either unsuitable for development, suitable for development, or requires a merit-based risk assessment of the proposal. Key principles in planning for sea level rise include minimising the exposure of the development to coastal risks, and the implementation of appropriate management and adaptation strategies during development assessment. A risk assessment of the proposal against the relevant planning criteria is provided in below.



Planning criterion	Proposal	Acceptable
Development avoids or minimises exposure to immediate coastal risks (within the immediate hazard area or floodway).	A proportion of the project is affected by the 100 year coastal hazard line. With regards to coastal hazards risk, some future public use facilities including walking trails and beach access will be located seaward of the 2100 hazard line. However, given the non-critical and relatively minor nature of this public benefit infrastructure, the 2100 incursion is acceptable provided a detailed assessment is carried out as part of any future application to develop the Lot 5 DP 25886 site.	Yes - subject to a condition on the approval
Development provides for the safety of residents, workers or other occupants on-site from risks associated with coastal processes.	With the exception of a narrow linear strip on the eastern most edge of the site, the project makes adequate provision for the safety of residents, and other occupants from risks associated with coastal processes.	Yes - subject to a condition on the approval
Development does not adversely affect the safety of the public off-site from a change in coastal risks as a result of the development.	Given that future urban development areas of the project are essentially landward of coastal hazard risk it is considered unlikely that there will be additional risk caused to public safety off-site as a result of this development.	Yes
Infrastructure, services and utilities on site maintain their function and achieve their intended design performance.	A small proportion of public amenity facilities are affected by 100 year coastal hazard line. Due to considerable long time frame associated with this hazard band and non-essential nature of these facilities, the encroachment of the 100 year hazard line is considered to be acceptable in this instance. Further detailed assessment of predicted impacts will be considered as part of future applications.	Yes - subject to a condition on the approval
Development accommodates natural coastal processes including those associated with projected sea level rise.	Documentation provided with the EA indicates that the future development will have a buffer established from the edge of the adjoining Crown land parcel which will ensure that natural coastal processes (including the predicted 2100 hazard line) will be accommodated.	Yes – subject to a condition on the approval
Coastal ecosystems are protected from development impacts.	Section 5 of the Assessment Report considers the impacts of the proposed development on sensitive ecosystems associated with the project.	Yes
Existing public beach, foreshore or waterfront access and amenity is maintained.	An existing public accessway to Rainbow Beach will be enhanced and formalised as part of the Project.	Yes

- **Coastal Policy 1997**

Table 2 of the Coastal Policy identifies a number of strategic actions relevant to development control, including stormwater quality, coastal hazards, acid sulfate soils and design and locational principles. It is considered that the proposal adequately addresses each of these actions satisfactorily.

- **Coastal Design Guidelines**

The NSW Coastal Design Guidelines aim to ensure that future developments and redevelopments are sensitive to the unique natural and urban settings of coastal places in NSW. The Guidelines provide an urban design focus for the coastal context. Lake Cathie and Bonny Hills are identified as coastal villages in the Coastal Design Guidelines. The proposal is consistent with the desired future character for coastal villages as set out below:

Under the Guidelines the relationship of both Lake Cathie and Bonny Hills with the coast is protected and enhanced by:

- Preservation of visual links and views with the coast and clear relationship to the original landform, the foreshore and other unique natural features.
- Protection of significant natural areas for including ecological links between the coast and the hinterland as well as the surrounding coastal floodplain and wetlands.
- Providing access to foreshores whilst protecting the dunes and beach.
- Providing for the maintenance and rehabilitation of significant areas of native vegetation whilst managing for bush fire protection.

- Appropriate predominant built form and scale with surrounding development, landforms and the surrounding visual catchment.

- **Area 14 Structure Plan**

The Port Macquarie-Hastings local government area has experienced a high growth rate for a sustained period of time. In response to this growth rate, and the need to ensure a sustainable level of growth, the Hastings Urban Growth Strategy was developed and adopted by Council. This document identified two areas to accommodate the future growth of the area. These areas were called Area 13 - Thrumster, located west of Port Macquarie, and Area 14 - Rainbow Beach, located between Lake Cathie and Bonny Hills.

The Area 14 Structure Plan is a strategic planning document prepared on behalf of Port Macquarie - Hastings Council, and identifies a target population of 10,000 for Area 14. This will enable the area to achieve the threshold population required for the identified services and facilities including: education facilities, district playing fields, branch library, community services, multi-purpose community centre, higher order retail facilities and services, and additional child care facilities.

The concept plan is consistent with the Area 14 Structure Plan in that it identifies the specified land uses on the subject land, being:

- residential development;
- traffic access points for connections to Ocean Drive;
- general location of the Greater Lake Cathie Bonny Hills Village Centre;
- two separate school sites on the subject land;
- site for eco-tourist development; and
- large expanse of Open Space / Drainage / Habitat Corridor including the District Sporting Fields.

Council is also preparing a DCP specific to Area 14. At the time of writing this document the future DCP for Area 14 is understood to be at a preliminary stage in its development.



## **APPENDIX E    CONSULTANT REPORT**

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## **APPENDIX F    RECOMMENDED CONDITIONS OF APPROVAL**

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