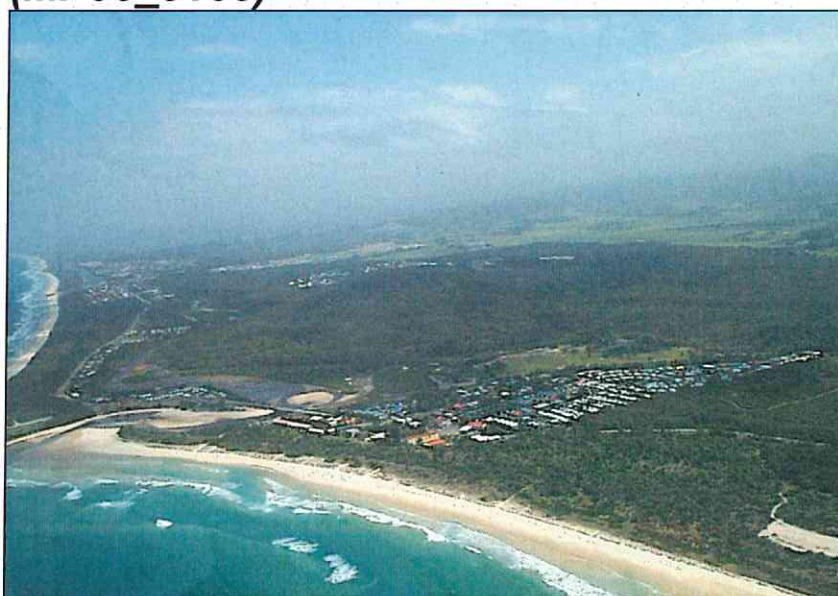




Planning & Infrastructure

CONCEPT PLAN ASSESSMENT: TOURIST AND RESIDENTIAL SUBDIVISION, CREEK STREET, HASTINGS POINT (MP06_0153)



Director-General's
Environmental Assessment Report
Environmental Planning and Assessment Act 1979
January 2012

Abbreviations

Department	Department of Planning and Infrastructure
DGRs	Director-General's Requirements
Director-General	Director-General of the Department of Planning and Infrastructure
EA	Environmental Assessment Report
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
EPI	Environmental Planning Instrument
Minister	Minister for Planning and Infrastructure
PAC	Planning Assessment Commission
Part 3A	Part 3A of the <i>Environmental Planning and Assessment Act 1979</i>
Proponent	Walter Elliott Holdings Pty Ltd
RtS	Response to Submissions

Cover Photograph: Aerial photograph of the site.

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EXECUTIVE SUMMARY

Walter Elliott Holdings Pty Ltd ('the Proponent') has submitted a concept plan application for land at Creek Street, Hastings Point (Lot 156 DP 628026, 17.77ha). An area of 3.66ha is proposed to be subdivided into 45 lots of about 450m² each, including a road network. The land is adjacent to an area of coastal wetland in the Tweed local government area approximately 24km south of Tweed Heads. An elevated private access is to be constructed, partly through wetland area, as an emergency flood access for the development to Creek Street.

The proposal was declared a major project on 26 September 2006 under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) because it was development described in the State Environmental Planning Policy (Major Projects) 2005, being subdivision of residential-zoned land into more than 25 lots and tourist facilities in the coastal zone; located partly in a sensitive coastal location outside the metropolitan zone. The submission of a concept plan was also authorised at the same time. The estimated capital investment value of the development is \$4,000,000.

Exhibition of the Proponent's Environmental Assessment occurred from 2 June 2010 until 2 July 2010 and resulted in 155 public submissions and eight submissions from public authorities being received. Of those 143 submissions objected to the proposal including Tweed Shire Council. Agency submissions from the Office of Environment and Heritage, Industry & Investment, and the Northern Rivers Catchment Management Authority raised significant issues including flooding and suitability of the emergency access road, stormwater impacts, ecological impacts, acid sulfate soils and groundwater impacts, water quality impacts and amenity impacts.

Due to the significant issues raised, the Preferred Project Report was also exhibited from 19 August 2011 until 5 September 2011. In total 266 submissions were received during exhibition of the Preferred Project Report including seven agency submissions. All 259 public submissions objected to the proposal. Tweed Shire Council and the State Emergency Service also objected to the proposal.

A comprehensive merit assessment of the project has taken into consideration the Proponent's Environmental Assessment, Preferred Project Report, issues raised in public and agency submissions and the findings of the Department's commissioned independent flooding expert. The Department has reviewed all relevant documents in accordance with the objects of the EP&A Act and considered the principles of Ecologically Sustainable Development. Based on this assessment the key conclusions are that:

1. The scale and location of the development, together with the proposed flood mitigation measures would result in an unacceptable risk to life, health and property within this flood prone community;
2. The development is inconsistent with the aims and objectives of *State Environmental Planning Policy No 14 – Coastal Wetlands* and *State Environmental Planning Policy 71 - Coastal Protection* and is contrary to the objects of the EP&A Act including the principles of Ecologically Sustainable Development particularly given that there is significant uncertainty as to whether ecological impacts can be avoided or minimised to acceptable levels;
3. The development is incompatible with both the adjoining natural and built environment; and
4. The proposal is not in the public interest.

The Department therefore recommends the Concept Plan should be refused.

CONTENTS

EXECUTIVE SUMMARY	3
1. BACKGROUND	5
1.1. Location	5
1.2. Surrounding land use	5
1.3. Site history	6
2. THE PROPOSED DEVELOPMENT	11
2.1. Project description	11
2.2. Changes to the proposal since exhibition	11
2.3. Justification	12
3. STATUTORY CONTEXT	12
3.1. Major Project	12
3.2. Statement of Compliance	13
3.3. Permissibility	13
3.4. Environmental Planning Instruments (EPIs)	13
3.5. Objects of the EP&A Act	14
3.6. Ecologically Sustainable Development	14
4. CONSULTATION AND SUBMISSIONS	15
4.1. Exhibition of Environmental Assessment	15
4.2. Submissions received for exhibition of Environmental Assessment	15
4.3. Exhibition of the Preferred Project Report	16
4.4. Submissions received for exhibition of Preferred Project Report	16
5. ASSESSMENT OF ENVIRONMENTAL IMPACTS	20
5.1. Flooding	20
5.2. Ecological Impacts	28
5.3. Desired Future Character	34
6. RECOMMENDATION	36
APPENDIX A: INSTRUMENT OF REFUSAL	37
APPENDIX B: COMPLIANCE WITH ENVIRONMENTAL PLANNING INSTRUMENTS	39
APPENDIX C: RESPONSE TO SUBMISSIONS	45
APPENDIX D: ENVIRONMENTAL ASSESSMENT	46
APPENDIX E: PLANS, PHOTOS AND INDP. REVIEW	47

1. BACKGROUND

1.1. Location

Walter Elliott Holdings Pty Ltd ('the Proponent') proposes to subdivide Lot 156 Creek Street at Hastings Point ('the site'). The site is located in the Tweed local government area. Hastings Point is a tourist/residential coastal village located between Cabarita Beach and Pottsville on the far north coast of New South Wales, approximately 195km north of Grafton, 25km south of Tweed Heads and 25km east of Murwillumbah (**Figure 1**).

Access to the site is via Creek Street which is situated perpendicular to the Tweed Coast Road. The site is located at the far south western end of Creek Street. Lot 156 has an area of 17.77ha within which the proposed development footprint is proposed to be on 3.66ha of generally cleared land.

1.2. Surrounding land use

North Star Holiday Resort caravan park is located to the north of the site (**Figure 2**). Single detached dwellings also adjoin the site between Creek Street and the site's northern boundary. Medium density apartments, holiday flats and tourist units are located to the east of the property on Tweed Coast Road.

The south of the site is bounded by Christies and Cudgen Creek estuary and Cudgen Nature Reserve, which also extends around to the western side of the site. The Cudgen Nature Reserve is the predominant land use in the area. The reserve is 461ha in size and provides habitat for a number of native species including threatened species such as koalas. The estuary includes Endangered Ecological Communities such as saltmarsh and also provides habitat for threatened species as well as various fish species. A mapped Coastal Wetland (*State Environmental Planning Policy No. 14*) is located within the estuary. Notwithstanding the mapping boundaries, the Department's ecological specialist confirmed after a site visit that the actual wetland extends into the site (**refer to mapping contained in Appendix B**).

The village of Hastings Point contains a mix of housing types comprising single dwelling houses, older style medium density forms, holiday flats, and a Council owned caravan park. Commercial activity is limited to a general store/post office and takeaway food shop located on the south side of the estuary.

The village's permanent population is approximately 614, according to the 2006 Census. However during summer months and school holidays the population increases substantially due to an influx of vacationers. The surrounding coastal and estuarine beaches, headland and waterways provide a number of recreational uses including fishing and a variety of water sports. The natural value of the area provides educational opportunities, with the creeks and headland the focus of regular school excursions.

The upper area of Christies Creek catchment contains a variety of land uses including agriculture, located approximately four kilometres southwest of the site, Hastings Point sewerage treatment plant, located one kilometre west of the site and residential development, Koala Beach Estate located two kilometres south of the site. Tweed Heads is the closest major town with a population of over 52,000 according to the 2006 Census. Tweed Heads is also colloquially known as the Twin Towns, with its Queensland twin, Coolangatta straddling the Queensland border. The towns provide various retail, commercial and public services.

1.3. Site history

The site was illegally dredged and filled in the early 1980s by the previous owner. In 1982 the same owner obtained a Deposited Plan, which depicted a surveyed Mean High Water Mark (MHW) to be the site's southern boundary (**Figure 2**). It is unclear if the subject site was surveyed prior to the unlawful dredging. Due to legal proceedings actioned by Council, the same owner in 1988 was restrained from further dredging. The site was not required to be remediated.

Submissions received during exhibition of the Environmental Assessment questioned the location of the MHW boundary as identified in the EA due to the presence of intertidal riparian vegetation contained within historical aerial photographs taken before the site boundary was registered. The Proponent in the Preferred Project Report engaged a surveyor to review the issue. The survey report indicated that extensive field survey would be required over a full moon cycle to determine the location of the MHW.

Notwithstanding any technical difficulties in surveying the site, the survey report identified that changes in the MHW were due to illegal dredging by the same owner. Under the doctrine of accretion and erosion, such a change is not considered to be "natural". The survey report considered that the original site boundary was identified while the site was in its natural state prior to dredging. Subsequently, the southern site boundary should be maintained. For the purposes of this assessment, the Department's consideration of the application has not been affected by any uncertainties associated with the location of the site's southern boundary.

The site was originally zoned 2(e) tourist residential under the *1987 Tweed Local Environment Plan*. This zoning was carried over in the *2000 Tweed Local Environment Plan* (LEP 2000). Under amendment No.44 to the LEP 2000, the eastern part of the site was re-zoned to 7(a) environmental protection zone in 2003.

In conjunction with the zoning history of the site, Council's *Development Control Plan Section A3- Development of Flood Liable Land 2009* (DCP A3) has been developed over time, to control development on flood liable land. Taking into account the site's location on flood liable land and its zoning, DCP A3 may allow for some form of future development which is also permissible in the 2(e) zone.

The current owner (the Proponent) purchased the property in 2001. In 2003 the Proponent was restrained by Council through legal proceedings from clearing vegetation within the 7(a) environmental protection zone on the site. In 2004 the Proponent was issued by Council with a Penalty Infringement Notice for unauthorised slashing within the 7(a) environmental protection zone. In 2005 the Proponent was again restrained by Council through legal proceedings from clearing vegetation within the 7(a) environmental protection zone on the site. In 2010 the Proponent was issued by Council with another Penalty Infringement Notice for unauthorised slashing within the 7(a) environmental protection zone (**refer to photos in Appendix E**).

In 2008 the Proponent obtained consent from Council to construct one dwelling on the site. The dwelling, constructed in 2008, is proposed to be located within lot number 45. The access road from Creek Street to the new dwelling was filled to the 1 in 100 year flood level without consent. Subsequently Council required the Proponent to remove this fill and regrade the access road to the pre-existing ground level.

