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preferred project report

mp 05_0083
pacific highway
sandy beach north

preferred project report

mp 05_0083
pacific highway
sandy beach north

prepared for
Sandy Shores Developments

prepared by

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table of contents

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Stuart Harding - Director – 26 August 2010

appendix

Appendix A – Letter from Department of Planning, 25 May 2009

Appendix B – Flooding Analysis by Cardno Lawson Treloar, July 2010

Appendix C – Ecological Assessment by Whelan Insites, August 2010

Appendix D – Letter by Better Transport Futures, 2 October 2009

Appendix E – Letter by Mary Dallas Consulting Archaeologists, 21 July 2009

Appendix F – Vegetation mapping by Conacher Travers

Appendix G – Review of Coastal Erosion Hazard Line by Cardno (formally Cardno Lawson Treloar), August 2010

Appendix H – Summary of Public Submissions

1. introduction

The Environmental Assessment for the "Major Project" at Lot 22, DP1070182 and Lot 497, DP227298, Pacific Highway, Sandy Beach North (the Site), was submitted to the Department of Planning (DoP) in March 2009. After undertaking an initial assessment, the DoP has provided the applicant an opportunity to respond to a series of issues, including concerns raised by the community. This report formally responds to the Departments "*request for further information*" (RFI) (**Appendix A**), dated 25 May 2009. In so doing, the report demonstrates that the concerns of the relevant stakeholders, that made submissions, are addressed and that the proposal warrants support.

1.1. The Proposal

The environmental assessment is for a concept plan for a 280 lot subdivision located on the site described as Lot 22, DP1070182 and Lot 497, DP227298 located at Sandy Beach on the Clarence River, on the North Coast of NSW. The proposal covers and area of approximately 49.5ha. The proposal seeks approval for the following;

- an indicative layout of four (4) residential development precincts;
- associated traffic routes including roads;
- pedestrian and cycle access ways;
- indicative architectural concepts for six (6) building types;
- landscape concept;
- noise attenuation;
- recreational open space;
- provisional ecological buffers and environmental protection areas;
- vegetation and habitat management concept;
- foreshore management concept;
- vegetation and habitat concept;
- bushfire management; and
- stormwater management concept.

1.2. Chronology

As a result of this being an application pursuant to Part 3A of the Environmental Planning and Assessment Act, 1979 (the Act), the proposal has been through a number of the departmental processes required for Major Projects. This includes, responding to the Director General's Requirements; undertaking a public exhibition process and responding to submissions.

The development assessment process has been ongoing over a number of years. The following chronology details the significant processes to date, including the role that Coffs Harbour City Council played in preparing planning material relating to the site.

Table 1 - Chronology of Planning Process

Date	Description
2004	Coffs Harbour City Council Revised Land Capability Assessment 2004, subject site identified as residential zoned land and part future urban.
25 November 2005	Preliminary assessment submitted to the DoP.
15 December 2005	Coffs Harbour City Council - adoption of the Hearne's Lake/ Sandy Beach Development Control Plan.
16 December 2005	Confirmation from the DoP that the proposal was a Part 3A development and an outline of what is required to be submitted with the application.
2006	Coffs Harbour City Council – Urban Investigation identifies that the land is both existing residential not yet developed. Other areas, outside the site, identified as constrained and unlikely to be developed.
September 2006	A report commissioned by the DoP for the Environmental Constraints Analysis, by Sainty and Associates Pty Ltd was released for the site.
20 October 2006	Director General Requirements from the DoP were received.
July 2007	Our Living City Settlement Strategy endorsed by Council, subject site identified as residential.
7 February 2008	Hearnes Lake DCP Amended to change to potential 7A land.
28 February 2008	Supplementary Director General Requirements were received from DoP.
March 2009	The Environmental Assessment was submitted to the DoP in response to the Director General's Requirements.
1 April 2009	The proposal was put on public exhibition for thirty days ending on **4 May 2009.**
15 May 2009	Letter sent referring public and government submissions regarding the proposal, from the DoP.
25 May 2009	Letter sent, forwarding a late submission received by DOP on the 19 May 2009 and other issues raised by the public and agencies.
1 June 2010	Letter received from the DoP regarding a response to the submissions received as a result of the public exhibition period. A deadline of the end of June 2010 was given to respond.

As can be seen by the chronology, there has been significant consultation with the DoP regarding this proposal. Since May 2009, the proponent has undertaken various reports in response to the issues raised by the DoP in their letters of 15 May and 25 May 2005. It is also evident that the Coffs Harbour City Council had, for a long time, identified the site for residential development and that only recently has there been some attempt to apply some science behind "back zoning" the land. Notwithstanding, the position taken by the Council is at odds with the significant scientific work that suggests that the original residential development potential of the site was justified and that the more recent Major Project application is appropriate.

1.3. Investigative Reports

In response to the DoP RFI letter, the applicant commissioned additional expertise to respond, by way of peer review, to the material prepared to date and the DoP concerns. The culmination of this process has been the production of further technical reports; a flooding analysis by Cardno Lawson Treloar (Dr Treloar) (**Appendix B**), an ecological report by Whelan Insites (Dominic Fanning) (**Appendix C**) and a review of the coastal erosion hazard line by Cardno (formally Cardno Lawson Treloar) **(Appendix G)**. The two substantive scientific discussions relating to the site revolve around the issues of ecological investigations and the impacts, if any, of climate change. Table 2 - Background Studies provides a list of a number of the studies undertaken during this time.

These additional reports complete an extensive list of assessments undertaken on the site. It is also clear from reviewing the assessments, that the applicants approach of starting with "grass roots" assessment of the site, involving comprehensive investigations, consistently arrive at conclusions that support the proposed concept plan. These are further reinforced by the peer review reports validating the position taken by the expert design team arriving at the outcomes they did for the concept plan.

Table 2 - Background Studies

Title	Author	Commissioned by	Date
Environmental Constraint Analysis Lot 22 DP 1070183, Pacific Highway, Sandy Beach	Sainty and Associates	Department of Planning	September 2006
Hearnes Lake Estuary Processes Study	Coffs Harbour City Council	Coffs Harbour City Council	October 2006
Comments on Environmental Constraints Analysis Report – Response to Sainty	Conacher Travers	Applicant	November 2006
Entrance Berm Assessment	Worley Parsons	Applicant	January 2007
EEC Report	Ecograph	Sainty / DoP	March 2008

Title	Author	Commissioned by	Date
Climate Change Assessment	Worley Parsons	Applicant	August 2008
Ecological Survey and Assessment Report	Conacher Environmental Group	Applicant	September 2008
Draft Environmental Site Management Strategy	Conacher Environmental Group	Applicant	October 2008
Water Management Strategy	Worley Parsons	Applicant	October 2008
Correspondence- Coastal Hazard Line	Worley parsons	Applicant	December 2008
Flood Impact Assessment	Worley Parsons	Applicant	February 2009
WMAwater Critical Review	WMAwater	Department of Planning	May 2009
Hearnes Lake Estuary Management Study and Plan	Coffs Harbour City Council	Coffs Harbour City Council	August 2009
Response to Comments- Review of Entrance Berm/ Flood Effects and Flood Risk	Cardno Lawson Treloar	Applicant	July 2010
Ecological Constraints	D Fanning	Applicant	August 2010
Coastal Hazard Line Review	Cardno	Applicant	August 2010

2. response to submissions

2.1. Summary of issues raised

The proposal was placed on exhibition by the DoP as part of the Major Projects assessment. The result of the exhibition period was a series of responses from relevant stakeholders, including:

- Various state agencies
- Coffs Harbour Council
- The adjoining land owners and broader community.

After reviewing the submissions, the DoP detailed in their, request for information RFI, letter dated 25 May 2009 (copy in Appendix A) the broad areas of concern requiring further investigation or responses by the applicant. The areas of concern encapsulated the broad range of issues raised by the other stakeholders being nearby residents, the broader community, agencies and Council.

This report is structured to systematically address the concerns raised by subject heading and to respond to the more structured DoP's RFI letter. Table 3 summarises the concerns raised by the relevant stakeholders by subject matter and then cross references the responses to the associated page number. This avoids duplicating responses across the various submissions given that many of the submissions raised similar issues. In addition to Table 3 - Identification of Issues Matrix, Section 2.2 below provides a broad overview of the issues raised in both the submissions and the RFI letter.

Table 3 - Identification of Issues Matrix

The issue raised	The stakeholder/s who raised the issue	Page of report that the issue is addressed
Sea level rise/ Climate Change	Residents, DOP, Council	29-32
Ecological biodiversity	Residents, DOP, Council, NRCMA, DECC	23-28
Buffers	Residents, DOP, Council, RFS, DOPI	24-26
Cumulative impacts of the development	Residents, DOP, Council, DECC	Throughout report.
Aboriginal heritage	Residents, DOP	28.
Flooding	Residents, DOP, Council, RTA, DOL	33 onwards
Socioeconomic	Residents	19-20

The issue raised	The stakeholder/s who raised the issue	Page of report that the issue is addressed
Soil contamination	Residents	34
Noise	Residents, DOP,RTA	11-17
Lot number/ size	Residents, DOP, DECC, RFS	18-20
ICOLL issues	Residents, DOP, Council, DECC, DOPI	29-33, 17, 29
Planning framework/ Strategic and Land use	Residents, DOP, Council, DECC, DOPI	9-11, 17
Urban Design	DOP, Council	18-20
Traffic and Access	Residents, DOP, RTA, Council, DOL, RFS	21-23
Ownership issues and Drainage / Sewerage.	DOP, Council, DOL	17-18

(RTA) Roads and Traffic Authority; (DOP) Department of Planning; (NRCMA) Northern Rivers Catchment Authority; (Council) Coffs Harbour City Council; (DOL)- Department of Lands; (RFS)- NSW Rural Fire Service; (DOPI)- Department of Primary Industries

2.2. Nature of Concerns Raised

As part of the RFI, the Department referred to the submission that Council has made on the EA application. It would appear that the Department has relied heavily on the Council submission for the basis of the issues raised in the RFI. This is a major concern to the proponent given the approach that the Council has taken to the development of the site. The Council's submission to the Department, on the EA, contains a number of obvious anomalies in the planning process. The most important of these being the process and content in the Council adopted Sandy Shores / Hearnes Lake DCP and the preparation of environmental constraints in the DCP prior to the completion of the various scientific reports to justify those outcomes.

A further concern is the, seemingly unlawful, approach of soliciting land from the proponent ***at no cost to Council***. The Council's stated position of seeking land from developers, without an underlying planning agreement or Section 94 Plan, is contrary to the mechanisms provided for in the Act and contrary to the Department's advice on the process of Section 94. The Council, at Page 13 of their submission, states that *"all undevelopable land should be dedicated to Council at no cost."* This statement does not put the Council at arms length from the planning process and could be considered a self serving outcome to have large areas of the site declared "non-developable" and therefore to be dedicated to Council.

The matters raised in the RFI, which includes issues raised in the various submissions, have been summarised below.

2.2.1. Planning Framework

- The incorporation of land currently zoned 7A, under Coffs Harbour City Local Environmental Plan 2000 (CHCLEP), into the development for residential purposes, is not supported as it is not desirable for the long term management of the land.
- Noise barriers are not to be constructed on land zoned 7B as prescribed by the CHCLEP. Justification or discussion of the scenic impact is required.
- Clarity regarding the community title scheme is required for the public open space.
- Clarification needs to be provided regarding the site description and what lots are covered by this proposal.

2.2.2. Urban Design

- Building Typology Six (6) as identified in the Environmental Assessment (EA) is considered inappropriate and is not supported for the site.
- The inclusion of land to the east of Hearnes Lake is not supported due to a lack of buffers with the surrounding built form to protect the natural edges. The eastern edge of the development should be in line with the eastern edge of Ti-tree Road.

2.2.3. Traffic and Access

- The proposal cannot rely on the proposed northern access connection to the Pacific Highway.
- There is concern that the proposed access point onto Pine Crescent has not been adequately discussed. The condition of Pine Crescent also needs to be addressed.
- The traffic assessment may not be regarded as adequate.

2.2.4. Flora and Fauna

- The proponent should review issues related to the potential for EEC's on the site, including the consideration of any required offsets.
- The proponent should respond to the perceived need, or otherwise, for the provision of buffers.
- *"The proponent should consider the cumulative long term intrusive and edge effects of the development on sensitive habitats and what measures are necessary to maintain their function,"* (p.3).
- *"Further assessment is required to demonstrate how the inherent threats that the proximity of a large increase in population around the lake would be compatible with the conservation measures proposed the amenity for habitats for migratory and transitory waterbirds,"* (p.3).

2.2.5. Aboriginal Cultural Heritage

- Appendix 27 of the EA requires review and amending. *"Archaeological test evacuations and associated consultation for PAD1 referred to in the EA should be carried out as part of the current assessment,"* (p.3).

2.2.6. Climate Change and Flooding

- There is concern over the methodology of some of the assessments provided as part of the EA, appendices 19-20, they need to be reviewed.
- The work carried out by WMAwater needs to be reviewed and justified.
- *"A revised coastal hazard line should be applied utilising this higher figure (0.91) and the development footprint amended accordingly,"* (p. 4).
- *"Further assessment is required on the potential effects of increased coastal hazards as a result of climate change with particular attention to the need for appropriate setbacks to account for risk of catastrophic loss of beach and dunes due to increased frequency of intense and extreme weather events,"* (p. 4).

As a result of the issues identified by the DoP, an extensive review of the documentation of the proposal has taken place. The reviewed documents and associated consultation with various stakeholders, including the DoP, has resulted in this report.

2.3. Community Consultation

There was a significant response from the Community as a result of the public exhibition of the Environmental Assessment. The responses were mixed and made comment on many critical aspects of the proposal. A number of the concerns raised by nearby residents dealt with localised concerns, some of which have been addressed in the report and some of which have been addressed in the various appendices to the report.

3. response to issues

The applicant has given substantial and careful consideration to the issues raised in the DoP's letter in relation to the Environmental Assessment for the concept plan. As mentioned, the applicant has commissioned various consultants to undertake a review of DoP's letter, as well as a peer review of the material supplied as part of the application to date. In particular, additional professional assistance has been provided on the ecological issues and the science of Climate Change.

In particular, the applicant has sort opinions from Dominic Fanning of Whelan Insites and Dr Treloar of Cardno. These experts have undertaken a review of the material prepared by the applicant; assessed the issues raised by the DoP and reviewed the technical assessment undertaken by the DoP and others. This has provided the applicant with a high level of certainty regarding the environmental advice on the site and a sound platform with which to move forward with the development.

As a result of these important further assessments, the applicant has prepared the following satisfactory responses to the DoP's and the other stakeholder's issues.

3.1. Planning Framework

3.1.1. Development on land Zoned 7A

The proposed development site is the subject of four different zones pursuant to the Coffs Harbour City Local Environmental Plan 2000 (CHCLEP). These include:

- 2A Residential – Low density
- 2E Tourist
- 7A Environmental Protection- Habitat and Catchment
- 7B Environmental Protection- Scenic Buffer

The objectives of zone 7A, as stated in the CHCLEP, are as follows:

- *to protect habitat values and water quality and enable development which does not adversely impact upon these.*
- *to enable development that is within the environmental capacity of the land and can be adequately serviced.*
- *to enable protection of archaeological sites of Aboriginal significance.*

The CHCLEP allows a variety of development within this zone. Permissible development includes, but is not limited to:

> *agriculture (which involves the clearing of bushland or the construction of buildings); aquaculture; attached dual occupancies; bed and breakfast*

establishments; dams; demolition; dwelling-houses; eco-tourism facilities; environmental facilities; forestry; recreation areas; roads; utility installations.

The land zoned 7A on the site is predominantly proposed as open space and will provide the desired setbacks to the edges of Hearnes Lake. In many instances, the proposed areas of open space exceed the 7A land as identified in Council's zoning plan.

At the eastern edge of Hearnes Lake, the concept plan provides for some deep residential blocks that extend into the 7A zone. There is also a small section of link road providing access to the development along the eastern side of the lake. The dwellings, and the access road, are permissible uses with the 7A zone and subdivision is permissible pursuant to Clause 18 of the CHCLEP. Whilst there are small areas where proposed allotments intrude into the 7A zoned land, the allotments are of such significant size that they can accommodate a dwelling in the 2A land, quite separate from the 7A portions.