Figure 1: Site Location

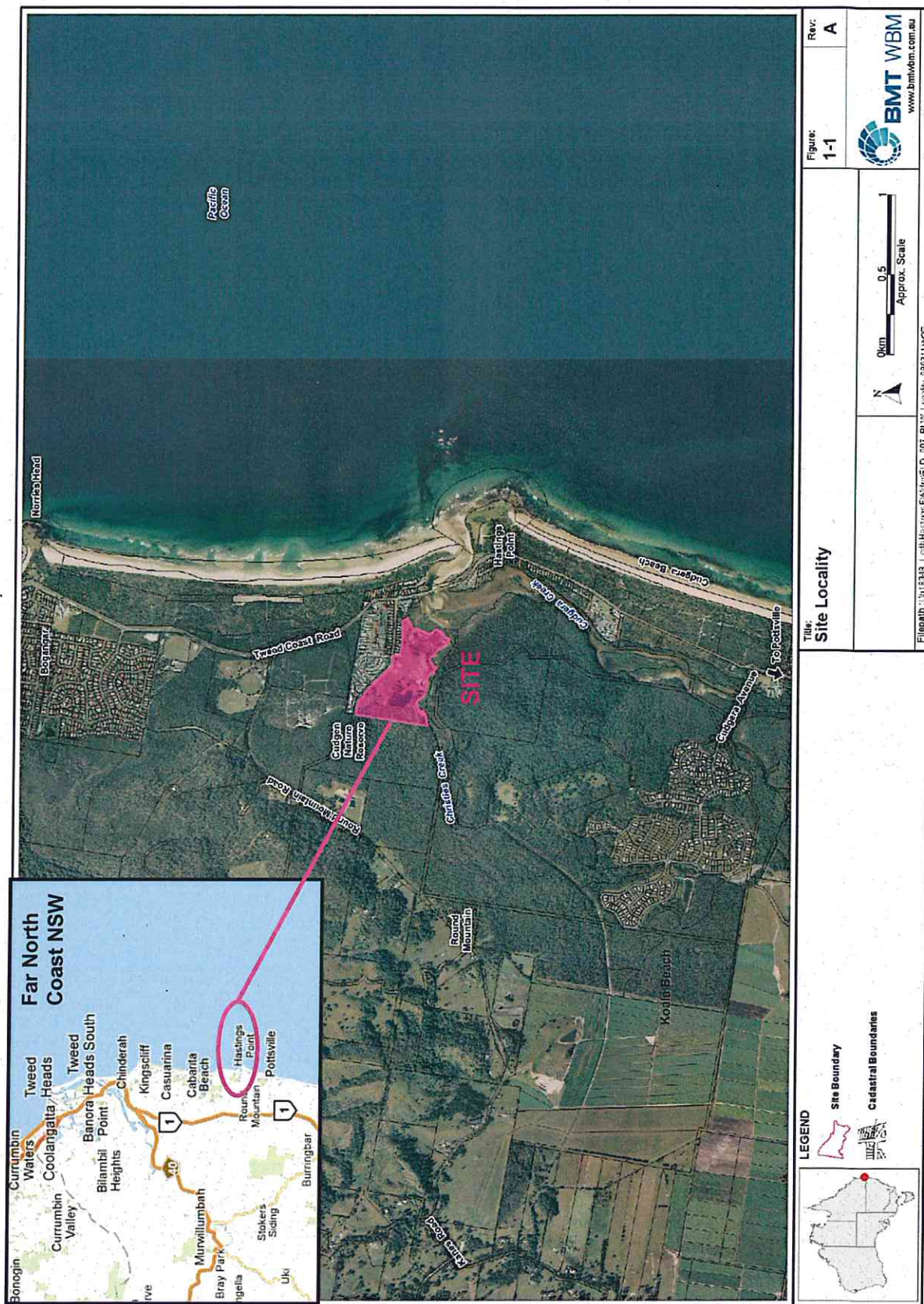


Figure 2: The Site

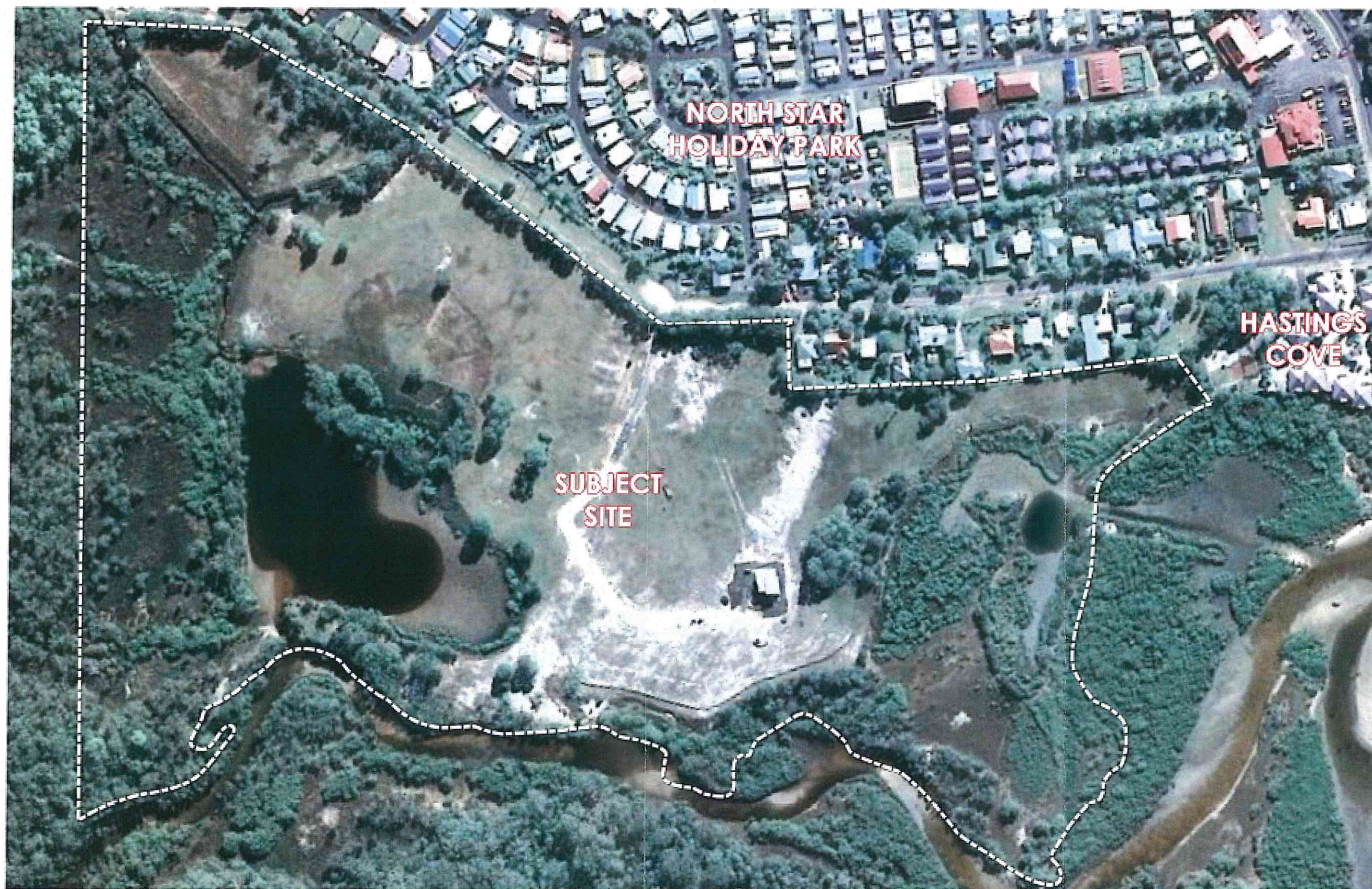


Figure 3: Lot Layout Plan

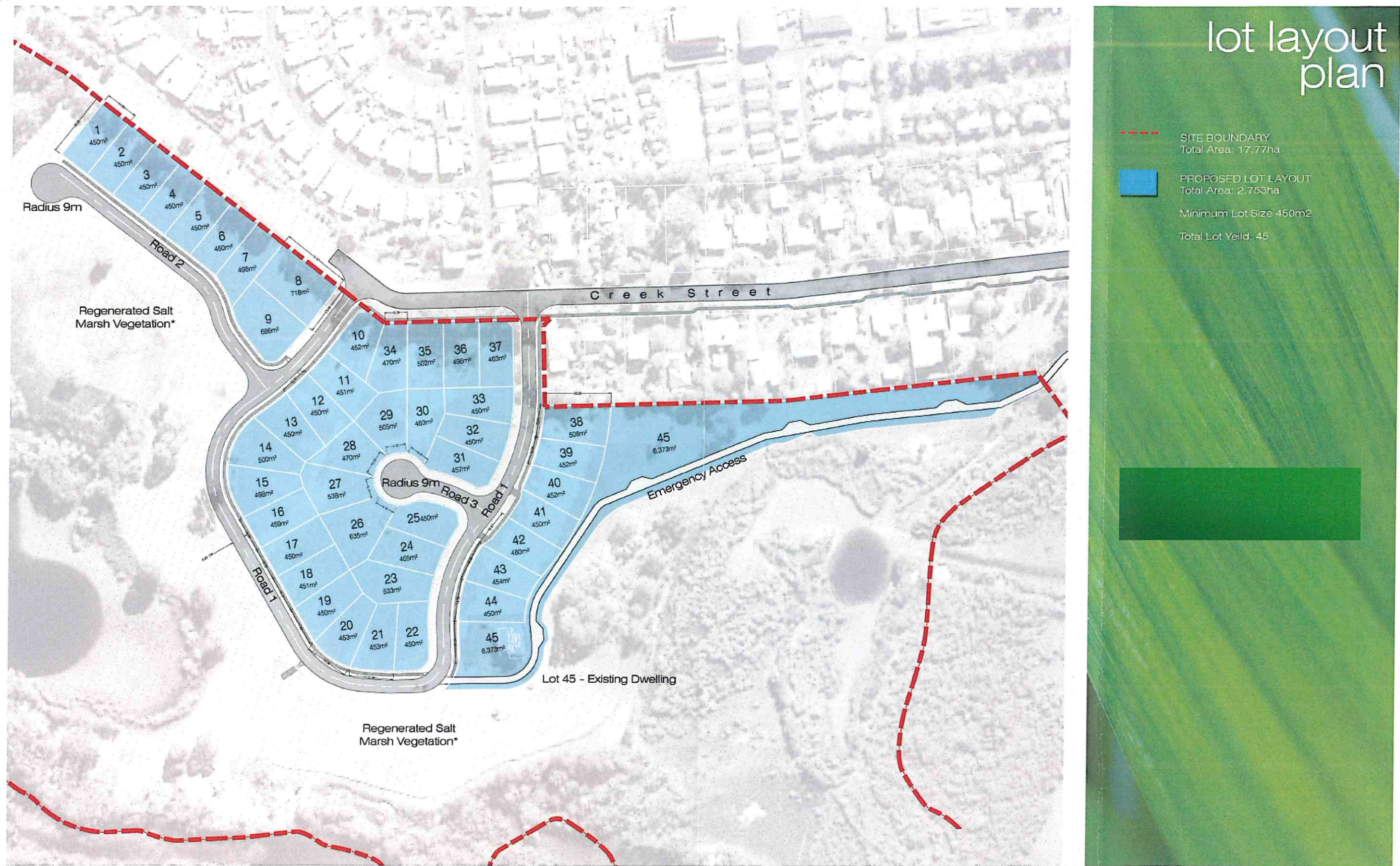
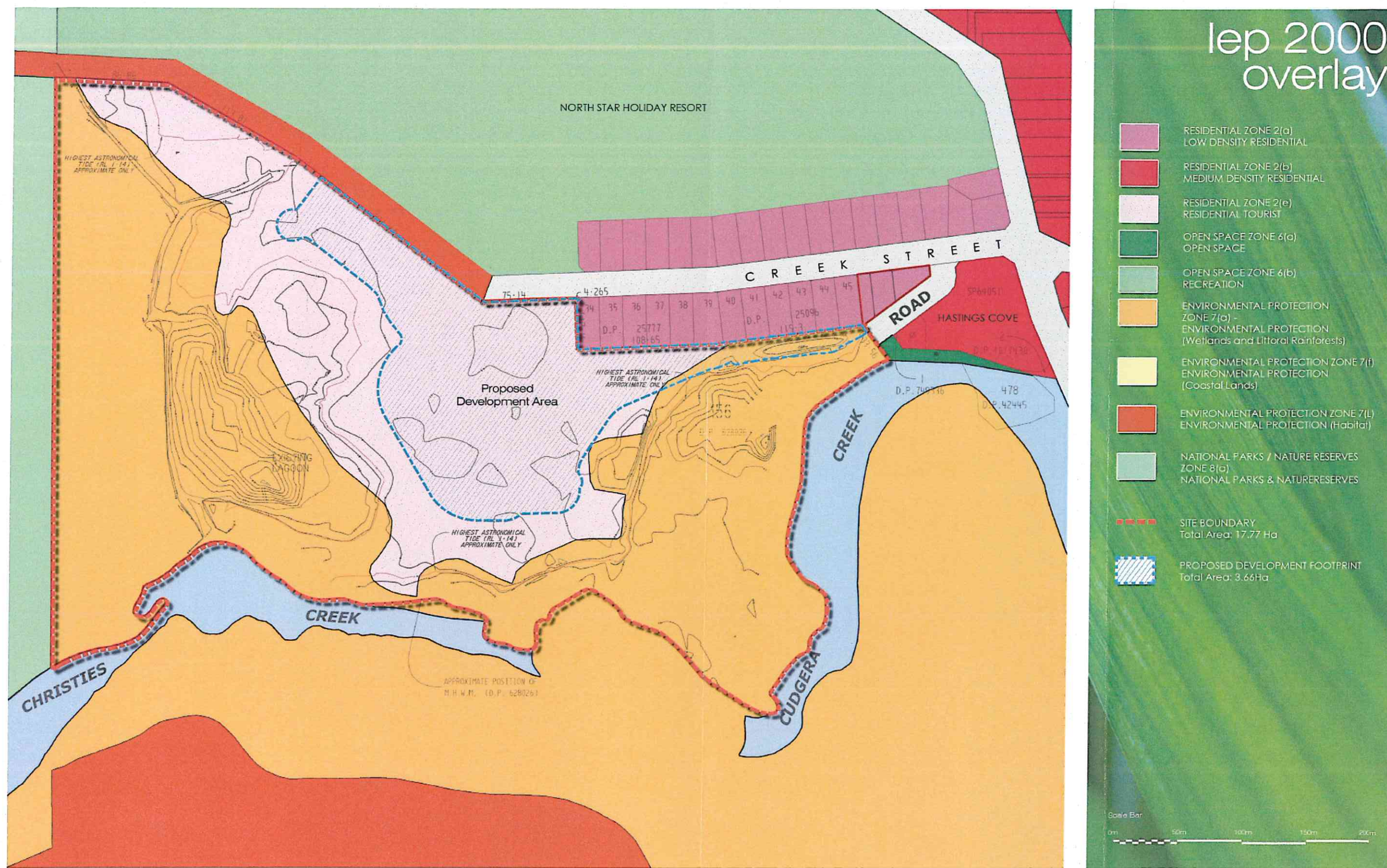