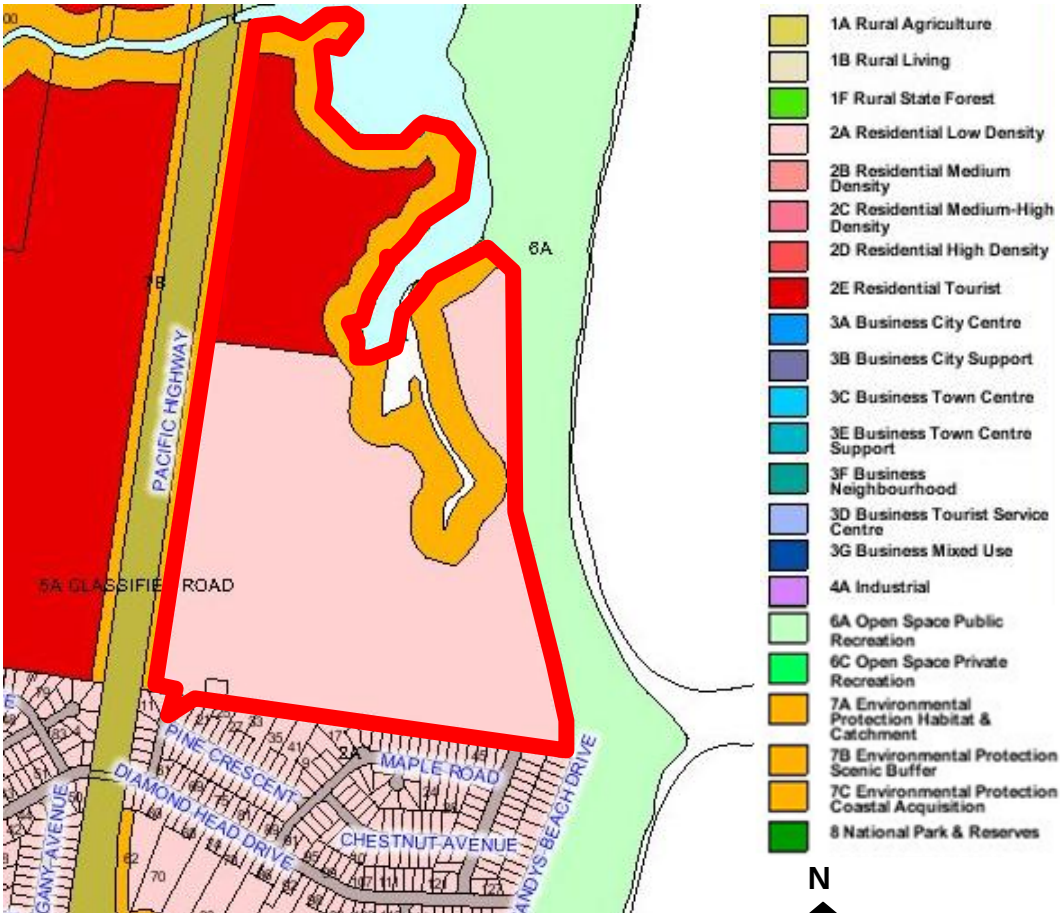

Figure 1 - Excerpt from the Coffs Harbour City Local Environmental Plan - Zoning Map

The concept plan also allows for significant areas of proposed open space that are outside the 7A zone and which are currently zoned 2A. This is a result of a considered and technical response to the design of the site, that is, a layout and proposed development footprint that responds to the features of the land despite the area being zoned for urban purposes.

The areas of proposed open space and the buffer areas are significantly greater than contemplated by the 7A zone in the CHCLEP. This outcome would not otherwise be possible if the site were not being developed for residential uses in accordance with the 2A zone. If the land were being developed in accordance with a 7A zoning, there would be little incentive to make available public access to the site. It also demonstrates the applicant's approach to ensure that the preservation of appropriate land is performance based.

The lots located in the small area zoned 7A are designed to have minimal environmental impact as they are larger lots to retain established vegetation, as stated in Appendix 2 of the EA. This large lot solution, combined with greater setbacks to other areas that are within the 2A zone, ensures that development achieves a greater outcome of ecological preservation than is contemplated by the CHCLEP. The areas, such as the northern tip of the eastern area and the large area of 2A zoned land through the middle of the site, that are to be excluded from development as part of the buffer to Hearnes Lake, guarantee the appropriate "buffer" to the lake. This outcome is also consistent with the objective of Clause 18 of the CHCLEP as it relates to subdivision of land within the 7A zone.

A review of the overall concept plan, against the land zoned for residential development, reveals a modest proposal that has met the objectives to ensure impacts on the environment are minimised. The proposed protection of the remaining land zoned 7A and significant areas of land zoned 2A, ensures that habitats and water quality are protected and that the zone objectives to provide a buffer between Hearnes Lake and the proposed development are met. On that basis, the DoP's concern that *"what is proposed does not meet the objectives of the 7A zone and is not desirable for the long term management of these lands,"* (p.2) is overcome.

3.1.2. Construction of the Noise Wall

The DoP letter raised concern regarding the absence of an impact assessment "*of the scenic qualities of the Pacific Highway*". Whilst the letter suggests that the Highway has scenic qualities, it is more likely the case that the views whilst travelling along the Highway are a more important consideration as the Highway itself is a visual intrusion into the natural setting surrounding the transport corridor. This introduction of the Ministerial approved upgrade to the Highway, adjacent to the site, will further reinforce the intrusive nature of the road works.

A visual analysis, off the stretch of Highway adjacent to the site, has been undertaken. This involved a series of photos taken from both the edge of the roadway and from the viewing position of a driver on the road pavement. This has given a clear understanding of the nature of the current views and the potential for impacts that the built form might have on these vistas.

The following photos illustrate the established vegetation along the Pacific Highway corridor. They are a sample of the photos taken for the visual analysis and include the most likely locations for the development to be viewable and the areas where existing vegetation is extensive. They verify that there are only two locations where the future development may be visible and even then, not to an extent that the potential visual impact might be significant.

The first location, as seen in **Photo 1** (see following pages), is where the site adjoins the existing residential area of Sandy Beach. At this point there have been various works, such as drainage and sewer works that have resulted in some clearing of the vegetative screen. The opening in the vegetation will be further supplemented with replacement planting. This outcome, combined with the proposed setbacks, would have ensured that the physical presence of the future development is neither inconsistent with current vistas nor visually intrusive.

Despite the visual impact assessment, concluding that the outcomes are satisfactory, the conclusions have been made redundant by the relevant Ministers decision to approve the RTA upgrade to the Highway. The approved works incorporate an acoustic wall on the boundary of the RTA land for several hundred metres adjacent to the site. This acoustic wall will prevent any views of the subject site from the upgraded highway.

Notwithstanding the RTA works, **Photo 2, Photo 3, Photo 4 and Photo 5** (see following pages) show the extent of vegetation and it's effectiveness in screening the development site. The proposed supplementary vegetation, which forms part of the landscape solution for the site, will further protect the "*visual corridor*" that is the Pacific Highway.

Photo 1 - Southern Boundary of Site from the Pacific Highway

Photo 2 - Approach to site from South on Pacific Highway, through cutting

Photo 3 - View of site from Pacific Highway looking South

Photo 4 - Site looking North East from the Pacific Highway

Photo 5 - Northern corner of site looking South West towards Pacific Highway

Photo 6 - Northern corner of site looking north towards bridge over Double Crossing Creek

The concept plans also allows for a large area at the north western corner of the site that acts as a buffer to the new housing. There is a distance of some 100 metres from the location shown in **Photo 6** to the first allotments of the development. This area is to be landscaped and rehabilitated from its current use for agriculture, to provide an important visual buffer to the development. This will provide screening of the development from the Highway but also providing high levels of amenity for future residents.

This is further supported by the proposed allotments in the north western corner being substantial in size, that is, in excess of 2000m² in area. The building footprint for dwellings on these allotments is small in comparison. This allows for significant landscaping and rehabilitation of areas of bush on each allotment creating a bush setting and protecting the environmental qualities of the site.

The proposal currently suggests minimal development in the 7B zoned land, with only the noise wall and road being proposed at four points, which is permissible with consent under the CHCLEP. These points are in areas of dense vegetation in the road reserve so are likely to have a minimal impact on the visual amenity of the Pacific Highway. The cross section below details the proposed works.