Figure 4: Zoning of Site



2. THE PROPOSED DEVELOPMENT

2.1. Project description

The proposal as lodged is to subdivide into Torrens Title, 44 lots ranging in size from 450m² to 718m². An additional Torrens Title lot 45, 6,373 m² in size is proposed to contain a flood emergency access road and the existing dwelling already constructed on the site (**refer to Figure 3**). The majority of subdivided lots are proposed to be in the order of 450m² in size. The subdivision is to be constructed in one stage. The total development footprint will be 3.66ha including road infrastructure. Dedication to Council of the remaining area of Lot 156 outside of those containing the allotments is proposed in a residual allotment. This area is approximately 14.49ha in size and is to be retained in its existing state, although areas of land that are currently cleared shall be rehabilitated through revegetation. The emergency access road is to comprise a right of way and be maintained with private monies sourced from owners of all subdivided lots. The manner in which the road is administered and maintained is not described by this application.

The subdivision layout includes three roads, two of which end in culs de sac and associated pedestrian access. Two traffic entrances are proposed via Creek Street. A filled, elevated level flood evacuation road is also proposed from the south eastern edge of the subdivision to the eastern end of Creek Street. The route is provided to allow vehicle and pedestrian egress during flood emergencies. Creek Street itself is proposed to be upgraded from 6m wide to 7.5m and will include a 1.2m wide pedestrian path along its length. The intersection between Creek Street and the Tweed Coast Road is also proposed to be upgraded to include a dedicated right turn lane and two traffic islands. The existing pedestrian refuge on the Tweed Coast Road is to be relocated 20m further north and a pedestrian path is proposed on the north side of the road to allow access to Peninsular Street.

The proposed sewerage reticulation will consist of a gravity sewer network that will connect to the existing Council network. Other utilities are also proposed to connect to the existing networks located along Creek Street. An external stormwater drainage network is included as part of the subdivision to allow drainage from the site and from adjacent residences into Christies Creek. Water quality mitigation measures such as bio retention swales and rainwater tanks also form part of this network.

2.2. Changes to the proposal since exhibition

Following exhibition of the environmental assessment, the Proponent amended specific aspects of the project as stated in the Preferred Project Report (PPR) contained in Appendix C and outlined below:

- **Development footprint:** The Proponent originally sought concept approval to carry out a 41 lot rural-residential subdivision (**Appendix E**). The development footprint and subdivision layout was reduced in the PPR from 4.03ha to 3.66ha. The total number of lots subsequently increased from 41 to 45; however lot sizes were reduced from the previous range of 450m² - 1800m² to be predominantly 450m².
- **Avoidance and regeneration of saltmarsh:** The western portion of the development has been reduced in size to avoid an Endangered Ecological Community of saltmarsh. Also areas proposed to be formalised previously as public open space have been removed. In its place the Proponent proposes to regenerate one hectare of Saltmarsh and allow public access between these areas.
- **Flooding:** Flood fill levels for the subdivided blocks have been increased from 2.4m-2.8m AHD to 2.9m-3.88m AHD to account for sea level rise impacts as a result of anthropogenic climate change. In practice this would raise the current ground level

between 1.3m and 2m. The amount of fill proposed has increased from 37,000m³ to 53,000m³.

- **Stormwater:** The stormwater drainage network has been amended to include water quality mitigation measures. External drainage pipes have been increased in number and width to allow for additional storm water flow capacity. Gross pollutant traps have been removed from the proposal and stormwater outlets were modified to disperse flows. Drainage has also been included under the proposed emergency access road.
- **Emergency access road:** The proposed path now bridges between existing highpoints to reduce the amount of fill proposed in its construction. The road is to be a right of carriageway in favour of the new residents of the subdivision and is included in an expanded separate lot 45 that is to remain in private ownership. The design height of the road is to be at 2.95m AHD with the maximum fill level to be approximately 1.3m.
- **Traffic:** A dedicated right hand turn out of Creek Street is included for safety reasons. Creek Street has been proposed to be widened and a pedestrian path included.

2.3. Justification

The Tweed local government area has experienced significant population growth over the past 20 years. This growth coupled with additional commercial and employment generating development in both the Tweed and South East Queensland indicates that demand for residential accommodation will continue to increase in the longer term. This proposal aims to help satisfy this expected demand.

3. STATUTORY CONTEXT

3.1. Major Project

The proposal was declared a major project on 26 September 2006 under Part 3A of the EP&A Act because it was development of a kind described in Schedule 2 of the State Environmental Planning Policy (Major Projects) 2005, being subdivision of residential-zoned land into more than 25 lots and tourist facilities in the coastal zone; located partly in a sensitive coastal location outside the metropolitan zone. Under section 75B of the EP&A Act, the Minister for Planning and Infrastructure is the approval authority for the project.

On 26 September 2006, the then Minister for Planning also authorized the submission of a concept plan under section 75M (1) of the Act for the project.

Part 3A of the EP&A Act, as in force immediately before its repeal on 1 October 2011 and as modified by Schedule 6A to the Act, continues to apply to transitional Part 3A projects. The Director-General's environmental assessment requirements (DGRs) were issued in respect of this project and the Environmental Assessment (EA) was lodged prior to 8 April 2011. The project is therefore a transitional Part 3A project. Consequently, the EA 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 the project under section 75J of the Act.

The Minister has delegated his functions to determine Part 3A applications to the Planning Assessment Commission (PAC) where an application has been made by persons other than by or on behalf of a public authority, there are more than 25 submissions in objection, and/or the Council objects. The application will be referred to the PAC for determination as Tweed Shire Council has lodged a submission objecting to the proposal and there have been more than 25 submissions received from the public.

3.2. 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.

3.3. Permissibility

Under the *Tweed Local Environment Plan 2000* (LEP), the site is zoned part 2(e) Residential Tourist and part 7(a) environmental protection (wetlands and littoral rainforests). Refer to **Figure 4**.

The proposal is subject to Clause 80A of the Environmental Planning and Assessment Regulation, 2000 (the Regulation), enabling development for a prohibited use to be considered under Part 3A even though the land may be within a sensitive coastal zone (the 7(a) zone), for which the use would have been prohibited under Clause 8N and 8O of the Regulation. This exemption applies if the assessment requirements of the Director General were supplied to the proponent before 20th July 2007. In this case the Director General's Requirements (DGRs) were supplied on 28 October, 2006, therefore the proposed emergency access road through the 7(a) zone may also be included within the concept plan.

The proposed development is permissible in the 2(e) zone. However, but for the provisions of Clause 80A (see above), the use within the 7(a) environmental protection zone would have been prohibited. The emergency access road would not satisfy the provisions of clause 8(2) of the LEP in that the proposed private emergency access road (as a right of way) is not a 'road' for the purposes of the Roads Act, 1993 (but, acknowledging that it could be feasible for the emergency access road to be declared or classified as a 'road' under the Roads Act, 1993, through administrative procedures specified in that Act). Other uses such as works for drainage and landfill or earthworks would not be consistent with the objectives of the 7(a) environmental protection zone (**refer to Appendix B**).

3.4. Environmental Planning Instruments (EPIs)

To satisfy the requirements of section 75I of the EP&A Act, this report includes references to the provisions of the EPIs that substantially govern the carrying out of the project and have been taken into consideration in the Department's assessment of the project, the relevant EPIs for this project include:

- State Environmental Planning Policy (Major Developments) 2005.
- State Environmental Planning Policy No. 14 – Coastal Wetlands.
- State Environmental Planning Policy No.44 – Koala Habitat Protection.
- State Environmental Planning Policy No. 55 – Remediation of Land.
- State Environmental Planning Policy No. 71 – Coastal Protection.
- Tweed Local Environment Plan 2000 refer to Appendix B.

The Department's consideration of relevant SEPPs and EPIs is provided in Appendix B. The Department considers the proposal is not consistent with the aims and objectives of the following State Environmental Planning Policies:

- State Environmental Planning Policy No. 14 – Coastal Wetlands (SEPP 14): The development is likely to adversely impact the SEPP 14 wetland located within and adjoining the site to the east as confirmed by the Department's ecological specialist and consequently prevents it from being preserved and protected in the environmental and economic interests of the state.
- State Environmental Planning Policy No. 71 – Coastal Protection: The development is likely to threaten the natural and recreational attributes of this portion of the NSW coast. There is potential for native vegetation to be unacceptably impacted by this development. It is uncertain whether the marine environment contained within the adjacent estuary would be protected should the development proceed. It is uncertain

whether the visual amenity of this portion of the coast will be protected as a result of the development.

3.5. Objects of the EP&A Act

Decisions made under the EP&A Act must have regard to the objects set out in Section 5. The relevant objects 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,
- (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.

Relevant objects of the EP&A Act that pertain to this application are explained in the following table:

Table 1: Objects of the EP&A Act

Objects of the EP&A Act	Applicability
(ii) the promotion and co-ordination of the orderly and economic use and development of land,	The project is not an orderly use of land, as it would unacceptably increase the size of a community already significantly at risk from flooding.
(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,	The project is located in a sensitive coastal location. Land on the site and adjacent is of significant ecological value and contains Endangered Ecological Communities, threatened species, habitat corridors, SEPP 14 wetlands and key fish habitat. The protection of this environment is not assured based on the level of development proposed.
(vii) ecologically sustainable development,	

3.6. 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;
- (b) inter-generational equity;
- (c) conservation of biological diversity and ecological integrity; and
- (d) improved valuation, pricing and incentive mechanisms.

For the purpose of this report, relevant ESD principles are addressed in the Department's assessment contained in Section 5.