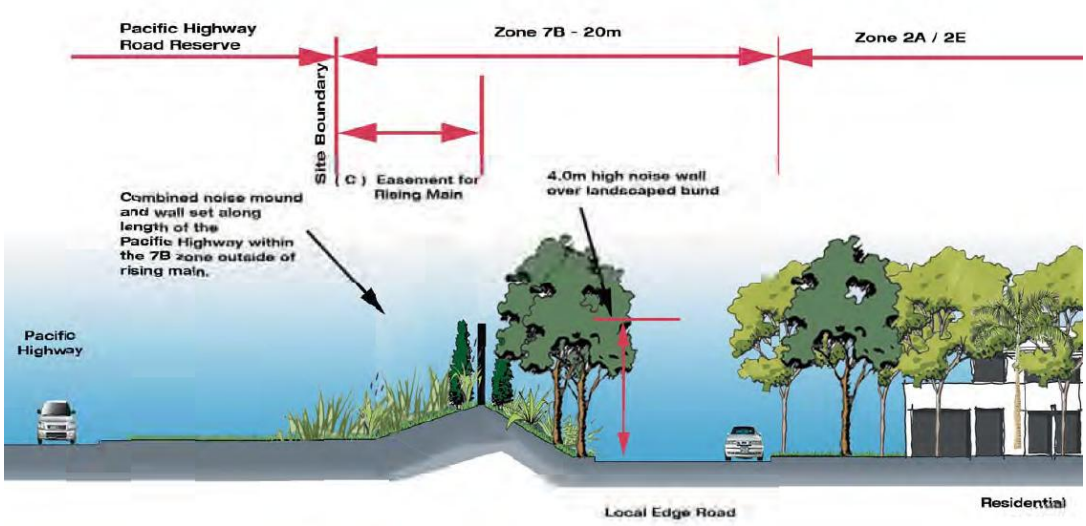

Figure 2 Proposed combined mound and noise wall to Pacific Highway, p. 25 Appendix 2 of the EA

Whilst the proposed noise barrier could be located in various positions, the construction of the barrier within the 7B zone is the most appropriate. The area within this buffer, some 20 metres in width, will be extensively landscaped and will include the provision of mounding to provide a natural setting to supplement the views from the Highway. This proposed mounding allows the height of the noise barrier to be significantly reduced, further improving the incorporation of the barrier into the natural setting.

The proponent's sensitive solutions are in contrast to the solutions that the RTA will have to provide when the amplification of the Highway takes place. In this scenario, the RTA will provide a much more significant visual barrier, within the Highway reserve, with far greater visual impacts. The provision of the barrier, incorporated within the proposed landscape works in the 7B buffer, provides the best environmental outcome.

Whilst this solution is acceptable, the proponent will be willing to discuss adjusted locations to the wall, either at the western or eastern edges of the 7B land, or a combination of both. They are also willing to discuss the relocation of the minor internal roads outside the 7B zone if required.

3.1.3. Community Title Scheme

The proposal was always to include the entire land subject of the development in a Community Title Scheme. The reference in the EA is a reference to land that is "open space" as distinct from residential development or land held in individual ownership. The "open space areas" of this site will be managed pursuant to the Community Title Scheme as elaborated in various parts of the EA.

If the land was considered by Council to be of such significance that the broader community should own it, the proponent would be willing to discuss a voluntary planning agreement that allows for dedication of land to be offset against any other Section 94 requirements for the site. Alternatively, consideration will be given to the land acquisition process if the Council and or the Department remain of the view that the land is of such importance that the community should purchase it.

It is clear that the Council preferred approach of seeking a "gift" of the land that might be accessible to the public, is outside the planning process. The concept plan nevertheless provides for large areas of open space to act as a "buffer" to Hearnes Lake and to provide passive and active recreation for the surrounding community. This outcome can only be assured with the economic benefits that come from developing the land. In contrast, a 7A zoning over the site provides no legal mechanism or economic incentive for the land to be made available to the public.

The creation of a Community Title Scheme is a significant step in ensuring a larger group of the community fund and implement the management required around the Lake foreshore and nearby areas. This outcome can only be achieved with the reasonable development of the site in accordance with the current 2A zoning.

3.1.4. Lot description of land and the Mean High Water Mark

The DoP identified the disparity in the description of the site, where a difference occurs the proposed subdivision will occur on the site:

- Lot 22, DP1070182
- Lot 497, DP227298

The application was accompanied by a survey plan that annotated the original Mean High Water Mark (MHWM). This is the definitive location of the boundary for the site, as determined by the original MHWM and as shown on title. This is the location of the site as determined in the title and there is no legal requirement to further adjustment. The original location of the MHWM does not require readjustment when the "edge" of the land parcel, as shown on title, forms an edge to a lake or estuary. On that basis, what is shown on the application is correct.

The zone boundaries are not fixed relative to the MHWM, they are fixed lines as gazetted in the CHCLEP, albeit based on the original MHWM. These lines were supplied to the surveyor by electronic data transfer and therefore represent an accurate depiction of the location of zone boundaries.

The application proposes no work outside the extent of the boundary. This is therefore a matter that can easily be resolved, as is the practice with most consent authorities and the Land and Environment Court, by imposing a condition on any approval that all works are undertaken within the subject site.

3.2. Urban Design

3.2.1. Building Typology 6

The normal planning process is to prepare Development Control Plans that provide the detail required for the development of land in accordance with the statutory controls found in the Local Environmental Plan, in this matter, the CHCLEP. The Coffs Harbour Council has unfortunately prepared a DCP for Hearnes Lake which is inconsistent with the CHCLEP and therefore the validity of the DCP is questionable and at very least should be considered with little weight. In particular, the CHCLEP zones the land (or a majority of it) for Residential purposes being either 2A or 2E zoned lands. In contrast, and contrary to Clause 74C (5)(b) of the Act, the DCP seeks to constrain the land contrary to the CHCLEP by annotating a proposed 7A land use over almost the entire site.

A significant consequence of this unlawful approach is that the development controls that would normally be provided within the DCP, and that reflect the current zoning of the land, are inconsistent with each other and provide no guidance on the built forms permissible on the site. It is therefore inappropriate to look to the Hearnes Lake DCP for guidance in terms of assessing the EA application, a fact already alluded to in the initial application.

In addition, the Part 3A legislation allows for the DCP to be "set aside" as a planning control in so much that Part 4 of the Act does not apply to the project. In any event, to the extent that the DCP is inconsistent with the CHCLEP, the provisions in the Hearnes Lake DCP, relating to the whole of the site being 7A, also do not apply.

It is the scientific and merit based approach that the applicant has taken to the development of the subject site. The applicant has invested heavily in the development of an "urban concept" for the site that incorporates best practice planning outcomes. The urban concept takes into account the natural setting of the site; the ecological issues facing development and the need to provide community outcomes that delivers a mix in housing types and is empathetic to the coastal location.

The result is a concept plan that includes a small amount of three level, medium density housing. This is in keeping with the overarching objectives of the Act, as well as the CHCLEP, to provide a variety of housing stock in new communities. The housing in question, "Type 6", provides a three level solution but also provides equitable access in the form of lifts ensuring that the dwellings can accommodate all members of the community.

The test for the provision of a small amount of medium density housing is not the density of the development, rather the overall form of the building design and the ability of this outcome to fit within the streetscape of the Sandy Shores Development. The urban form and concept plan prepared for the site demonstrates that this is possible.

This is supported by the *Coastal Design Guidelines for NSW* which provide some form of direction as to the appropriateness of this form of development. Section 2.5 details *Appropriate Buildings for a Coastal Context, and* suggests desirable buildings would maintain *"consistent streetscape, bulk, scale, height, materials... The buildings footprint relates to the subdivision pattern, …..Vegetation and deep soil zones are maintained between buildings...The impact of new development on setting of the settlement is minimised*," (p. 58). These guidelines have been considered in the design of the "Type 6" buildings and the outcomes are delivered with the concept plan provided.

As noted in the *Urban Form Concept Report,* the area covered by the proposed Building "Type 6" is both minimal and well designed to ensure that the impact on the environment and surrounding community is also minimised. The *Urban Form Concept Report* illustrates that, although the density may be slightly higher than surrounding dwellings, the lot density will be consistent with the majority of the site and the lot orientation will ensure that the impact of the slightly higher density will be minimised by appearing consistent with other areas of the site (p. 16).

An important aspect of the design is the building massing; the Urban Form Concept Report has considered the design and ensures that *"The control of architecture will ensure buildings will not exceed a height of 8.5m above natural line and there will be sufficient spaces between building to provide view corridors and reduce visual impacts on the visual quality of the area,"* (p.8). These measures will minimise the impact whilst ensuring that the development accommodates a diverse community.

The proposal for some medium density dwellings reflects the need for different dwellings catering for the aging population whilst not compromising built form requirements. The document "Housing for Seniors or People with a Disability" (2004), released as a guide for the SEPP (Seniors Living) 2004, identifies the increasing need to house Seniors. The documents states that "*By 2011, 31% of the rest of NSW will be aged 55 and over," (p.4).* The document then goes on to identify what Senior's need in their housing, it states that *"Seniors were attracted to multi-unit housing because of:*

- *Less maintenance*
- *Greater mobility*
- *Greater personal and property security*
- *Adequate sized rooms*
- *Lower cost*
- *Important design features included spacious rooms, a compact dwelling (including outdoor space) and ease of cleaning," (p.4).*

The proposed mix of building types ensures that economic, social and environmental sustainability is enhanced. By ensuring that the impact on the sensitive natural environment is minimised and open space is maximised, the community will be able to enjoy the unique natural features of this site. The mix of densities also ensures that the development fosters a sense of community at all levels, with families mixing with more senior members of the community. The Housing "Type 6" will maintain the amenity of the area for the future residents while providing accessibility and facilities required for aged living, with design features such as a lift, single level dwellings, easy access to the areas parks and views over Hearnes Lake.

3.2.2. Development to the East of Hearnes Lake

The area to the east of Hearnes Lake is zoned Residential 2A which permits conventional low density housing. The 2A area is bounded to the west and north by a 100 metre (approx.) wide strip 7A buffer zone. These two zonings reflect Council's long term investigations and planning outcomes for the site. The land has been the subject of Council's urban growth strategy for many years. This includes identification of the land as residentially zoned land in the 2005 urban assessment report; identification of the land in the CHC urban investigation report as residentially suitable and further identification in the North Coast Regional Plan of 2008.

As discussed in Section 3.1.1 - Development on land Zoned 7A, the 7A buffer allows a variety of development types that result in urban outcomes. As a result, the zoning does not seek to preclude any development in contrast, it recognises that dwellings and dual occupancies are expected development outcomes. It also acknowledges that some blocks within the 2A zone will extend, by title, into the 7A buffer zone. It is also indicative as to the nature of urban development that is considered appropriate in the two zones, that is, both zones envisage an extent of urban development and therefore urban outcomes.

As stated in the description of Building Type 1 in the Urban Form Concept Report (p. 11), this design has taken into account the sensitive nature of the pockets of land which are being developed. The design incorporates environmental sensitivity, larger lots and low impact designs. These measures ensure that there is a minimal impact of the development in these areas.

Currently the land is being used for agricultural operations, a use that has been carried out on the land for several decades. Prior to that, parts of the site, including the north eastern section, were the subject of sand mining and the resultant heavy disturbance caused significant change to the land and the vegetation. It is envisaged that the design of the dwelling, coupled with native landscaping that is proposed across the site, will improve the environmental outcomes for the site by allowing some measured development but also some areas for effective conservation through the open space process.

The DoP's list of key issues suggests that development should be constrained by the eastern edge of Ti-Tree Road, to the South of the site. Not only would this be inconsistent with the existing streetscape of Sandy Beach, where there is housing forward of this line currently, it is in conflict with the consultants reports, commissioned by DoP, that states that this area is suitable for development. The concept plan provides for large lot outcomes that will protect the dunes from development though the control of building footprints if required.

Notwithstanding these outcomes, the proponent is willing to consider a buffer in accordance with the recommendations in Section 3.4 of this report relating to ecological outcomes.

3.3. Traffic and Access

3.3.1. The Proposed Pacific Highway Access

The DoP has stated that the proposal cannot rely on the *"proposed northern access connection to the pacific highway,"* (p. 2). The Traffic Impact Assessment Report (Appendix 15 of the EA) states:

"The timing for the Pacific Highway has not yet been determined by the RTA. As a worst case scenario, it has been assumed that the full development would be completed before the third access point to the north is provided. Assuming the distribution detailed in ***Section 3.4****, this would give a peak directional flow of 102 vehicles per hour on each of the intersections.*

This would increase this peak directional flow in the peak on Ti-Tree Road and Pine Crescent from the current peak directional flows in the order of 30 vehicles per hour to some 132 vehicles per hour. In the PM peak, the peak directional traffic flow would increase in a similar manner.

This would mean that the level of service for the traffic movements along both Pine Crescent and Ti-Tree Road would remain at a level of service of A," (p. 15).

The application does not rely on the connection to the north for the development to proceed. There are two connections to the south of the site that provide the required environmental capacity and reasonable alternative to exit the site. As a result, there is no issue with progressing the development with or without the additional access route onto the Pacific Highway. Whilst not relying on this access, it has some benefits in terms of splitting traffic flows and providing alternate access to the precinct. Although not dependent on the access, the RTA have granted approval to a "left in and left out" connection to the Highway along the western boundary of the site. This has been confirmed in the RTA response dated 11 May 2009.

On that basis, it is appropriate to identify the access point in the concept plan application in order for the opportunity to be implemented if the circumstance allow. The proposed upgrades to the Highway (also annotated in the Hearne's Lake DCP) allows for a roundabout and interchange immediately to the north of the site, an access point that can be utilised by this development if appropriate and efficient.

3.3.2. Pine Crescent Access

The concept plan carefully considered a number of alternate access points to the site. This includes two southern access points into the existing residential area. Notwithstanding, the DoP seeks clarification regarding the access route to the development via Pine Crescent, in particular, the width and design of the access through a former residential lot and the condition of Pine Crescent road surface.

A response to these issues was provided in the letter dated 2 October 2009 from the Better Transport Futures (**Appendix D**). The letter states that*, "Width of existing house block will allow for construction of road. Road will be designed and constructed in accordance with Council requirements".* The advice confirms that the house block width of 15 metres will allow a local street according to Council's requirements which will be sufficient for a two-way road.

The proponent owns the adjoining house and can implement a wider entry to the estate if required. There is no impediment to including this land in the subject application although it would not be required for the actual road way. It would be of support to include the adjoining allotment as a landscaped entrance to the precinct but whilst at the same time providing a more generous vehicular entrance.

The Better Transport Futures letter also responds to the query regarding the condition of Pine Crescent, it states, the "*condition of Pine Crescent can be reviewed with Council. Any appropriate upgrade can be implemented in conjunction with the development of the site in consultation with Council and local residents*". The proponent will negotiate the upgrade works as part of the overall conditions of approval and as part of any other offsets for Section 94 related issues.

3.4. Flora and Fauna

Any response to flora and fauna issues must first address the accuracy of Council's vegetation maps established in the 2005 DCP. The subsequent work on the site has confirmed beyond doubt that the vegetation map prepared by Council is inaccurate in identifying and locating vegetation types on the site. Whelan Insites have further confirmed that the vegetation map prepared by Council cannot be relied on as the basis of planning decisions.

3.4.1. The review of EEC's and Issues Arising

Prior to considering such issues as offsets, the more fundamental question of the review of Endangered Ecological Communities requires considerations. As mentioned, the proponent obtained further independent advice in response to the DoP concerns. This advice revisited the flora and fauna on the site and then reviewed the matters raised by the DoP and others. The result is the following responses to the issues raised in the RFI letter.

The DoP seeks to rely on the report of Ecograph as an independent report. The Ecograph report (March 2008), which was commissioned by Sainty and DoP, concludes:

"On the basis of the information available I conclude that the vegetation labelled"B" in Figure 1 is an Endangered Ecological Community under the Threatened Species Conservation Act 1995"

A fundamental concern with this report is the relationship of the findings with the material prepared by Sainty in respect to the extent of "floodplain" on the site. The reports prepared by Whelan Insites question the approach of those reports in determining the floodplain and therefore the extent of EEC's on the site. Whelan Insites have utilised existing information but have also undertaken significant additional inspections and supplementary site surveys. Whelan Insites **confirms** that vegetation labelled "B", the western precinct, does not qualify as an EEC under

the Threatened Species Conservation Act 2005 (see **Appendix F** for map of Vegetation Zones). The Whelan Insites report **concludes**:

On the basis of those considerations, the vegetation mapped by Conacher Travers (2007) as Vegetation Type B (Figure 3) DOES NOT constitute an example of either of the Swamp Forest EECs (SSFCF or SCFF) identified on the subject site by Sainty & Associates (2006) or by Ecograph (2008), because:

- *some parts at least of that area of vegetation does NOT satisfy the floristic criteria for either EEC; and*
- *NONE of the vegetation is located "on a coastal floodplain" or is relevantly "associated with coastal floodplains".*

Consequent on all of the above, the Swamp Forest EECs on the subject site at Sandy Beach are essentially in the locations identified by Conacher Travers (2007)(p.19).

On the basis of these findings, many of the issues raised by the Department are easily resolved as the development concept plan already reflects the outcomes required to be sensitive to the EEC's on the site.

The Whelan Insites' report examines the outcomes of the report prepared for the DoP in terms of the presence and location of EEC's on the site. The findings are conclusive and supportive of earlier work done by Conacher Travers. To this extent, it is not envisaged that there will need to be "offsets" for the loss of EEC on the site as there will be little or no loss.