4. CONSULTATION AND SUBMISSIONS

4.1. Exhibition of Environmental Assessment

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 June 2010 until 2 July 2010 on the Department's website, and at the following locations:

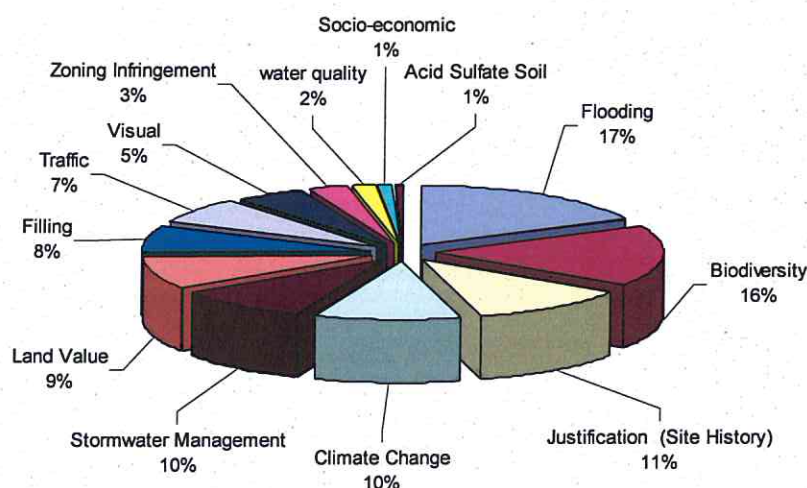
- Department of Planning Information Centre, Sydney.
- Tweed Shire Council Offices, Murwillumbah and Tweed Heads.
- Kingscliff Public Library.

The Department also advertised the public exhibition in the Tweed Link and the Tweed Daily on 1 June 2010 and in the Tweed Border Mail on the 3 June 2010 as well as notifying landholders and relevant State and local government authorities in writing.

4.2. Submissions received for exhibition of Environmental Assessment

The Department received 163 submissions during the exhibition of the EA - 155 submissions from the public and eight submissions from public authorities. A total of 143 submissions objected to the proposal and one submission supported the development. The remainder did not provide an opinion. **Figure 5** illustrates issues raised in submissions.

Figure 5: Issues raised during exhibition of the Environmental Assessment



Public submissions included submissions from the following special interest groups:

- Clarence Environmental Centre.
- Hastings Point Community Group.
- Hastings Point Progress Association.
- North Coast Environmental Council Inc.
- South Golden Beach Progress Association Inc.
- Sustainable Villages Association.
- Wooyung Action Group.

Public authority submissions included those from the following agencies:

- Department of Environment Climate Change and Water (NSW Office of Environment and Heritage).
- Industry and Investment NSW (NSW Department of Primary Industries).
- Land and Property Management Authority (Crown Lands).

- Northern Rivers Catchment Management Authority.
- NSW Rural Fire Service.
- NSW Office of Water.
- Roads and Traffic Authority.
- Tweed Shire Council.

Council's submissions objected to the proposal. Agency submissions did not offer an opinion on the project and instead raised issues for consideration based on the information contained in the EA.

Response to Submissions

In a letter dated 26 July 2010 the Department requested that the Proponent respond to all submissions and raised its own issues for consideration namely:

- Flooding – Accuracy of the flood modelling; consideration of climate change impacts; impacts on adjacent residences as a result of filling of the site and the emergency access road; and how the proposal would fit into the strategic management of flood risk within Hastings Point.
- Flora and Fauna – Assessment of increased water quality impacts on adjacent ecologically sensitive land; refinement of proposed buffers to address the concerns of agency submissions; avoidance of impacts to existing saltmarsh Endangered Ecological Communities (EEC) on site; mitigation measures for rehabilitation plans contained in the EA; compensation on a *like for like* basis of impacted EEC; and further assessment for any threatened shorebird species that may utilise the site.
- Water Cycle Management – provide details that the current effluent disposal system can accommodate any additional loads resulting from the development.
- Traffic – Demonstrate how the development would allow for safe pedestrian access across Tweed Coast Road during and after construction.

4.3. Exhibition of the Preferred Project Report

Under section 75H(7) of the EP&A Act, the Director-General required the Preferred Project Report (PPR) to be made available to the public for 18 days from 19 August 2011 until 5 September 2011, on the Department's website and at the following locations:

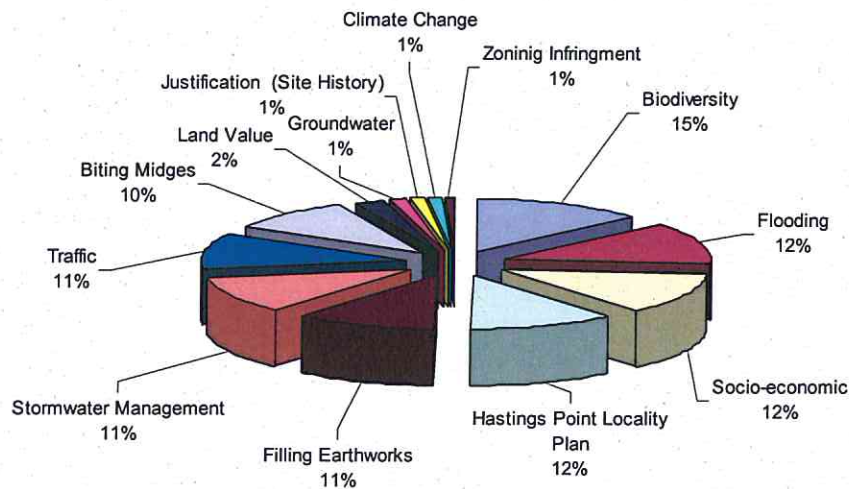
- Department of Planning Information Centre, Sydney.
- Tweed Shire Council Offices, Murwillumbah and Tweed Heads.
- Kingscliff Public Library.

The Department also advertised the public exhibition in the Tweed Sun and the Tweed Border Mail on 18 August 2011 and the Tweed Link on the 23 August 2011, as well as notifying community and relevant State and local government authorities in writing.

4.4. Submissions received for exhibition of Preferred Project Report

The Department received 266 submissions during the exhibition of the PPR – 259 submissions from the public and seven submissions from public authorities. A total of 260 submissions objected to the proposal and one submission supported the development. **Figure 6** illustrates issues raised in submissions.

Figure 6: Issues raised during exhibition of the Preferred Project Report



Public submissions included two petitions signed by 12 and 19 people respectively. Submissions were also provided from the following special interest groups:

- Cabarita Beach/ Bogangar Residents Association .
- Hastings Point Community Group.
- Pottsville Community Association Inc.
- Wooyung Action Group.

A summary of public authority submissions is provided below. Notably, Council and the State Emergency Service objected to the proposal. Other public authorities identified matters for consideration, while not objecting to the proposal.

Tweed Shire Council

In correspondence dated 29 September 2011, the Council objected to the project for the following reasons:

- The application fails to adequately consider the sensitive ecological status of the subject site and would subsequently cause adverse impacts.
- The proposed subdivision layout has not been designed in response to an adequate site analysis.
- The emergency access road is not considered to be justified in the 7(a) Environmental Protection (Wetlands and Littoral Rainforest) zone and fails to satisfy the provisions of Clause 8(2) of the *Tweed Local Environment Plan 2000*.
- The application fails to comply with the *Hastings Point locality based development code* under section B23 of the *Tweed Shire Development Control Plan*.
- The application represents a massive overdevelopment of a highly sensitive site.

State Emergency Service (SES)

In correspondence dated 30 September 2011, the SES objected to the project for the following reasons:

- Hastings Point has a history of flooding and is at risk from catchment flooding as well as coastal inundation and storm surge. Elevating the site on fill and provision of an emergency access road would not sufficiently alleviate flood risk in light of the potential and historical consequences of such inundation events.
- The area is classified as a Flash Flood environment. These are the most dangerous flood risk areas. There is no formal warning system for Cudgera and Christie's Creek

and the depth and extent of flooding cannot be reliably predicted prior to or during an event.

- The emergency access road raises serious concerns. The development is reliant on this structure to conform to the Tweed Development Control Plan for proposed developments in flood prone areas. There is no strategy for ownership and maintenance of the structure or initial and ongoing education of the community about the emergency access route and when it should be used to evacuate safely during flood events.
- The agency does not support the preparation of a private evacuation plan for the development.
- Hastings Point has previously been isolated for a number of days during flood events, the suitability of the emergency access road to high ground and the safety of the community once they reach the higher ground in the vicinity of the Tweed Coast road during inundation events is questionable.
- Risk assessment should consider the full range of flooding, including events up to the Probable Maximum Flood and not focus only on the 1 in 100 year flood event.
- Evacuation must not require people to drive or walk through flood water.

Office of Environment and Heritage (OEH)

While not objecting to the proposal the OEH in correspondence dated 14 September 2011, provided the following comments:

- The proposal seeks to overcome natural constraints by proposing artificial rehabilitation of saltmarsh that is not assured in its success. At the same time in order to reduce biting midge impacts the proposal seeks to reduce the buffer areas between rehabilitated and the existing saltmarsh Endangered Ecological Community (EEC). Limiting biting midge breeding areas would in turn limit the value of rehabilitated and existing saltmarsh habitats as midges are vital to the food chain of fauna that reside within these wetland environments.
- The agency does not accept the reduced buffering argument and considers the areas proposed to be regenerated artificially should be allowed to do so naturally so as to avoid disturbance of the existing community found in this area. The development should therefore be redesigned to effectively protect and buffer all environmentally significant areas surrounding the site unless further compelling reasoning can be provided to address:
 - The long term adequacy of the proposed buffer to existing areas of saltmarsh.
 - The likelihood of success of the proposed saltmarsh rehabilitation areas.
 - The provision of adequate mitigation contingencies to protect existing and remediated saltmarsh.
 - The degree to which proposed runnels constructed through existing saltmarsh is acceptable under relevant legislation. Runnels are to mitigate against biting midges.
- A dog and cat ban should be imposed if any approval is given to the development to protect surrounding ecologically significant areas.
- Mechanisms should be established and implemented that will ensure the success of proposed vegetation rehabilitation.
- The success of long term habitat management of areas proposed to be dedicated to Council should be ensured by the Proponent with the agreement of Council.

Northern Rivers Catchment Management Authority (NRCMA)

While not objecting to the proposal the NRCMA in correspondence dated 31 August 2011, provided the following comments:

- The number and the location of trees to be replanted as an offset to proposed clearing of native vegetation is not clear.
- Uncertainty whether the offset would allow for suitable habitat compensation in the future.

- Supports the provision of a long term native vegetation maintenance program and recommends the inclusion of a local community capacity development program to enhance and support the involvement of local residents in protection of remnant native habitat.
- Recommends the provision of adequate buffers to protect threatened species and endangered ecological communities for residential developments. A 50m buffer from native vegetation/ habitat or ecosystem/ wildlife corridors and a 100m buffer from estuaries or wetlands is required.
- Requires that the quality of runoff from stormwater be equal to or better than current levels.

Department of Primary Industries (DPI)

While not objecting to the proposal the DPI in correspondence dated 9 September 2011, provided the following comments:

- Previous comments raised concerns about the implementation of the Saltmarsh Rehabilitation Plan and provision of runnels to mitigate against the impacts of biting midges. The construction of runnels may conflict with the aim of the plan to restore and maintain saltmarsh on the site. Any future development application should include a completed Saltmarsh Rehabilitation Plan to the satisfaction of the agency that ensures the success of saltmarsh rehabilitation.

Roads and Traffic Authority (RTA)

While not objecting to the proposal the RTA in correspondence dated 13 September 2011, provided the following comments:

- The RTA has no issue in principle with the application but notes that all roads related to the development are the responsibility of the local Council, therefore Council is the appropriate authority in relation to matters concerning roads.

NSW Rural Fire Service (RFS)

While not objecting to the proposal the RFS in correspondence dated 14 September 2011, provided the following comments:

- The construction of future dwellings, infrastructure, roads and landscaping is required to comply with Australian Standard AS3959-2009 and *Planning for Bush Fire Protection 2006* Appendix 3.
- The entire development footprint should be managed as an inner protection area as outlined in *Planning for Bush Fire Protection 2006* Appendix 2 and 5 and the *Standards for asset protection zones*.
- Lots 40-45 (previously Lot 31 in the EA) require a 16m asset protection zone to the east from any unmanaged vegetation based upon the rehabilitation plan.

NSW Office of Water (NOW)

While not objecting to the proposal the NOW in correspondence dated 24 November 2011, provided the following comments and concerns:

- Bores in connection with groundwater and acid sulfate soil testing require a licence under part 5 of the *Water Act 1912*. Any future bores and monitoring that intercepts the groundwater table also require a licence.
- The erosion and sediment controls are not sufficient to adequately treat runoff and stormwater entering the adjacent wetland. Runoff water quality should be equal to or better than that which exists in the neighbouring wetland and groundwater.
- The water sensitive design measures are not sufficient to adequately treat stormwater entering the adjacent wetland. Stormwater quality should be equal to or better than the water quality found in the neighbouring wetland and groundwater.

- The Acid Sulfate management measures are endorsed. An Acid Sulfate Management plan should be required as a condition of any approval.
- The groundwater environment should be accurately modelled for the entire site and not just at certain locations within the site.
- Surface and groundwater monitoring should occur from the commencement of construction up until 2 years after completion of construction to verify that no adverse water quality impacts are occurring as a result of the development.
- The applicant should adhere to the *NSW Wetlands Management Policy*.
- Recommends a 20–40m minimum Core Riparian Zone (CRZ) be maintained from wetlands.
- Tidal waters – (merit assessment based). InThe commitment to rehabilitate areas of saltmarsh is supported.

5. ASSESSMENT OF ENVIRONMENTAL IMPACTS

In assessing the merits of the proposal the Department has considered:

- The Environmental Assessment, Preferred Project Report, public and agency submissions, the Statement of Commitments and all other information provided by the Proponent.
- Relevant environmental planning instruments, policies and guidelines.
- The objects of the EP&A Act.
- Relevant statutory requirements of the EP&A Act and EP&A Regulation.
- The independent review commissioned by the Department and undertaken by Parsons Brinckerhoff in relation to flooding, stormwater, groundwater and acid sulfate soil impacts (provided in Appendix E).

The Department has identified the following key issues associated with the proposal requiring detailed consideration:

- Flooding.
- Ecological impacts.
- Desired future character.

5.1. Flooding

Flood hazard at Hastings Point

According to the *Tweed Coastal Creeks Flood Study 2009*, Hastings Point and surrounding catchments have a history of flooding including the years 1954, 1974, 1978, 1987, 1989, 2005 and 2008. The site is in an area classified by the *Tweed Shire Local Flood Plan 2008* as being at risk of flash flooding. This means flooding can occur within 6 hours or less of the flood producing rainfall. The *Tweed Coastal Creeks Flood Study 2009* describes flooding as originating from three sources, or their combination, including:

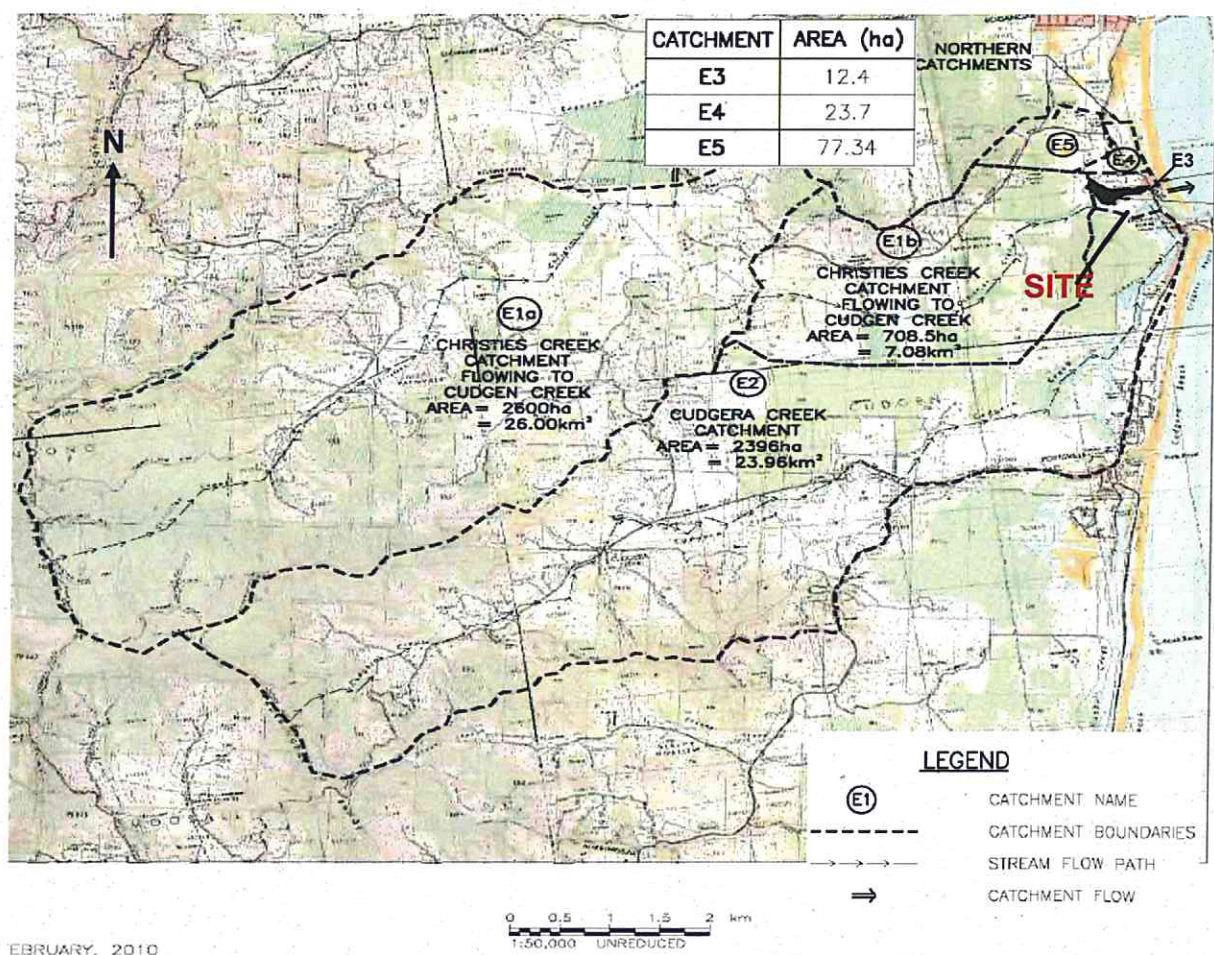
Heavy rainfall over catchments

Catchment based floods are primarily drained by Christies and Cudgera Creek as well as a number of smaller sub catchments north of the site (**Figure 7**). The size of the combined catchment areas is approximately 58km². The 3.66ha development is located at the confluence of the Cudgera Creek and Christies Creek catchments. Floodwaters from Christies and Cudgera Creek are separated at the lower end of the catchment by a small vegetated hill that includes a fragment of Cudgen Nature Reserve. Floodwaters from the catchments converge at the confluence of Christies and Cudgera Creek in Hastings Point where they exit into the Pacific Ocean. Submissions provided photographic evidence (**Appendix E**) of the site being flooded during the 2005 catchment based event. Notably, a component of upper catchment floodwaters can also be drained by Cudgen Creek to the north depending on the magnitude of the flood event.

High water levels in the ocean due to storm surge or tidal conditions – The site is located some 500m from the ocean and is at risk from storm surge flooding. Storm surge events flood the lower end of the catchment as ocean water is forced onshore from strong onshore winds, waves and high tides.

Localised rainfall – The site has a low elevation of up to approximately 2m AHD and a low gradient. Aerial photographs of the site show it was dredged and filled without consent in the early 1980s by a previous landowner. Prior to this date, aerial photos indicate the site's southern portion contained a channel that drained the northern sub catchments. Filling of the site has caused localised flooding to drain from these sub catchments and sheet flow over the site rather than through prior drainage channels. Drainage problems at the site and in the surrounding area have been identified in the Environmental Assessment.

Figure 7: Regional Catchments



Due to the site's flood hazard, the Department required the Proponent to assess the development against the relevant provisions of the *Floodplain Development Manual 2005*. The *Floodplain Development Manual 2005* is the principal NSW policy, guiding development of land in floodplains. The policy promotes the use of a merit based approach to determine whether or not particular developments are appropriate.

The Department also required the Proponent to take into consideration future changes to flooding in the area as a result of anthropogenic climate change. This included in depth flood modelling for a range of flood scenarios including higher sea levels and more intense rainfall events.

Flood risk to the development site

Council's *Development Control Plan Section A3- Development of Flood Liable Land* (DCP A3) requires all new subdivisions where the total area of urban zoned subdivision land exceeds 5ha, to have at high level evacuation route for pedestrians not exceeding 100m in length, accessible from all allotments to land above the Probable Maximum Flood (PMF) level (**refer to Table 3**). The Proponent proposed an evacuation road approximately 300m long that allows for vehicular access as the development is located on land 17.77ha in size. The road would provide flood emergency access for future residents to an area east of the Tweed Coast Road that is above the PMF level during times of emergency (**see Figure 8**).

The Environmental Assessment undertook site specific flood modelling that tested a variety of flood scenarios occurring in the area. Results showed individual filled lots would not be inundated at the 1 in 100 year level. The results however did show that linking roads including the proposed emergency evacuation road would be inundated, leaving the development isolated. Of note, under the PMF scenario the entire site would be inundated.

Submissions including Council's, raised issues with the accuracy of the flood model based on its calibration with previous flood events such as the 2005 flood and the subsequent level of fill proposed. Questions were also raised regarding the failure of the model to take into account projected climate change impacts. Due to the level of concern raised by submissions, the Department engaged an independent consultant to undertake a review of the flood modelling (**report contained in Appendix E**). The consultant's comments highlighted similar issues as those raised in submissions including the need for more information relating to flooding methodology and accounting for climate change impacts.

In responding to these issues and those raised by the Department in its letter dated 26 July 2010, the Preferred Project Report modified the proposal to fill the site according to the 1 in a 100 year flood level design criteria contained in Council's *Development Control Plan Section A3- Development of Flood Liable Land* (DCP A3). The minimum fill level proposed was 2.9m AHD grading to an average fill level of 3.4m AHD and a maximum fill height of approximately 3.88m AHD. Approximately 53,000m³ of fill would be needed to raise the current ground level between 1.3m and 2m throughout the 3.66 hectare site. The height of the internal road network and flood emergency access road was also raised to the minimum 2.9m AHD level.

The Proponent undertook revised flood modelling that included various climate change scenarios, examining catchment based flooding events in more detail, particularly the 2005 flood event. The modelling found the modified site would remain flood free under a 1 in 100 year flood event, including the flood evacuation road. However as in the previous study, a PMF event would inundate the site and the proposed emergency evacuation road despite the additional fill.

Flood risk to adjacent residences as a result of the development

Submissions raised concerns that the amount of fill proposed would adversely alter flood flows and that the proposed emergency access road would block flows draining from the northern sub catchments into Christies Creek. The site lies at the confluence of various catchments therefore the development could impede catchment based and locally occurring floods. Surrounding residences already experience drainage and local flooding issues after heavy rains.

The Preferred Project Report modelled the developed case scenario against the current site and calculated the difference in peak flood levels that would arise as a result of the development. For all scenarios with the exception of the 2005 flood event the modelling showed there would be no discernible change in peak flood levels. The Proponent argued the size of the floodplain and its low gradient were large enough to absorb the changes caused by this development and would therefore not displace a significant level of water and hence adversely alter flood flows.

For the 2005 event, the modelling indicated there would be a difference in peak flood level at the neighbouring north east property and Creek Street of more than 0.15m. Notwithstanding, Creek Street and adjacent properties were already shown to be flooded during the 2005 flood event. The Proponent argued such changes could be dealt with through effective stormwater drainage systems. The Proponent provided details regarding the stormwater structures associated with the development to demonstrate how localised flood waters would be drained away from the northern sub catchments and into Christies Creek. This included drainage along Creek Street to the west as well as including culverts along the emergency access road to drain flood waters from the northern sub catchment.

Assessment of cumulative flood risk at Hastings Point

In order to avoid flooding impacts, the Proponent has provided engineered measures including filling of the site, provision of an emergency access road and stormwater drainage to reduce the risk of flooding impacts to what the Proponent considers an acceptable level for adjacent and future residents.

Taking into account the flood modelling and mitigation measures, the Department is of the view that the Proponent has failed to demonstrate that the risk to the population within this flood prone community is acceptable.

Specifically, the *Floodplain Development Manual 2005* requires consideration of the full range of flood events including the PMF. In this case, the PMF event has been shown to inundate the majority of Hastings Point with a "high flood hazard category" (refer to **Figure 8**). The Proponent has proposed an emergency evacuation road to be constructed at the 1 in 100 year level, which provides access to land above the PMF level. As Hastings Point is classified a flash flood environment it is important to consider the suitability of this land in a worst case scenario.

The State Emergency Service (SES) raised significant concerns with the development in its objection. In adopting a risk management approach the SES noted that not all potential or historical consequences of flooding events could be alleviated by elevating the development site and constructing an emergency access road. The SES identified Hastings Point as having been isolated for a number of days during previous flooding events and that a risk assessment should consider the full range of flooding events and not solely focus on the 1 in 100 year event.

The SES further considers that developments that rely on deliberate isolation or sheltering in buildings surrounded by flood water are not equivalent, in risk management terms to evacuation. Under the PMF scenario individual lots would be isolated, and roadways flooded, including the emergency access road.