The Whelan Insites report deals extensively with the need, or otherwise, for the provision of buffers on the site. The report notes that there are several areas when buffers would be desirable although potentially not necessary. The nature of these buffers is addressed in the recommendations of the Whelan Insites report (p. 28).

3.4.2. The Provision of Buffers

The Whelan Insites team were also requested to consider the question of appropriate buffers to sensitive habitats and possible edge effects. This assessment is interrelated to the investigations as to what flora and fauna may be on the site and the significance of the findings. The Whelan Insites report notes that the Concept Plan has responded to the issues in the following ways:

Specific features of the Sandy Beach North development proposal that obviate the need for the excessive buffers proposed by Sainty include:

- *the setbacks from Hearnes Lake which are provided in the existing development design (at least 45m and in most areas >50m – Figure 3);*

- *the application of current „best practice" Water Sensitive Urban Design (WSUD) principles throughout the project, including the capture and re-use of stormwater on individual lots, the use of bio-retention swales to treat and manage stormwater, the use of detention basins to manage stormwater quality and flows, and the avoidance of piped discharge into Hearnes Lake;*
- *the management of the buffer and setback areas for passive recreation and other forms of non-invasive activities, thus facilitating their ongoing monitoring and heightening awareness of their management;*
- *the implementation of a Community Title Scheme for the project so that all residents take „ownership" of the retained vegetation and open space areas, and be encouraged to participate in conservation activities and in management and maintenance inter alia of the "buffers";*
- *the application of a comprehensive Vegetation Management Plan (VMP) for the "buffers" and open space areas on the site to ensure the protection of habitat (including for wading birds) and water quality within Hearnes Lake; and*
- *implementation of the substantial Draft Environmental Site Management Strategy prepared by Conacher Environmental Group, which was lodged with the EAR and which forms part of the Statement of Commitments for the project, (Whelan Insites, page 24).*

The report is also supportive of the measures already taken in the Sandy Shores Concept Plan, stating:

In this regard, the proposed Sandy Beach North Project has incorporated:

- *appropriate and satisfactory setbacks from and "buffers" to the correctly identified Swamp Forest EECs present on the subject site;*
- *appropriate and effective "environmental buffers" around Hearnes Lake (greater than the 20m "effective buffers" of Sainty);*
- *stormwater management measures (including water quality control and water volume discharge controls) to ensure that high water quality is maintained in and around the Hearnes Lake ecosystems;*
- *measures to control and manage human access to sensitive ecosystems and wetlands, including Hearnes Lake; and*
- *measures to ensure that there will be no decline in the water quality within Hearnes Lake, and no likelihood of eutrophication as a consequence of the proposed development on the subject site.*

By contrast, the arbitrary "buffers" 'required' by Sainty & Associates (2006) are incorrectly located, are excessive, are unnecessary and unsubstantiated. These 'constraints' on development of the site have been imposed by Sainty without regard to the details of the proposal or to the impact amelioration measures proposed.

The arbitrary "buffers" of Sainty on the site at Sandy Beach are inappropriate and unjustified, (Whelan Insites, page 25).

3.4.3. Habitats for migratory and transitory waterbird

The Whelan Insites report also deals directly with the issues raised by Sainty in respect to the "*migratory and transitory waterbirds*". The report provides a conclusive position that does not warrant any significant changes to the current concept plan.

Sainty claims that "Hearnes Lake is [only] occasionally frequented by migratory Shore birds".

Sainty further notes that:

- *"Most species of migratory shorebirds need a large area of open mudflats on which to feed"; and*
- *"a buffer zone that is clear of tall trees or structures that restrict a clear line of sight" is required fro such species (emphases added).*

Neither of these circumstances currently exist in most parts of the subject site adjoining Hearnes Lake:

- *the peripheral Saltmarsh and/or sedgelands around the Lake are predominantly densely vegetated, and do not provide significant foraging habitat (ie "open mudflats" or sandflats) for most of the potential migratory shorebirds; and*
- *there is a fringing band of paperbarks, Swamp Oak and/or wallum shrubland around much of the Saltmarsh and/or sedgelands around the Lake that would in fact "restrict a clear line of sight" for such species.*

There is NO basis, NO justification and NO requirement for a 100m setback from the Coastal Saltmarsh vegetation lining Hearnes Lake for "migratory shorebirds", (Whelan Insites, page 23).

3.4.4. The Eastern Precinct

The proponent has responded to the request for independent advice through the commissioning of this additional work. The advice is conclusive and supportive of the outcomes envisaged by the concept plan subject to some conditions instigating buffers. The reports recommendations in respect to the eastern precinct are as follows.

It is the recommendation of the author of this Report that:

- *a 10 metre wide Management Buffer be provided along the eastern boundary of the site (adjoining the Coffs Coast Regional Park) to provide a managed*

interface between development in the Eastern Precinct and the Regional Park;

- *the Management Buffer be actively maintained using native and/or non-invasive introduced grasses and scattered native shrubs to prevent invasion from the Coastal Park of the subject site by Bitou Bush, Coastal Wattle or other weed species;*
- *the Management Buffer also be actively maintained to provide a fire protection zone and an access for fire-fighting trucks; and*
- *additional detailed design of the stormwater treatment and infiltration systems be undertaken at the DA stage to ensure that no piped stormwater discharges into Hearnes Lake occur. Rather, stormwater should be treated to remove any sediment or contaminants and/or discharged by infiltration into the underlying sand substrate and/or by overland flow from bio-retention swales and/or detention basins in more intense rainfall events., (Whelan Insites, page 28)*

3.4.5. Flora and Fauna Recommendations

The Whelan Insites report, after considering the range of issues in the RFI letter, arrived at a number of conclusions. In arriving at these outcomes, various recommendations were made in respect to amendments or outcomes that should be implemented as change to the Concept Plan. They are:

7.1 Western Precinct

- *In the event that the Highway access to the Western Precinct is required, review the location of the northern access to the Pacific Highway to ensure no interference with the proposed fauna crossing between the DoP-approved Pacific Highway upgrade at Double Crossing Creek.*
- *Review the details of the stormwater treatment and management features at the DA stage to ensure that there is no piped discharge of stormwater, that all stormwater is treated (and/or re-used) and that stormwater is discharged either by infiltration or by broad overland flow in high rainfall events.*

7.2 Southern Precinct

- *Curve the east-west access between the Southern and the Western Precinct southwards to the approximate alignment of the existing road north of Sandy Beach, to reduce the clearing of SSFCF at this location.*
- *Review the details of the stormwater treatment and management features at the DA stage to ensure that there is no piped discharge of stormwater, that all stormwater is treated (and/or re-used) and that stormwater is discharged either by infiltration or by broad overland flow in high rainfall events.*

7.3 Eastern Precinct

- *Provide a 10 metre wide Management Buffer along the eastern boundary (adjoining the Coffs Coast Regional Park) to provide a managed interface between development in the Eastern Precinct and the Regional Park.*
- *Actively maintain the Management Buffer using native and/or non-invasive introduced grasses and scattered native shrubs to prevent invasion of the subject site by Bitou Bush, Coastal Wattle or other weed species.*
- *Actively maintain the Management Buffer to provide a fire protection zone and access track for fire-fighting trucks.*
- *Review the details of the stormwater treatment and infiltration systems at the DA stage so that no piped stormwater discharges into Hearnes Lake occur. Rather, stormwater should be treated to remove any sediment or contaminants and/or discharged by infiltration into the underlying sand substrate and/or by overland flow from bio-retention swales and/or detention basins in more intense rainfall events, (p. 30).*

3.5. Aboriginal Culture

3.5.1. Consultation for PAD1

The DoP has raised an inaccuracy with the proposal, in relation to the need to apply for a permit through the National Parks and Wildlife Act. This is not required and the associated archaeological test evacuations and consultation for PAD1 has been undertaken by Mary Dallas Consulting Archaeologists, (provided as **Appendix E**).

In response to DoP's concerns the consultants responded, *"The Department notes that the heritage assessment "incorrectly" refers to the need to apply for a s87 Permit for PAD 1 and advises that as the project is now a Part 3A project the investigation should be done as part of the EA. The Heritage Assessment was conducted prior to granting Part 3A status to the project. The level of Heritage assessment undertaken at that time and recommendations regarding the management of the Aboriginal heritage would be appropriate for a Part 3A project in all respects except for reference to DECO Permits. The Heritage Assessment remains current in terms of heritage values. The recommended investigations do not need to be finalised at this stage. Consent may be conditional on their completion prior to the commencement of any development works and final management commitments by their outcomes".*

The additional Archaeological report clarifies that, as the land has been subject to prolonged disturbance since colonisation, the likelihood of finding a significant Aboriginal artefact that has not been disturbed is very slim, hence it is reasonable that the current level of investigation is sufficient at this stage.