Flood modelling shows that the only accessible land above the PMF level is located at the rear of the foredune area that separates Hastings Point north from the beach and ocean (see **Figure 9**). The land contains approximately 15 dwellings and does not include any public land aside from the vegetated beach foredune area and part of Peninsular Street. Under a PMF scenario, evacuation access to the south along the Tweed Coast Road would be cut. While to the north the Tweed Coast Road would also be inundated with areas of high flood hazard category covering the road, potentially isolating the community. The Proponent has not assessed the rest of the Tweed Coast Road north to Bogangar for flood hazard and therefore the hazard level along the remainder of the road is unknown. The State Emergency Service recommends evacuation must not require people to drive or walk through water. It is therefore likely that in such a scenario the residents of Creek Street, North Star Caravan Park and the proposed subdivision would be required to seek refuge in the foredune area.

A worst case estimation of the amount of people seeking refuge on land above the PMF in such a scenario is contained in **Table 2**.

Table 2: Estimation of worst case scenario population requiring evacuation

Location	Number
North Star Caravan Park	1400 ¹ (including 280 permanent elderly residents)
Creek Street	75 ²
Lot 156	117 ²
Total	1592

1: Figure is referenced from the submission of North Star Holiday Resort, Hastings Point and is the maximum amount of people known to stay at the resort at any one time.

2: The Proponent projected an average 2.6 people per household in the Environmental Assessment. This figure accords approximately with projections included in the *Tweed Urban and Employment Land Strategy 2009*. Hence in the absence of knowing the actual population living along Creek Street, the figure has been applied to the 29 dwellings located along the Street and the amended lot layout contained in the Preferred Project Report.

It should be noted that the figure of 1592 people is a worst case scenario. The total permanent population of Hastings Point is approximately 614 according to the 2006 census, while the *Tweed Urban and Employment Strategy 2009* states that Hastings Point has a population of between 706 and 968 persons. In a PMF scenario the actual number of people requiring evacuation is likely to vary and may not be as high.

Furthermore it is appropriate to consider that the majority of permanent residents at Hastings Point are aged over 55. This could potentially cause complications during any evacuation event. Major flood events such as the 25/26 January 1974 event are recorded as having occurred during vacation and late summer periods when the population of Hastings Point was likely to be larger. Based on the history of flooding at the site it is reasonable to assume that the permanent population of Hastings Point would not be the only group of persons exposed to flood risk during a major flood event. The proposed development with 45 lots would therefore add an estimated 117 persons needing to seek refuge on land above the PMF level.

In addition, the Proponent's flooding consultant commented that peak flood levels were generally dominated by storm surge flooding. The *Tweed Shire Local Flood Plan 2008* also states that Hastings Point is at threat of storm surge. Under a storm surge scenario it is likely the foredune environment in which the land above the PMF is situated would also be subject to wave attack and coastal erosion creating the potential for further risk.

The Proponent's flooding assessment concluded that no cumulative flooding impacts would result from the development. This is contested by SES's submission, which notes that Hastings Point is classified a Flash Flood environment where the extent of flooding cannot be reliably predicted prior to or during an event and that importantly there is no formal warning system for Cudgera and Christies Creek.

The cumulative risk in an emergency situation and the consequences in terms of danger to personal safety have not been assessed given the possible number of evacuees could be significantly increased as a result of the development, being an additional 117 persons based on the 45 lots proposed. The Department is concerned that the location, size and accessibility of the available land above the PMF level may not be adequate for the potential amount of evacuees in the worst case scenario. Only a comprehensive locality based evacuation plan would enable an accurate judgement of this concern. This information has not been provided.

Climate change impacts of rising sea levels are also predicted to increase the frequency and intensity of flooding events along the coast as described by the *NSW Sea Level Rise Policy 2009*. The Proponent's modelled scenarios that couple sea level rise with a combination of increased rainfall show Hastings Point would have a greater exposure to flooding impacts. This adds to the doubt over the suitability of the proposal.

Suitability of Emergency Access Road

The development relies heavily on the provision of fill and the emergency access road to mitigate flood impacts. The proposed road was to be constructed above the 1 in 100 year level and be wide enough to cater for vehicles. The minimum distance along the emergency access road from the nearest proposed allotment (Lot 45) to land above the PMF level is approximately 500m while the maximum distance from the furthest proposed allotment (Lot 1) is approximately 800m. Council in its submission to the Preferred Project Report did not object to the road believing it to conform to the requirements of DCP A3 shown in **Table 3**. That is, the road provides vehicular access to Creek Street which in turn allows access to land that is above, the PMF level.

**Table 3: Emergency response provisions required for new subdivisions under DCP A3 -
Development on Flood Liable Land**

Residential Subdivision	New Subdivisions (where total area of urban zoned subdivision land, including residual lots, exceeds 5 hectares)	All new subdivisions to have high level road evacuation route(s) to land above PMF level, accessible to all allotments via (as a minimum) pedestrian access at or above design flood level not exceeding 100m in length.
<i>Urban Residential Subdivision (including small lot rural subdivision where the average lot size, excluding residual and non-residential lots is less than 5000m²), Rural Subdivision,</i>		

The Department considers that the road does not meet the provisions of DCP A3. It does not accept that providing vehicular access eliminates the need to provide suitable pedestrian access along the emergency access road. The Department considers the road to be unacceptable for pedestrian use during major flooding for the following reasons:

- The length of the road is considered excessive for pedestrian use based on the development being located in a flash flood environment. The SES submission characterised flash floods as having rapid rates of rise in water levels associated with high velocity water flow. Due to the development being located in such an environment, residents may indeed require reasonable pedestrian access not exceeding 100m in length, as required by DCP A3;
- The Proponent has not considered issues related to flood warning and evacuation demand on the road. The SES submission highlighted that flash flood environments usually provide little or no warning lead time as to their occurrence; and
- The road is modelled to be inundated under the PMF scenario and would therefore isolate the development. Under the 1 in 100 year flood, modelling indicated that high hazard flows would pass adjacent to the road. In the event that culverts and other drainage points under the road are blocked by debris there is potential for the road to become inundated under the 1 in 100 year flood.

In addition to the above concerns, Council indicated it is unwilling to administer the road. Therefore the Proponent proposed that the emergency access road be maintained with equal contribution from the owners of lots 1 to 45 and held in private ownership by lot 45. The SES submission highlighted that the Proponent has no proposed strategy for the road's

administration aside from stating the road is to be maintained by private monies. Also absent is any detail regarding ongoing maintenance of the road or initial and ongoing education of the development's residents about the route and when it should be used to evacuate safely during flood events. Based on Council's unwillingness to administer the road it is likely the road would need to be administered through a private evacuation plan. Citing the *Floodplain Development Manual 2005*, the SES indicated that it does not support the use of private flood evacuation plans for developments. There is also confusion in the Preferred Project Report regarding access to the road and whether it will be a public thoroughfare or allow access only during emergencies. Flood risk to residents would be significantly increased if access was either legally or physically restricted during flood emergencies.

Based on the reasons listed above the Department considers that the road does not address the principal risk management issues highlighted in the submission of the SES and therefore the emergency access road as proposed by the Proponent is not supported by the Department as a viable flood mitigation measure.

Conclusion

Based on Hastings Point being classified a flash flood environment, the community's exposure to flood risk, the appropriateness of land above the PMF level for safe refuge, the potential for isolation during a major flood event and potential access constraints associated with the proposed emergency evacuation route, the Department considers the proposed development is unacceptable. Adopting the hierarchy of risk management contained in the *NSW Floodplain Development Manual*, the Department recommends a risk avoidance approach be adopted and the development application for 45 lots be refused as it poses an unacceptable increase in the risk to life, health and property within this flood prone community.

Figure 8: Hazard Categories for the Probable Maximum Flood Event Included in the Preferred Project Report

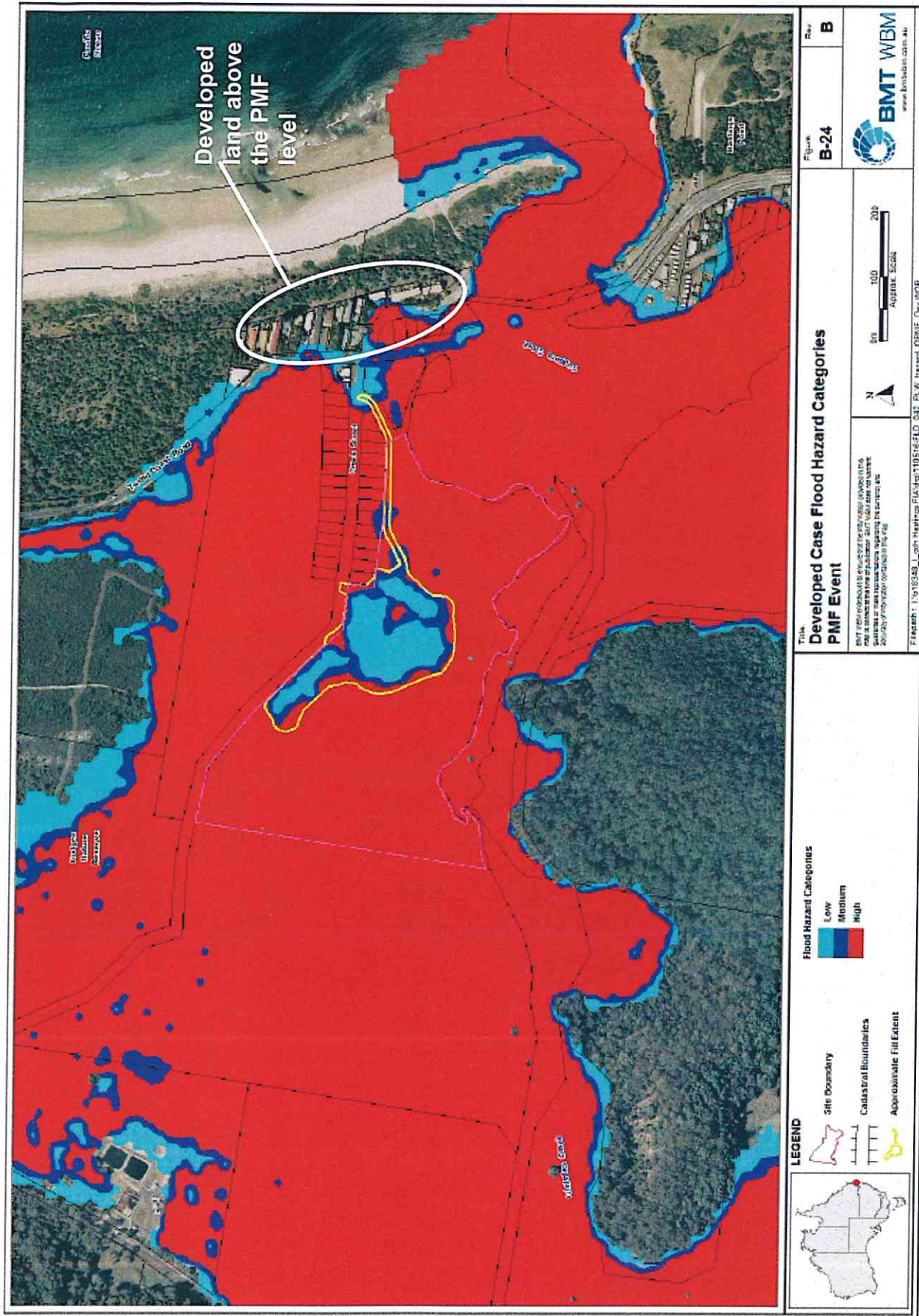
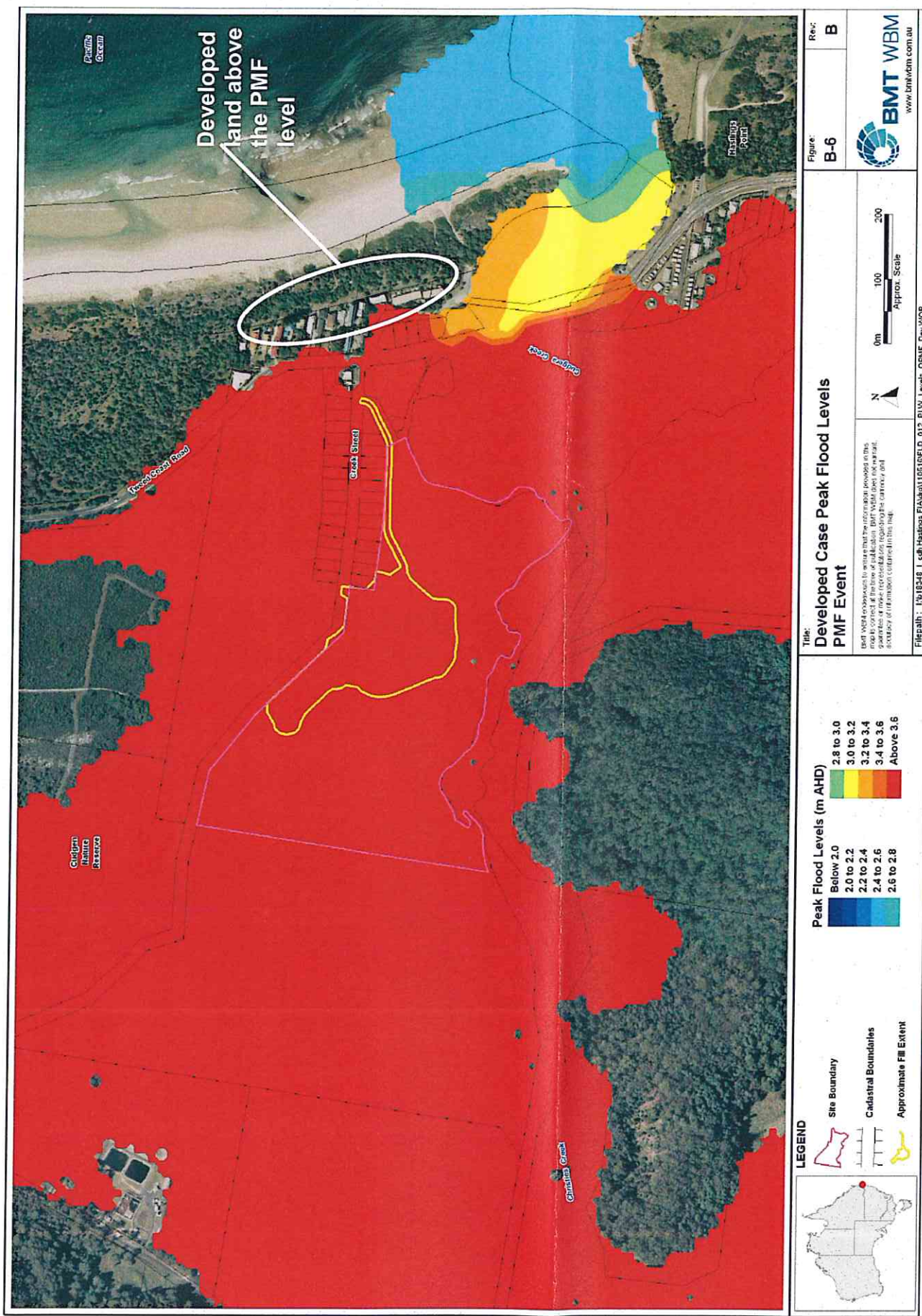


Figure 9: Hazard Categories for the Probable Maximum Flood Event Included in the Preferred Project Report



5.2. Ecological Impacts

The site is located within a *Sensitive Coastal Location* under *State Environmental Planning Policy – 71 Coastal Protection* as it lies within 100m of an estuary. The ecological value of the surrounding land was highlighted in the Environmental Assessment and by submissions. The matters raised relating to ecological values include the following:

- The site is located adjacent to a mapped *State Environmental Planning Policy 14 – Coastal Wetlands* (SEPP14). Notwithstanding the mapping, a site visit by the Department's ecological specialist identified the actual wetland to be located within the site (**refer to mapping contained in Appendix B**).
- The site contains and is surrounded by Endangered Ecological Communities (EEC) such as Saltmarsh, Swamp Sclerophyll Forest and Subtropical Coastal Floodplain Forest.
- The eastern portion of Lot 156 is zoned 7(a) Environmental Protection Zone under the Tweed LEP 2000.
- Threatened species have been recorded in the immediate vicinity of the site and on the site including the Bush Stone Curlew, Beach Stone Curlew, Black Necked Stork, Osprey, Glossy Black Cockatoo, Koala, Grey Headed Flying Fox, Little Bentwing Bat.
- Surveys for the Environmental Assessment found 65 native bird species, 8 mammals, 6 amphibians and 5 reptiles at and in the immediate vicinity of the site.
- The site is within the Koala meta-population boundary – *Tweed Coast Koala Habitat Study* (Tweed Shire Council 2011).
- The site is surrounded by Cudgen Nature Reserve to the south, west and north.
- The site is adjoined by an estuarine ecosystem and adjacent terrestrial vegetation modelled by the National Parks and Wildlife Service as part of a regional habitat corridor.
- The estuary is ranked by importance as 28th of some 500 wetland and riverine ecosystems in the Tweed studied as part of the *Comprehensive Coastal Assessment Process* (DEC 2006).
- The estuary contains key fish habitat including native seagrass species, mangroves and saltmarsh adjacent to the site (*Tweed Shire Council Key Fish Habitat Mapping 2009*).
- The ecological diversity of the estuarine system is a valuable socio-economic and educational resource. It is utilised regularly by tourists and students, for school curriculum field trips.

The Proponent's assessment of ecological values at and surrounding the site found the project had the potential for adverse impacts. In order to avoid such an occurrence the Proponent proposed the following mitigation measures in the statement of commitments:

- The provision of stormwater treatment measures including water quality mitigation measures to allow for a suitable level of filtration from the site into the estuary.
- The provision of a sediment and erosion control plan during construction to avoid adverse water quality impacts.
- The provision of mitigation measures including liming of disturbed soils to avoid adverse impacts occurring from the disturbance of acid sulfate soils.
- Re-habilitating 1 hectare of saltmarsh EEC within the site that is to be completed prior to issue of a subdivision certificate and dedication to Council after a five year maintenance period.
- Offsetting the removal of native vegetation at a rate of 10:1 by replanting native trees on site.
- Restricting foreshore access to residents.
- Requiring low speed limits within the subdivision to avoid adverse fauna impacts.
- A cat and dog ban shall be imposed on each allotment by covenant.
- Provision of a restoration/rehabilitation plan for areas outside the development footprint.
- Fencing and posting to avoid adverse impacts during construction and post construction.

- Providing an inventory of native fauna utilising the site prior to clearing and retention of habitat within areas adjacent to the development.
- Providing a raptor pole for Osprey as an offset to the removal of a large blue gum tree on site.
- Footpath and roadway design plans to demonstrate that their location avoids areas containing EEC.

The potential for adverse ecological impacts occurs during both the construction and operation phases. The site is constrained by the ecology present at and surrounding the site. The Department is concerned the mitigation measures would not, in themselves, prevent the occurrence of adverse impacts due to the proximity of surrounding ecology. Increased levels of physical pollution such as stormwater runoff and proximity intrusions from increased noise, light and odours from the increased population would inevitably disturb adjacent ecological systems to some degree.

In order to avoid this scenario the Proponent has incorporated some level of buffering around the site to separate the surrounding ecology from such impacts. Buffers are recommended for such greenfield sites according to the *Tweed Local Environment Plan* (Clause 31). A 15m buffer is proposed for existing saltmarsh EEC on the western portion of the site, a buffer of up to 50m is proposed along the southern boundary of the site while no buffers are proposed between the development footprint and the adjacent estuary on the western portion of the site.

Submissions to the Preferred Project Report from the Office of Environment and Heritage supported the need for an adequate buffer that does not conflict with buffers for midge free breezeways. Council's submission suggested a 50m buffer would be appropriate for the entire site in accordance with the *Tweed Coast Estuaries Management Plan* (DCP A5). A depiction of the Council's suggested buffering is included in **Figure 10**. This was supported by the submission from the Northern Rivers Catchment Management Authority and also by specialist consultants engaged by the community. The Proponent has argued its proposed buffers are sufficient given the proposed mitigation measures.

Figure 10: Tweed Shire Council's 50m Buffer Mapping of the Site



Based on the variety of biodiversity and ecosystems found in the area, the Department considers the estuary to be of high ecological value. The Department has reviewed the proposed mitigation measures in light of these values. Upon consideration the Department considers the project continues to have the potential to cause adverse ecological impacts given the following detailed considerations.

Buffering

The Department considers the level of buffering proposed to be inadequate. The Proponent has argued that the area east of the site is zoned 7(a) Environmental Protection Zone under the Tweed LEP 2000 and was zoned as such to provide a buffer to sensitive environments further downstream. However the Environmental Assessment noted this area to be of value to fisheries resources, migratory bird habitat and contain EEC saltmarsh and subtropical coastal floodplain forest. Site visits indicate that the SEPP14 wetland is located not solely at the mapped site but also adjacent to the site. The Department therefore does not consider the 7(a) zone should be accorded only the status of a buffer, given its ecological value.

Along the western extension of the development the Proponent has proposed a 15m open space buffer to a naturally occurring saltmarsh EEC area of 0.8ha. Stormwater drainage will flow directly into this community. The Department considers the development is too close to the saltmarsh community resulting in unacceptable risk to its ecological value. The saltmarsh community was previously being mowed by the Proponent. Under instruction from the Department mowing in this area has ceased. A subsequent site visit 6 months later by the Department showed a significant level of natural regeneration had occurred (**refer to Figure 11**). The regeneration demonstrates the effectiveness of the current 75m buffer between the saltmarsh community and North Star caravan park.

The Proponent proposed to artificially regenerate salt marsh areas along the southern boundaries of the development as an offset to ecological impacts posed by the development. However as stated in the Preferred Project Report this regeneration is dependant on a number of variables including the timing and manner in which the saltmarsh is established. It is also noted that stormwater outlets will flow into these regenerated areas. No assessment has been made to demonstrate that these regenerated areas will be able to cope with the added stormwater flows. The combination of sea level rise and a mere 15m environmental buffer to an EEC in a low lying area is likely to act to degrade the regenerated saltmarsh over time. The Department is therefore not satisfied that the saltmarsh regeneration will act as a permanent offset.

This view is supported in the submission of the Office of Environment and Heritage, which raised significant concerns regarding the viability of artificially regenerated saltmarsh areas. The agency suggested that these areas be allowed to regenerate naturally rather than through artificial means. This would also avoid impacts to the existing community of saltmarsh shown in **Figure 11**. The Office of Environment and Heritage did not support reduced buffers to avoid biting midge impacts as it considered the midges played an important role in the food chain of fauna that utilise this habitat. The Department concludes that the proposal has not adequately taken into consideration the ecological constraints of the site.

Figure 11 Saltmarsh on the western portion of the site



Stormwater management measures

Water quality mitigation measures proposed include Water Sensitive Urban Design (WSUD) such as rainwater tanks, bioretention swales and grassed swales. Water quality modelling that utilised these mitigation measures was included in the assessment to show the expected reduction in pollution loads according to Council recommendations. No artificial wetland will be constructed due to local flooding constraints. Therefore, treated residual stormwater will flow directly into receiving environments including existing saltmarsh EEC on the west of the site and the proposed regenerated offset area south of the site. The quantity of water entering the receiving environment from the development will be increased even though pollutant loads will be reduced. Approximately 35% more stormwater will enter the estuary in a 1 in 5 year event as evidenced by the Proponent's stormwater modelling, although no comparison has been made for smaller rainfall events. The *Tweed Coast Estuaries Management Plan* (2008) states that urban stormwater along with rural stormwater are the primary source of water pollution in the catchment.

The *Tweed Urban Stormwater Quality Management Plan* (2000) requires water quality from new developments to be of sufficient standard to ensure that aquatic ecosystems are protected. Although WSUD measures are proposed, the predicted water quality modelling contained in the Preferred Project Report fails to demonstrate that these sensitive environments or the SEPP14 wetland downstream can accommodate the predicted 35% increase in stormwater flows over time. Also, the ongoing maintenance of these WSUD measures has not been discussed by the Proponent. Furthermore, the submission from the Office of Water considered the current proposal would not ensure that water quality discharged from the site would be of similar or better quality than that contained in the adjacent wetland.

The *NSW Wetland Policy* (2010) requires that land management practices such as the water quality mitigation measures proposed by the Proponent need to maintain or improve wetland habitats. The Department considers that the Proponent has not demonstrated how such measures would be satisfactorily incorporated into the management regime or that the measures would be effective in maintaining or improving the wetland habitat.