3.6. Climate Change and Flooding

3.6.1. The critical review of WMAwater including flood levels

The proponent has undertaken extensive research into the potential for climate change to impact on the development of the site. Notwithstanding, as a result of the DoP's concerns, the proponent has commissioned a further peer review by an acclaimed expert on this matter, Dr Treloar of Cardno Lawson Treloar.

Dr Treloar has extensive experience in this area of expertise having provided advice and guidance to the DoP and DECCW with respect to numerous estuarine projects and hence, it is considered that his work for the various agencies should overcome the "*serious methodology concerns*" raised in the DoP's letter. This peer review has assessed all work to date on the site and the question of climate change impacts. This includes the further work undertaken by WMAwater on behalf of the DoP.

The response from Dr Treloar, in a letter dated 12 July 2010 provided at **Appendix B**, verifies the approach taken by the applicant in determining the appropriate levels for development. Dr Treloar confirms the applicant's design approach and validates the levels used to determine the extent of development by confirming flood levels associated with the site. Dr Treloar acknowledges that there has been some elements of conservatism incorporated in the Worley Parsons Assessments that have not been accounted for in WMAwaters assessment.

This process also meets the DoP request to review the comments by WMAwater. Dr Treloar has serious concerns with respect to WMAwaters report together with Saintys report with respect to their approach and methodology in deriving flood level outcomes for the subject site.

The conclusions of this peer review are that the research and methodology undertaken by the proponent is sound and that the concerns of the DoP can be allayed based on Dr Treloar's advice.

A particular aspect of Dr Treloar's approach is that the current accepted methodology already factors in "*the need for the precautionary approach*". Dr Treloar highlights that the adhoc application of "buffer measures" is inappropriate and there is no scientific basis upon which to apply that level of caution. Like many existing standards for development, a "buffer" is incorporated within the standard to an extent that there is no need for additional buffer measures to be applied.

The following extract provides some explanation as to Dr Treloar's approach:

The hydraulic berm level for a 'blocked' entrance adopted by Patterson Britton and Partners was 1.6m AHD. This is a less frequent event than the realistic, recommended level of 1.5m (1.46) AHD and is closer to a 60-years ARI entrance berm hydraulic level.

Based on the extremal analysis of the available berm data, the hydraulic level is unlikely to exceed 1.8m AHD (the approximate 100-years ARI berm level, present sea level) in the present climate. A mean sea level rise would gradually build the 20-years ARI berm hydraulic level by an equal amount so that by 2100 it may be 1.46 + 0.86 ≈ 2.3m AHD. This allows for a sea level rise of 0.9m from 1990 levels (DECCW, 2009a), but also accounts for the observed rise in sea levels between 1990 and 2004 (the last photogrammetric date) of 3mm/year (DECCW, 2009b). The berm may also translate landward. This approach to the application of sea level rise is supported by DECCW (pers. comm. Phil Watson DECCW - Doug Treloar). ***Note that this berm level would only occur at 2100 and until then it would be lower.*** *A future hydraulic berm level at the 100-years ARI would be 1.8m + 0.86m ≈ 2.7m AHD.*

There is no basis for the Sainty & Associates (2006) opinion that the berm level '. . . could reasonably increase to a height of 3m (AHD?)...' and then to add 0.5m as an additional sea level rise effect '.... to accommodate predicted maximum sea levels...' His argument that storms and king tides could raise the berm level to 3m overlooks the fact that storms and king tides have been occurring for millennia, and that their effects are included already in observed berm-crest levels.

Worley Parsons Patterson Britton (2008) recommendation for the 2100 Hearns Lake flood level of 2.95m is realistic. Note that they only adopted a 10% rainfall increase for catchment runoff calculation (using RAFTS) and DECCW advise 20% increase. This change is unlikely to cause a significant increase in lagoon flood level, noting that Worley Parsons Patterson Britton (2008) do not include continuing erosion of the entrance berm. That process would lower the peak water level a little. At peak discharge the velocity through the entrance is about 3m/s. When this speed is greater than ¼ of the nearshore wave celerity (about 5.5m/s = √gd_), which is the case here, the onshore propagating waves will be blocked and break further offshore - reducing actual wave set-up. (page 3)

Mr Hurrell appears to criticize this report because the pilot channel and berm crest levels were not increased in line with SLR in the climate change scenarios. This report (CLT 2010) would advise that the 20-years ARI berm level that would be appropriate with the climate change 100-years ARI catchment flood is 2.3m AHD – see above, which is lower than the peak ocean level. In this situation the entrance would break-out rapidly because the flood level in the lake exceeds the ocean level. It is not appropriate to consider that, or likely for, the 100-years ARI flood to occur together with the 100-years ocean level; they being only weakly correlated processes - see also the email of 30 September 2005 from Mr Kevin Gibson of DIPNR to Mr Martin Rose. Mr Hurrel's view that the lake flood level could be significantly higher than 3m AHD is not supported – principally because the hydraulic level of the berm is not likely to exceed 2.7m AHD following SLR of 0.9m and flood levels are flat in the lake itself.

CLT have assessed that the 2100 hydraulic berm level is unlikely to exceed 2.7m AHD and hence that the berm would be overtopped and scour in such flood events. Water level data recorded in the lake by MHL show that as water level peaked in the lake at about 1.6m AHD, the entrance opened rapidly allowing the lake level to fall by about 0.6m - 28 January 2005, for example. Hence berm level would have been less than 1.6m AHD at that time (in order to allow overtopping and scour) and the rapid entrance opening process demonstrates that together with realistic berm levels the blocked entrance case that concerns Mr Hurrell is not a realistic scenario for this site. Other break-out instances are presented in Patterson Britton (2007) using the MHL data. In all flood cases, six or seven over two years, the water level dropped very rapidly indicating a breakout more effective than assumed by Patterson Britton. Hence their pilot channel approach is conservative. (page 4)

Dr Treloar goes on to say:

CLT understand that there is currently no entrance opening policy, that is, artificially, for Hearns Lake. BMT WBM (2009) advise that the lake entrance should not be opened artificially because this is not natural for the lake. The proposed development would be designed so that flood levels in the future (2100 sea level rise) system for the 100-years ARI flood would not affect properties for the future hydraulic entrance bar/berm level of 1.46/1.8 + 0.86m = 2.3m AHD or 2.7m AHD. This requirement would most likely be fulfilled by natural opening because the system opens now in much lower flood flows.

Dr Treloar then concludes:

Whilst there are some deficiencies in the Worley Parsons Patterson Britton assessment of flood levels in changed climate conditions, there are also conservative aspects to their work. These conservative aspects relate to the adoption of non-site-specific ocean levels and a non-eroding entrance bar of slightly conservative hydraulic level. Worley Parsons Patterson Britton results show little sensitivity to changes in the configuration of their 'pilot channel'. A blocked entrance flood case is unlikely to be important here and the relatively high sheltering of the entrance from Tasman Sea storms leads to entrance berm hydraulic levels that are lower than those observed at other locations. Wave set-up at this site will be lower also because of this sheltering and also because the full extent of wave set-up only develops on a sandy beach, not in an estuarine channel. At the peak of the flood flow waves will be blocked by the high speed (about 3m/s) of the flood flow.

In summary, without undertaking additional simulations, I concur with the Worley Parsons advice that a 100-years ARI flood level of 2.95m AHD at 2100 is realistic. (page 5)

This peer review provides conclusive advice that the issues of climate change and water levels are decisively dealt with and that the application can be supported in its current form.

3.6.2. Hearnes Lake Estuary Management Plan, 2008

The Hearnes Lake Estuary Management Plan has been prepared on the premise that the subject site is currently available for use by the community and that the land will come into public ownership. These observations are fundamentally flawed as there is no current mechanism other than the proponents proposal for such outcomes to be achieved. Otherwise, the land will have to be subject to an acquisition process which is not contemplated by the Management Plan.

The zoning of the land as 7A would ensure that the majority of the site remains in private ownership, contrary to the principles and objectives of the management plan. The 7A zoning seeks larger allotments with a range of residential uses but potentially a lower density. If the site is developed for larger allotments, there will be no purpose nor benefit in dedication to Council, or others, of foreshore land. This will effectively "lock" the site from achieving many of the outcomes being pursued by the management plan.