Emergency access road

The road will be constructed on cleared areas along the north east portion of the site (**refer to Figure 12**). Part of the road is to be located within the 7(a) Environmental Protection Zone (**refer to Figure 13**). The proximity of the access road to this adjacent environmentally sensitive land is of concern. Culverts proposed to be placed under the road would re-direct and concentrate flows from the northern subcatchments potentially impacting the adjacent environment through erosion during high flow events. The environmental significance of the 7(a) zone has been noted in the Environmental Assessment. The Department's ecological specialist also identified small areas of saltmarsh EEC along fencing shown in **Figure 12** during site visits. The endangered Beach Stone Curlews and Bush Stone Curlews have been recorded nesting in the immediate vicinity of this road within the 7(a) environmental protection zone (**refer to photos in Appendix E**). Flows that erode ecologically sensitive land would degrade the habitat values of the zone. The Preferred Project Report is not clear as to whether the road is to be used for emergency purposes only or as a public walkway and cycleway. Continuous public use has the potential to cause adverse impacts to this area in the event that the public stray from the path and enter ecologically sensitive land.

Rehabilitation

The Department is aware of previous offences and fines relating to illegal clearing and slashing of land zoned 7(a) Environmental Protection Zone under the Tweed LEP 2000 on the eastern portion of the site. The offences have taken place over the last ten years. The Department is aware that these offences have been addressed through various legal proceedings.

The Office of Environment and Heritage has raised concerns with the rehabilitation plans submitted by the Proponent as no mechanisms are included to ensure the viability of these areas in the future aside from a commitment to maintain them for five years after construction. The manner in which lost habitat features are to be offset and the feasibility of long term maintenance is also absent in the preferred project report. The Proponent subsequently responded to these concerns in the statement of commitments but without providing any additional information. The Department is therefore not satisfied that adequate attention has been given to vegetation rehabilitation of the site.

Construction

53 000m³ of fill is required for the site. The sediment and erosion control plan relies on bunded walls and a sediment pond to intercept sediment runoff. Given the frequent nature and intensity of rainfall events, the proposed 1 in 3 month storm design capacity is inadequate to prevent potentially harmful discharges as occurred at the Seabreeze Estates in nearby Pottsville in 2008 where similar stormwater measures were utilised. Based on the erosion control measures provided by the Proponent, the submission from the Office of Water considered the current proposal would adversely impact the water quality of the adjacent wetland. The Department therefore considers that this amount of fill in such close proximity to the estuary has a high risk of causing adverse water quality impacts.

Groundwater

The Department's independent technical review found the groundwater assessment contained in the Environmental Assessment to be inadequate. The assessment of groundwater contained in the Preferred Project Report provides only a snapshot of the area's hydrogeology. The assessment acknowledges further detailed monitoring is required as it provided only a preliminary investigation. Furthermore the submission from the Office of Water considered the current proposal would not ensure that groundwater quality at the site would be maintained. The Department considers the groundwater assessment should be comprehensive enough to inform the design layout of the subdivision given the proximity of groundwater dependant vegetation located adjacent to the site and the proposed saltmarsh regeneration.

Conclusion

The Department considers that the development is inconsistent with the aims and objectives of *State Environmental Planning Policy No 14 – Coastal Wetlands* and *State Environmental Planning Policy 71 - Coastal Protection* and is contrary to the objects of the EP&A Act. The Proponent has failed to demonstrate that adverse impacts would be avoided throughout the life of the project. The Department's assessment has found that the proposal is not consistent with the principles of Ecologically Sustainable Development. There is significant residual uncertainty about the future impacts of the proposal on the significant ecological values present in the area. Furthermore, there has been insufficient targeted evaluation by the Proponent on the cumulative impacts of increased stormwater flow and ongoing pressures of urban development adjacent to the estuary. This has led to significant doubt and uncertainty about the possible impacts of the proposal on the estuary's biological diversity. The scale of the development and its proximity to these areas of ecological value heighten this uncertainty.

Accordingly in its consideration of the precautionary principle and the principle of conservation of biological diversity and ecological integrity, the Department concludes that there are unacceptable threats of serious environmental damage should the proposal proceed and that there is significant uncertainty as to whether these threats can be minimised or managed to acceptable levels.

5.3. Desired Future Character

The Proponent assessed the development against the desired future character discussed in the *Hastings Point locality based development code* (DCP 23). The Preferred Project Report concludes that the development would be in character with the surrounding area and add to the variety of urban development at Hastings Point. The size of individual lots accords with the terms of DCP 23.

To the contrary, the Council submits that incorporating mostly smaller 450m² lots, the subdivision density/pattern is inconsistent with the existing allotments found along Creek Street. These allotments are approximately 735m² and, in the Council's opinion, are not consistent with the outcomes found in *Hastings Point locality based development code* (DCP 23).

The contribution of a new development to the character of a sensitive coastal location should also carefully account for the local natural, as well as the built environment. In this case, the character contributing merits of the proposal within the context of the wetland area, including the buffer areas is incompatible with both the adjoining natural and built environment.

Figure 12: Location of emergency access road at the north eastern end of the site

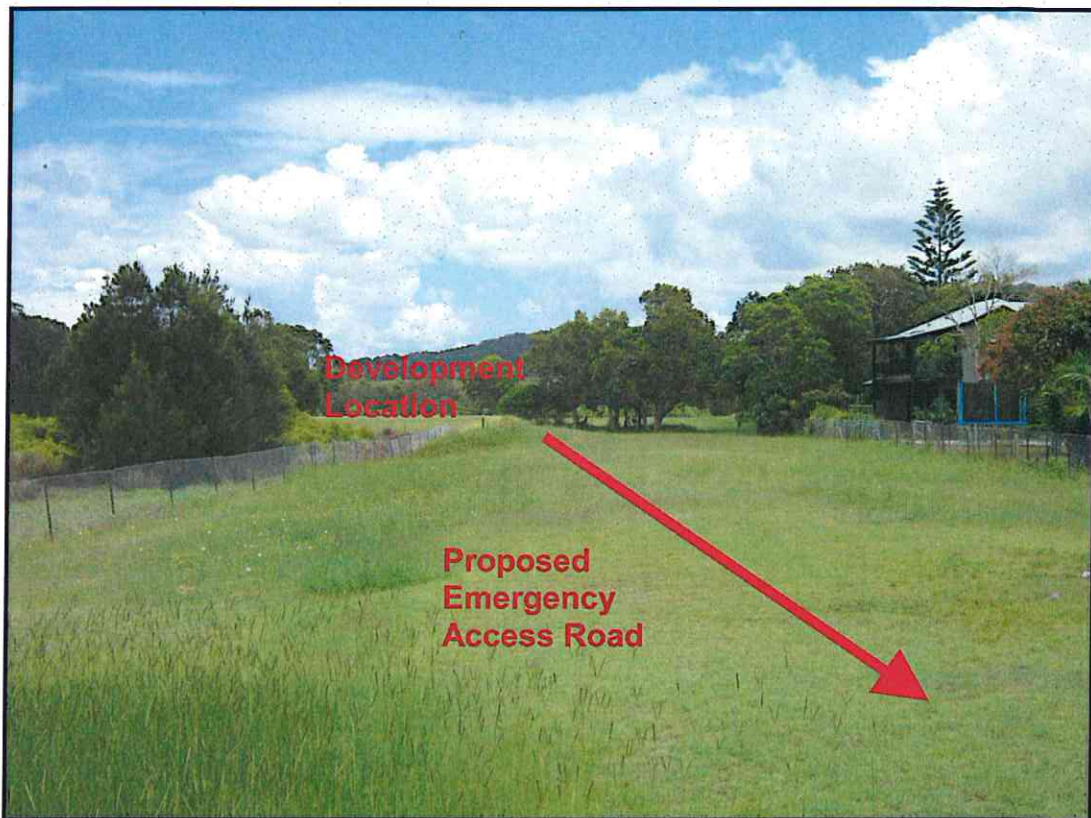
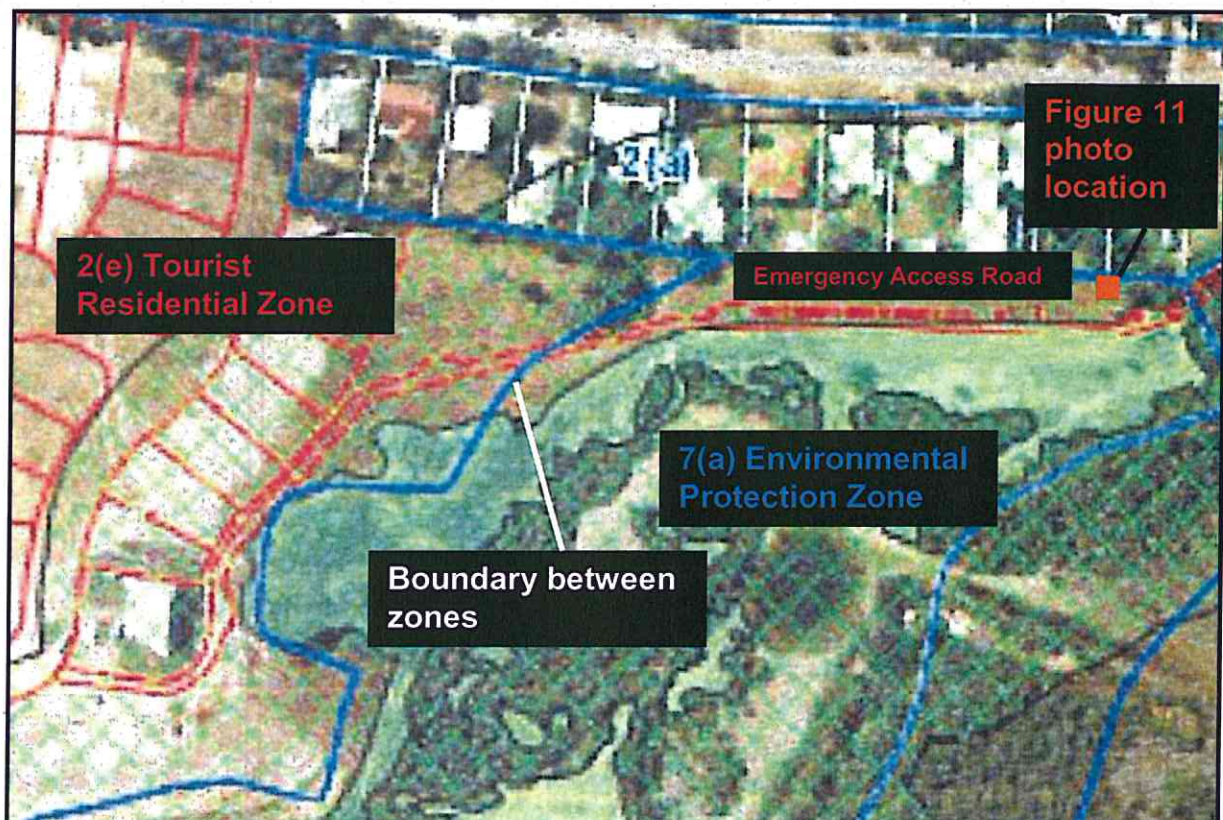


Figure 13: Area within the 7(a) zone proposed for the construction of the flood emergency access road



6. RECOMMENDATION

The Department has undertaken a comprehensive merit assessment of the project taking into consideration the Proponent's Environmental Assessment, Preferred Project Report, issues raised in public and agency submissions and the findings of the Department's independent stormwater expert. The Department has reviewed all relevant documents in accordance with the objects of the EP&A Act and considered the principles of Ecologically Sustainable Development.

The Department is not satisfied that the application is consistent with the objects of the EP&A Act namely object ii) *the promotion and co-ordination of the orderly and economic use and development of land;* (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*.

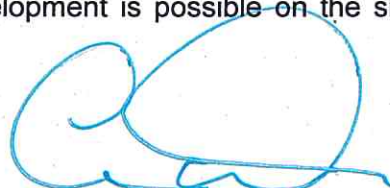
The Department recommends the concept plan be **refused** for the following reasons:

1. The scale and location of the development, together with the proposed flood mitigation measures would result in an unacceptable risk to life, health and property within this flood prone community;
2. The development is inconsistent with the aims and objectives of *State Environmental Planning Policy No 14 – Coastal Wetlands* and *State Environmental Planning Policy 71 - Coastal Protection* and is contrary to the objects of the EP&A Act including the principles of Ecologically Sustainable Development particularly given that there is significant uncertainty as to whether ecological impacts can be avoided or minimised to acceptable levels;
3. The development is incompatible with both the adjoining natural and built environment; and
4. The proposal is not in the public interest.

Refusal of the concept plan does not preclude a development application being lodged with the Council. It is noted that Council's DCP may allow the development of large allotments of 5000m² each, without the need for an emergency access road. Any future development should more adequately cater for the constraints of the site, including flood risk and ecology. Alternative housing design to negate the need for extensive filling may also be possible. This suggestion does not imply that any future development is possible on the site. Any future proposal would require detailed assessment.

 23/1/2012

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