Notwithstanding, the technical reports provided with the EA verify that the assumptions that were used in the preparation of the management plan are not appropriate. A key example of this is how the plan contemplates, despite recognising that the land is in private ownership (page 13), that the land should become publicly accessible. Although the plan considers the acquisition of the land as a "high priority", there is no mechanism for this to happen. Sterilising the site for urban development will lead to the opposite outcome, that is, the site will remain in private ownership. It flows from these assumptions that the decision on the management of the flora and fauna issues, along with the climate change issues, cannot be implemented.

Notwithstanding a fundamental disagreement about the basis of the plan, the principles of this report that were written for Coffs Harbour Council state:

1. *Hearnes Lake shall contain healthy, diverse and viable ecosystems*

2. *The social amenity and natural setting of Hearnes Lake shall be preserved for the enjoyment by existing and future generations*

3. *Future development around Hearnes Lake and its catchment will comply with the principles of Ecologically Sustainable Development (ESD), and will not degrade the existing environmental and social values of the lake* (p. iii).

The proposed development concept plan achieves these principles. There is a greater chance of these principles being achieved with the orderly development of the land and the creation of a community title scheme that opens up the land for public use.

3.6.3. Concern over the water level rise

As requested by DoP in their identification of the key issues, a sea level rise of 0.9 was considered in an additional study for the site conducted by *Cardno Lawson Treloar (CLT).* The letter by Dr Treloar, dated 12 July and provided in **Appendix B**, details the study approach.

Based on the extremal analysis of the available berm data, the hydraulic level is unlikely to exceed 1.8m AHD (the approximate 100-years ARI berm level, present sea level) in the present climate. A mean sea level rise would gradually build the 20-years ARI berm hydraulic level by an equal amount so that by 2100 it may be 1.46 + 0.86 ≈ 2.3m AHD. This allows for a sea level rise of 0.9m from 1990 levels (DECCW, 2009a), but also accounts for the observed rise in sea levels between 1990 and 2004 (the last photogrammetric date) of 3mm/year (DECCW, 2009b). The berm may also translate landward. This approach to the application of sea level rise is supported by DECCW (pers. comm. Phil Watson DECCW - Doug Treloar). Note that this berm level would only occur at 2100 and until then it would be lower. A future hydraulic berm level at the 100-years ARI would be 1.8m + 0.86m ≈ 2.7m AHD. (page 3)

Dr Treloar takes a moderated approach given the findings of Worley Parsons work to date. On that basis, he makes the following concluding remarks:

Whilst there are some deficiencies in the Worley Parsons Patterson Britton assessment of flood levels in changed climate conditions, there are also conservative aspects to their work. These conservative aspects relate to the adoption of non-site-specific ocean levels and a non-eroding entrance bar of slightly conservative hydraulic level. Worley Parsons Patterson Britton results show little sensitivity to changes in the configuration of their 'pilot channel'. A blocked entrance flood case is unlikely to be important here and the relatively high sheltering of the entrance from Tasman Sea storms leads to entrance berm hydraulic levels that are lower than those observed at other locations. Wave set-up at this site will be lower also because of this sheltering and also because the full extent of wave set-up only develops on a sandy beach, not in an estuarine channel. At the peak of the flood flow waves will be blocked by the high speed (about 3m/s) of the flood flow.

In summary, without undertaking additional simulations, I concur with the Worley Parsons advice that a 100-years ARI flood level of 2.95m AHD at 2100 is realistic. (page 5)

Dr Treloar (Cardo) undertook further investigations into the coastal erosion hazard line (provided as **Appendix G** of this report), in response to a meeting the NSW Department. Cardno reviewed the appropriateness of the coastal hazard line originally identified by Patterson Britton and Partners in light of the recent DECCW sea level benchmarks. As a result of additional investigation, Dr Treloar concludes that:

The outcome of this review is that the erosion hazard line presented in Annexure A [of the letter] *conforms to DECCW guidelines in terms of the investigations and methods applied, as well as in terms of current sea level rise policy,* (page 3).

Dr Treloar's letter reinforces the validity of the design of the proposed development as it is based on the coastal hazard line that has been derived by Patterson Britton and Partners and validated by the Cardno investigations. The provision of an additional ten metre buffer between the coastal hazard line and the proposed development further ensures that the design has appropriately taken into account the potential coastal hazard.

3.7. Community Consultation

The community comments raised in response to the public exhibition of the proposal were addressed specifically in the various consultants' reports and which are reproduced in the appendices of this report. In addition, **Appendix H** provides a matrix of the submissions received from the community in response to the proposal cross referenced by subject matters. The issues raised by the community have been responded to individual technical reports and throughout this report.

Once constructed, the development will provide public access to foreshores of Hearnes Lake; the open space on the site and any approved access points to Sandy Beach. The development will also provide upgrading of footpaths and general amenity for surrounding neighbours to enjoy.

3.8. Acid Sulphate Soils

The EA submission contained detailed reports on the presence of Acid Sulphate soils. The reports deal appropriately with this issue to the extent that is does not result in concerns that cannot be dealt with as conditions of approval for this concept plan.

4. conclusions

This report has addressed the key issues that the key stakeholders identified in relation to the Environmental Assessment of Sandy Beach North development concept plan, MP 05 _ 0083. Careful consideration has been given to all the issues raised by the stakeholders.

The proponent has also taken the significant step of seeking an independent peer review of the material prepared to date and of the issues raised by the DoP. The culmination of this preferred project plan is a series of recommended changes that the proponent is willing to discuss with the DoP in order to secure the development consent.

Importantly, the Concept Plan solutions and outcomes are based on factual scientific studies by qualified experts for each specific field of expertise. This ensures that the outcomes are not based on more generic assumptions, particularly when considering the more exact sciences of flooding and EEC's.

The sciences behind the replies to the DoP also deal with concerns about the "*cumulative effect of public and agency issues*". The attached reports correct the false premise upon which a number of these concerns were based, allowing the approval process to move forward. It is evident from the investigations undertaken previously, and reviewed more recently, that many of the concerns are based on a disputed understanding of the flooding analysis for the site. Having **resoundingly resolved this matter**, many of the other matters, such as EEC's, are also resolved.

In some instances there may be a need to have some fine tuning discussion with the DoP in respect to conditions or minor adjustments, but the application as a concept plan is supportable.

These further investigations that are part of the peer review verify that the Concept Plan is a well considered plan and therefore warrants approval. There are no further hydrological or flora and fauna issues impeding the development outcomes for the site.

5. Additional Commitments

The commitments detailed in the original Environmental Assessment have been reviewed as a result of the concerns raised from the public exhibition of the proposal. The following commitments are in addition to the commitment detailed in Appendix 8 of the EA, they are aimed at enhancing the success of the proposal

5.1. Traffic and Access

a) Amend the location of the northern access to the Pacific Highway to ensure no interference with the proposed fauna crossing at Double Crossing Creek (under the proposed bridge work as part of highway upgrades).

b) The relocation, to the east, of any internal access roads currently proposed within the 7B Zone adjacent to the Highway.

c) The realignment of the internal connecting road between the eastern and western precincts by curving the alignment to the approximate alignment of the existing road north of Sandy Beach, to reduce the clearing of "SSFSC" at this location.

5.2. Stormwater management

d) The provision of stormwater and infiltration systems such that no piped stormwater discharges into Hearnes Lake occur. Rather, stormwater will be treated to remove any sediment or contaminants and/or discharged by infiltration into the underlying sand substrate and/or by overland flow from bio-retention swales and/or detention basins in more intense rainfall events.

5.3. Bushfire protection / Vegetation management

e) The creation of a ten (10) metre Management Buffer along the eastern edge of the site (adjoining the Coffs Coast regional Park) will be included in the community land associated with the community title scheme. The buffer will include a 5 metre vegetated zone and an access track adjacent to the rear allotments for bushfire and access for bush management. Additionally the buffer will provide further protection between the coastal hazard line and the proposed development.

f) The provision of ongoing maintenance of the Management Buffer to provide a fire protection zone and access for fire-fighting trucks. The provision of ongoing maintenance of Management Buffer using native and/or non-invasive introduced grasses and scattered native shrubs to prevent invasion of the subject site by Bitou Bush, Coastal Wattle or other weed species.

5.4. Acoustic

g) The provision of an acoustic wall, to supplement the RTA acoustic wall, to be located either within the 7B Zone or along the western edge of such zone as a continuation of the RTA wall. In locating the acoustic wall, minimal disturbance shall take place of existing native vegetation such that the wall can be located within the buffer where the wall can be provided in a mound design solution with supplementing revegetation, or to the western edge where there should be minimal disturbance of existing vegetation.